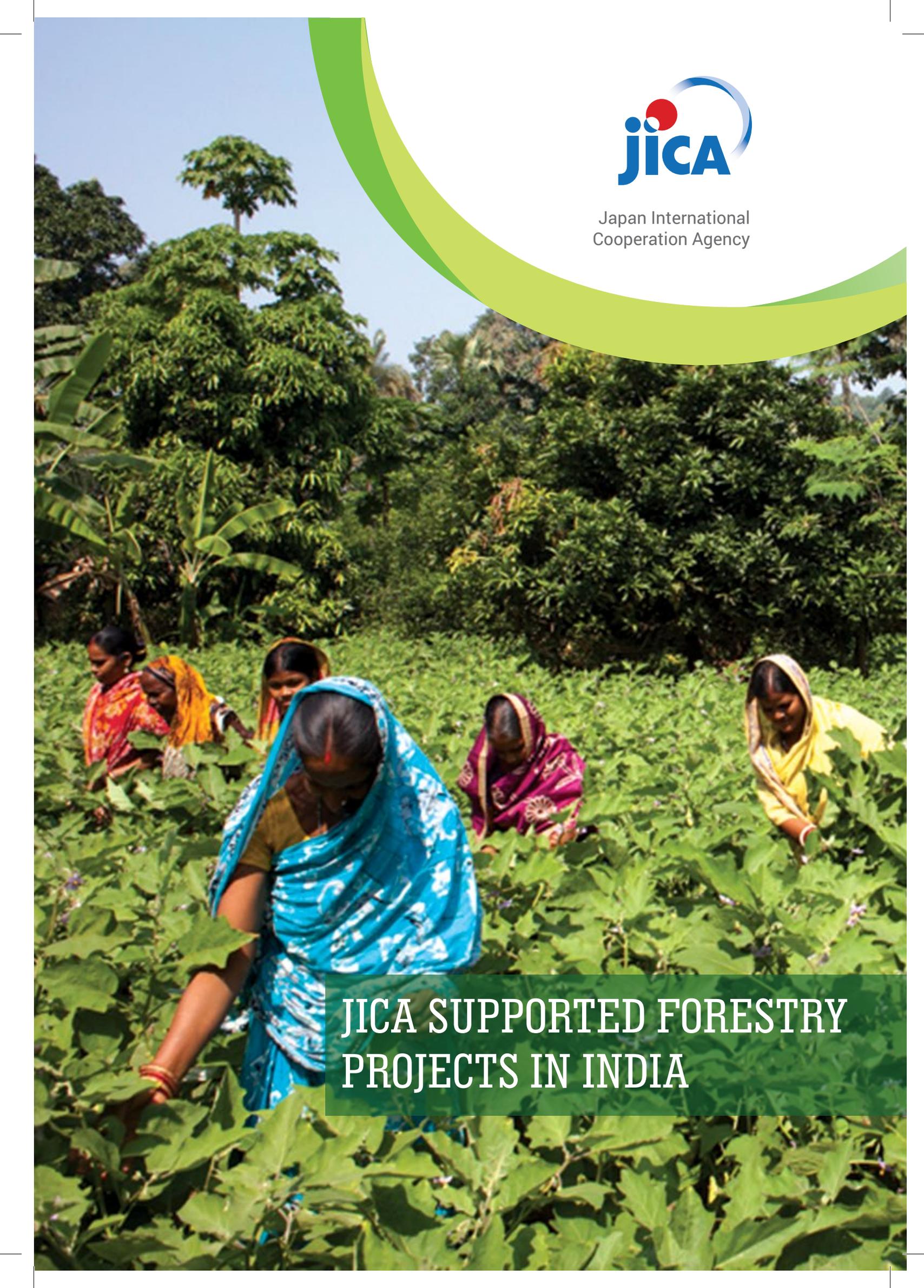




Japan International  
Cooperation Agency

A photograph of several women in a lush green field, likely engaged in agricultural work. They are wearing colorful saris. The background is filled with dense green foliage, including banana trees. A large green curved graphic element is in the top right corner.

# JICA SUPPORTED FORESTRY PROJECTS IN INDIA

# JAPAN INTERNATIONAL COOPERATION AGENCY

Established as an independent administrative institution, the Japan International Cooperation Agency (JICA) aims to contribute to the promotion of international cooperation as well as the sound development of Japanese and global economies by supporting the socio-economic development, recovery or economic stability of developing regions.

JICA works at the level of ordinary people to help emerging countries become self-reliant in pursuing their own socio-economic development.

JICA's aim is to act as a bridge between Japan and emerging countries so that knowledge and experience of the Japanese people can be shared, and developing countries can strengthen their own problem-solving capabilities.

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# MESSAGE FROM CHIEF REPRESENTATIVE OF THE JICA INDIA OFFICE



**Katsuo Matsumoto**  
Chief Representative, JICA India Office

JICA has been supporting forestry and natural resource management projects in India since 1991. JICA-supported forestry projects have facilitated sustainable development, by improving soil cover and conservation of forest cover. JICA also aims to apply the best forestry practices of Japan in India, by developing latest technologies in forest departments and encourage strong community participation.

Over the last 27 years, lessons learnt are being disseminated at the field level (communities, forest departments, etc.). Annual workshops at national level through have also been conducted for JICA-supported forestry projects.

During the 1990s forestry projects emphasized on afforestation, regeneration, soil and water conservation and other allied activities. However, from 2003 onwards the projects included ecological conservation and livelihood enhancement activities, thereby entailing the economic benefits of the sector. JICA-supported forestry projects have helped foresters and farmers improve their income, thereby resulting in sustainable forests.

Another significant contribution is gender empowerment. The projects have enabled women to earn their living, with enhanced overall productivity and efficiency at low cost of production. The JICA supported projects are creating environmental awareness, especially among school children.

JICA has extended ODA loan of over 270 billion Japanese Yen (approximately 16,000 crore) for 27 forestry projects across 14 states of India. The commitment includes a project for capacity development of the frontline forest department staff across 13 states of India, and it is a matter of pride that this project has been awarded for 'Excellence in Training' at the inaugural National Symposium on Excellence in Training organized by Department of Personnel and Training, Government of India. JICA is also assisting strengthening of training facilities and faculty at the Directorate of Forest education (DFE) and Central Academy for State Forest Service (CASFOS), under Ministry of Environment, Forest & Climate Change (MOEF&CC).

This booklet serves as an overview of JICA-supported forestry and natural resource management projects in India and best practices under various projects. We hope that experiences from the JICA-supported forestry and natural resource management projects, which have been formed through active collaboration between India and Japan, and executed by the Ministry of Environment, Forest & Climate Change and 14 different states, would facilitate development of other forestry projects in India.

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

# ACKNOWLEDGEMENT

JICA India Office would like to express its sincere gratitude to the Ministry of Environment, Forest & Climate Change, Government of India, and the Forest Department of each state where Japanese ODA Loan and Technical Cooperation forestry projects are being implemented. They have provided us with necessary information, data and photographs to bring this booklet into existence. Needless to say, it is due to the efforts of the State Forest Departments, who are the Executing

Agencies of the projects, that best practices have been evolved, which shall continue to bring about effective changes impacting the forestry and natural resource management sector scenario of India in a positive way. We appreciate the efforts and endeavours of all those who have been part of JICA-supported forestry projects and look forward to a more strengthened relationship with them in the future.



# JAPANESE ODA SUPPORT TO THE INDIAN FORESTRY SECTOR



## Japanese ODA support to India

The Japan International Cooperation Agency (JICA) is a Japanese governmental agency responsible for providing Japanese Official Development Assistance (ODA) Loan, Grant Aid and Technical Cooperation to emerging countries. Japanese ODA Loans are concessionary and long-term with low interest rate which supplements the efforts of the emerging countries in building their socio-economic infrastructure and achieving sustained economic growth. Grant Aid is a form of ODA involving the provision of funds to the Governments of emerging countries without the obligation of repayment. Technical Cooperation involves Japan and an emerging country pooling their knowledge, experience and skills to arrive at customized solutions for an emerging country. Such cooperation involves dispatching of experts from Japan and third countries to provide technical support, invitation of personnel from emerging countries to Japan for training and/or the provision of necessary equipment.

Japan's ODA to India started in 1958, when a Japanese 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, Pandit Jawaharlal Nehru. In 2004, India became the largest recipient of Japanese ODA loan, in terms of annual commitment, and that trend has continued thereafter.



## JICA's support to the Forestry Sector in India

Over 16% of India's population of 1.25 billion or about 200 million live in and around forest areas and largely depend upon forestry resources for their sustenance, as per 2011 census. The excessive biotic pressures have led to depletion of forest resources and of biodiversity across the country and have led to an increase in disaster risk in hilly areas. In order to restore ecological balance, the Government of India and State Governments have undertaken afforestation and regeneration programs with their own resources and with support from international donors such as JICA.

JICA's support to forest and natural resource management in India started in 1991 with an ODA Loan for 'Afforestation and Pasture Development Project along Indira Gandhi Canal Area' in Rajasthan. Since then, the support has been extended to 27 projects which include 25 ODA Loan projects and 2 Technical Cooperation projects. Japanese ODA loan has been extended to 14 states, which include Rajasthan, Gujarat, Tamil Nadu, Karnataka, Punjab, Haryana, Odisha, Himachal Pradesh, Tripura, Uttar Pradesh, Sikkim, West Bengal, Uttarakhand and Nagaland, making Japan the largest donor in the forestry sector in India.



Forest coverage in India had fallen from 30% at the beginning of the twentieth century to around 21.3% (2015), below the worldwide average of 30.6% and national target of 33%. It was therefore vital to promote awareness of the importance of forest management among the local village residents while planning for forest conservation. The support to improve the livelihoods of the poor was needed, so they make effective use of forest resources. It was also critical that the frontline staff of each state's forest department, who implement the project and are in daily contact with local village communities, receive effective and well-structured trainings. Trainings empowered with the latest skills and techniques covering various aspects of the forestry sector, including forest management methods based on a new innovative approach. To cater to these issues, JICA provided support for blending forest resource management with sustainable livelihood improvement of local communities through Joint Forest Management (JFM) approach.

Through an ODA Loan JICA is also facilitating a Human Resource Development project, 'Capacity Development for Forest Management and Personnel Training', for front line staff in 13 different states, synergistically with a Technical Cooperation project at the Directorate of Forest Education (DFE) and Central Academy for

State Forest Officers (CASFOS), Dehradun for improvement of 'Master Trainers' program for Frontline staff and for 'Training of Trainers' at the state level.

In 2016, JICA signed a Record of Discussions (R/D) with the Government of Uttarakhand for implementing Technical Cooperation (TC) project titled "The Project for Natural Disaster Management in Forest Areas in Uttarakhand". The TC Project will focus on developing technologies for erosion control works which are to be adapted in the State, including development of technical handbooks/manuals, and the establishment of model sites on erosion control.

Since 1991, JICA's cumulative commitment to the forestry sector stands at JPY 246.5 billion (Rs.14,500 crore), and JICA ODA support covers a total plantation area of about 3 million hectares (ha) in India.

Photo: A small isolated hamlet situated near the Dhanana distributary in Jaisalmer, Rajasthan. JICA is involved in desert plantation activities in the region to stop siltation of the distributaries.



## JICA's Approach to Forest Resource Management

JICA's support to the forestry sector started in 1991, when JFM was in the stage of evolution and has covered three generations of projects: First Generation (1991-1998), Second Generation (2002-2013) and Third Generation (2013 onwards). The projects in the first generation focused on afforestation, soil and water conservation and training of Forest Department personnel. The key activities that evolved in the projects in the second generation were establishing of Project Management Units (PMUs) in society mode, encouraging community participation by promoting JFM approach, adopting three phased implementation strategy, etc.

JICA's projects in the third generation lay an emphasis on promotion of the use of technology, such as Geographic Information System (GIS) and Management Information System (MIS) for planning, implementation and real time-monitoring; linking of Self-Help Groups (SHGs) directly to markets; Carbon Financing and Reducing Emissions from Deforestation and Forest Degradation (REDD+) readiness.

JICA focuses on three core areas of cooperation depending on different features and needs of each state in India, which include preventing forest degradation and conservation activities (afforestation); training of forest officers & community people, and community development (micro infrastructure development and income generation activities). In addition to these core areas, disaster prevention and preparedness components are also included in Uttarakhand Forestry Resources Management Project.

Through its cooperation in forestry sector, JICA aims to enhance environmental conditions and

biodiversity and assist in withstanding the adverse effects of the climate change. Augmentation of Income Generation (IG) for the poor and utilization of Japanese knowledge at the local level for capacity development is also one of the primary objectives for JICA. JICA is also focused on promoting water resource conservation and women empowerment in the forestry sector.

JICA's support to the forestry sector in India has led to major positive impacts on the livelihood of people living near or in forest fringes. Financial wellness and financial inclusion have been enhanced through gender empowerment by providing micro credit to women SHGs. There has been enhancement of forest cover through plantation and regeneration activities, including soil and moisture conservation, covering over 3 million hectares. Soil and Moisture conservation activities have led to an increased agricultural productivity leading to augmentation of incomes in project areas. The projects have led to the strengthening of community participation, which includes currently operational 17,000 plus Joint Forest Management (JFM) committees. Capacities of the forest departments have been augmented in terms of overall management, with the introduction of latest technologies (MIS & GIS), modern nursery operations, community development activities and biodiversity conservation and ecotourism. Japanese knowledge has been implemented effectively for capacity development and promotion of collaboration with local governments in Japan (Akita, Oita, Okinawa, etc.).

JICA-supported forestry projects in India aim to further contribute to the development of the forestry sector in India, and also work towards sustainability and replicability of the activities.



## Components of the Project

- » Afforestation (village-based cluster approach on watershed basis)
- » Agro-forestry/farm forestry
- » Water and Soil Conservation
- » Training and extension
- » Biodiversity Conservation and Ecotourism
- » Community development activities
- » Income Generation Activities through SHGs
- » Involvement of NGOs as facilitators for Micro Planning and Training
- » Training of all stakeholders
- » Dovetailing of project activities with other government departments schemes (Inter-Sectoral Convergence)
- » Technology-based Planning & Monitoring (GIS, MIS)
- » Monitoring and Evaluation
- » Impact Analysis after Project Completion
- » Slope Protection

*Photo: A small isolated hamlet situated near the Dhanana distributary of Indira Gandhi Nahar Project in Jaisalmer, Rajasthan.*

*JICA is involved in desert plantation activities in the region to stop siltation of the distributaries.*



## Phase-wise Approach

In terms of the project design, it is imperative to adopt a phase-wise approach in order to make the projects effective and sustainable. Accordingly, the entire project is divided into three phases i.e. Preliminary Phase, Implementation Phase and Consolidation Phase. In brief, the major activities under each phase are as follows:

### Preliminary Phase (1 year – 18 months)

- » Set up an effective organization structure which includes project management unit under the Society Mode, appointment of consultants, formation of village forest committees, Micro Planning, etc.
- » Capacity building of forest department staff
- » Procurement of equipment

### Implementation phase (4-5 years)

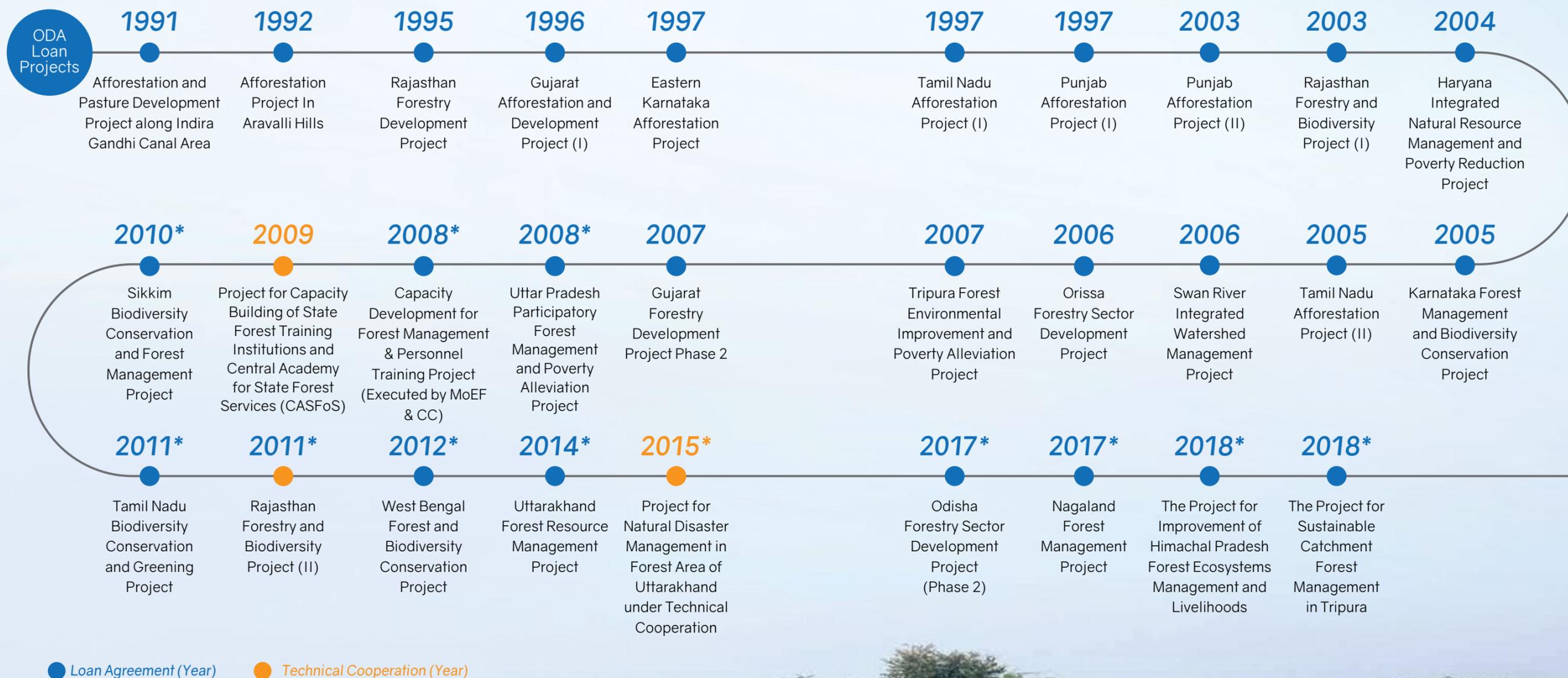
- » Sole focus is on implementation of project components.
- » Concurrent internal/external monitoring and evaluation is undertaken.

### Consolidation Phase (1-2 years)

- » No fresh activities are taken up
- » Time for introspection and remedial measures
- » "Exit policy" is implemented.

Based on the 27 plus years of experience in the Indian forestry sector in India, JICA plans to continue extending ODA support for new forestry projects, subject to the Government of Japan's approval. Further, the endeavour will be to strengthen the capacity of executing agencies and reposition forestry projects so as to align them with the challenges facing the forestry sector like climate change and poverty alleviation.

# JICA-SUPPORTED FORESTRY PROJECTS IN INDIA



\* On-going projects are described in detail inside

# COMPLETED FORESTRY PROJECTS

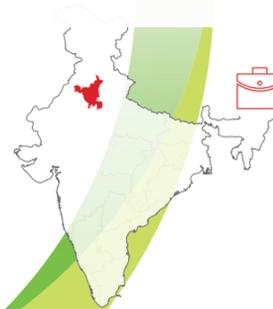
S.NO	Name of Project	Loan Amount JPY Million	Loan Agreement (Year)	Loan Completion (Year)
<b>ODA Loan Projects</b>				
1	Afforestation and Pasture Development Project along Indira Gandhi Canal Area	7,869	1991	2002
2	Afforestation Project In Aravalli Hills	8,095	1992	2000
3	Rajasthan Forestry Development Project	4,219	1995	2002
4	Gujarat Afforestation and Development Project (I)	15,760	1996	2004
5	Eastern Karnataka Afforestation Project	15,968	1997	2005
6	Tamil Nadu Afforestation Project (I)	13,324	1997	2005
7	Punjab Afforestation Project (I)	6,193	1997	2003
8	Punjab Afforestation Project (II)	5,054	2003	2009
9	Rajasthan Forestry and Biodiversity Project (I)	9,054	2003	2010
10	Haryana Integrated Natural Resource Management and Poverty Reduction Project	6,280	2004	2014
11	Tamil Nadu Afforestation Project (II)	9,818	2005	2015
12	Karnataka Forest Management and Biodiversity Conservation	15,209	2005	2015
13	Swan River Integrated Watershed Management Project	3,493	2006	2016
14	Orissa Forestry Sector Development Project	13,937	2006	2016
15	Tripura Forest Environmental Improvement Project	7,725	2007	2017
16	Gujarat Forestry Development Project Phase 2	17,521	2007	2017
17	Uttar Pradesh Participatory Forest Management Project	13,345	2008	2018
18	Capacity Development For Forest Management & Personnel Training Project (Executed by MoEF)	5,241	2008	2018
<b>Technical Cooperation Project</b>				
19	Project for Capacity Building of State Forest Training Institutions and Central Academy for State Forest Services (CASFOS)		2009	2014

# ONGOING FORESTRY PROJECTS

S.NO	Name of Project	Loan Amount JPY Million	Loan Agreement (Year)	Loan Completion (Year)
<b>ODA Loan Projects</b>				
20	Sikkim Biodiversity Conservation and Forest Management Project	5,384	2010	Ongoing
21	Tamil Nadu Biodiversity Conservation and Greening Project	8,829	2011	Ongoing
22	Rajasthan Forestry and Biodiversity Project (II)	15,749	2011	Ongoing
23	West Bengal Forest and Biodiversity Conservation Project	6,371	2012	Ongoing
24	Uttarakhand Forest Resource Management Project	11,390	2014	Ongoing
25	Odisha Forestry Sector Development Project (Phase 2)	14,512	2017	Ongoing
26	Nagaland Forest Management Project	6,224	2017	Ongoing
27	The Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihood	11,136	2018	Ongoing
28	The Project for Sustainable Catchment Forest Management in Tripura	12,287	2018	Ongoing
<b>Technical Cooperation Project</b>				
29	The Project for Natural Disaster Management in Forest Areas in Uttarakhand		2015	Ongoing

# HARYANA

## Integrated Natural Resource Management and Poverty Reduction Project



**EXECUTING AGENCY**  
Forest Department,  
Government of Haryana

**LOAN AMOUNT**  
Amount: JPY 6, 280 million  
Agreement signed: 2004

**LOAN COMPLETION**  
2010

The Project aims to rehabilitate forests and wastelands of Haryana in an ecologically sustainable manner and to improve the quality of life of the village communities residing in adjoining areas. The scope of the Project comprises afforestation, soil and moisture conservation, poverty reduction programmes, technical assistance, publicity and extension, human resource development, Management Information System (MIS), Geographical Information System (GIS), etc. Plantations have been carried out on a total of 48,800 hectares on government lands, wastelands owned by the state government, selected village common lands and private farmlands. Plantation and poverty reduction activities are spread over 800 villages in 17 districts of Haryana, excluding Gurgaon and Faridabad, where the "Children Forest Programme" (CFP) is being implemented.

Furthermore, institutional capacity building consultants have been appointed under the poverty reduction component to specially work for making the income generation activities of the Self-Help Groups (SHGs) more effective and sustainable. The consultants not only help in forming and educating SHGs but also provide and arrange training in different vocations and then link them with markets in the towns and cities. This is working very effectively and benefiting a large number of SHGs under the Project.

▼ **Members of Shiv Shakti and Kalpana SHGs formed in 2008-09 in Barsat village**



▼ **Women from Bhanjra community make bamboo baskets in Godam village located in Pinjore. The income generating activity is performed by providing the community with culms from bamboo plantations grown in adjacent protected forest areas.**



# RAJASTHAN

## Forestry and Biodiversity Project



**EXECUTING AGENCY**  
Department of Forest,  
Government of Rajasthan

**LOAN AMOUNT**  
Amount: JPY 9,054 million  
Agreement signed: 2003

**LOAN COMPLETION**  
2010

The Rajasthan Forestry and Biodiversity Project was initiated with the aim of checking desertification, improving ecological status of Aravallis as well as augmenting the availability of forest produce and thereby improving the socio-economic conditions of the rural poor of Rajasthan. The key project activities include afforestation, biodiversity conservation, soil and moisture conservation and numerous Joint Forest Management (JFM) consolidation activities. Afforestation was undertaken in 123,967 hectares, and 30 million man-days of employment were generated under the Project. In addition, 2,599 moisture conservation structures were developed. As part of JFM consolidation, 1,012 Village Forest Protection and Management Committees (VFPMCs) were constituted and strengthened under the Project, and a corpus fund of Rs 90.35 million has been provided to these VFPMCs for maintenance of Project assets after the Project completion. 1,428 Self Help Groups (SHGs) were formed to promote income generation activities.

Under the Project, funds for raising 4 million seedlings in departmental nurseries were provided in the first year. These seedlings were sold and the proceeds from the sale were used to raise and sell 20 million seedlings in the period 2003-04 to 2008-09.

▼ **Locals of Balicha village and forest officials in discussion during a VFPMC meeting in Udaipur district**

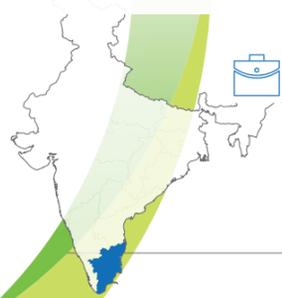


▼ **Soil & Moisture conservation activity at Kewra-ki-Nal situated in Saroda range, Udaipur district**



# TAMIL NADU

## Afforestation Project - Phase II



**EXECUTING AGENCY**  
Forest Department,  
Government of Tamil Nadu

**LOAN AMOUNT**  
Amount: JPY 9,818 million  
Agreement signed: 2005

**LOAN COMPLETION**  
2015



We formed SHG and got loan through TAP for starting up the income generation activities. My daughter Gayatri wanted that she should study Microbiology and with the increased income that I could get her dream come true. She has completed her M.Sc. in Microbiology and is preparing for PhD. entrance examination.

**Lata** Karpagambal SHG, Padvedu Village

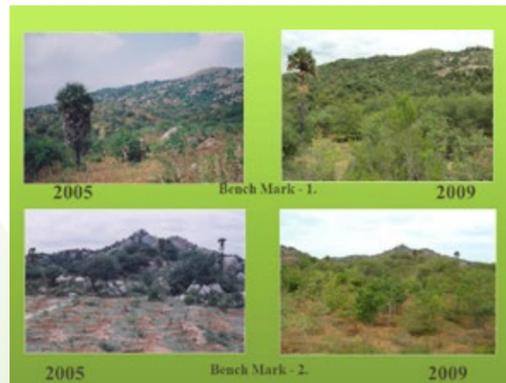
To continue, consolidate and replicate the gains of Tamil Nadu Afforestation Project Phase I (TAP I), another project, Tamil Nadu Afforestation Project Phase II (TAP II) was designed. Besides afforestation, the projects focused on new frontiers such as geographical information system (GIS), human resource development, research, forest extension and infrastructure development.

In TAP II, the model of TAP I has been expanded to plantation of another 180,000 hectares of land and 800 villages wherein Village Forest Committees (VFCs) have been constituted to execute the project works based on Joint Forest Management

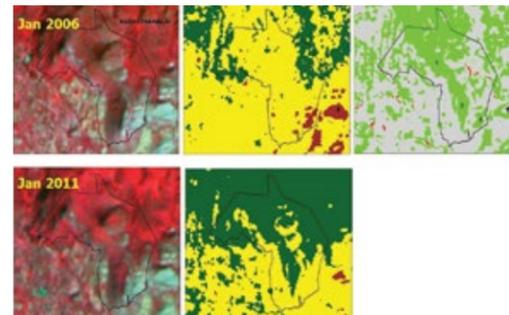
framework. In an effort to strengthen women's participation and to provide alternate livelihood opportunities for poor communities living in the forest area, the Project has formed Self-Help Groups (SHGs) to introduce micro credit activities through a revolving "corpus fund" established with project funds.

The Project targets have been achieved. A total of 800 VFCs and 2,900 SHGs have newly been formed.

### Visible increase in the plantation from 2005 to 2009

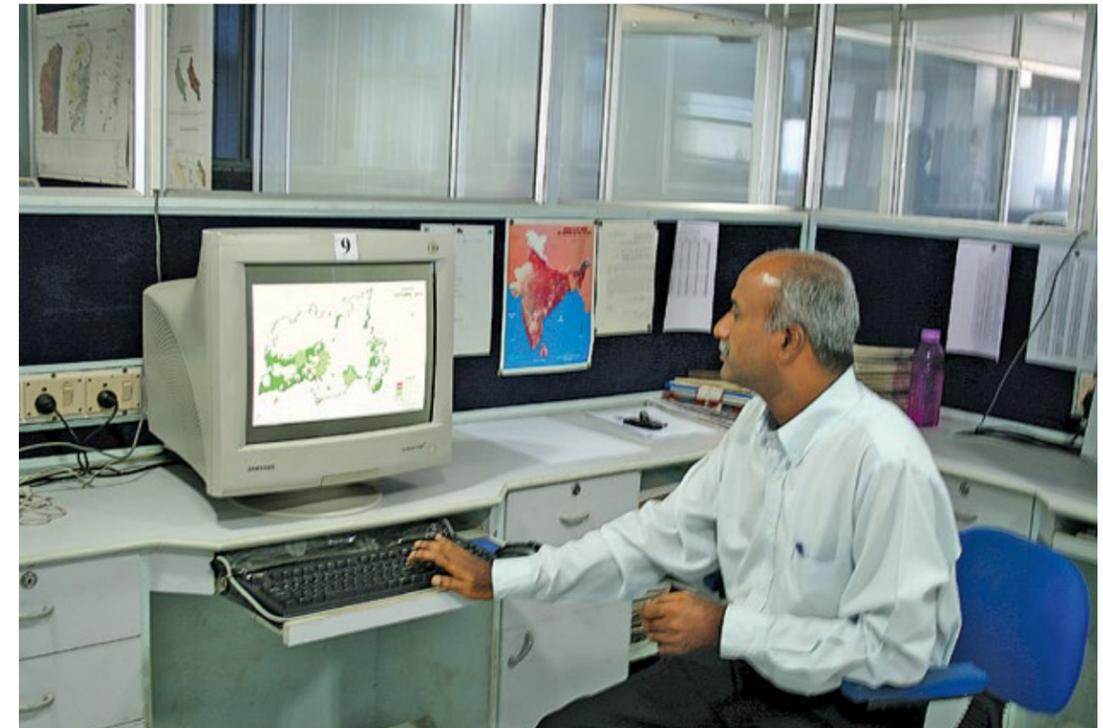


### Improvement witnessed through Geographic Information System (GIS) in the span of 5 years



LEGEND	
<span style="color: green;">■</span> Dense Forest	<span style="color: red;">■</span> Negative Changes
<span style="color: black;">■</span> Non Forest	<span style="color: gray;">■</span> No Changes
<span style="color: yellow;">■</span> Open Forest	<span style="color: lightgreen;">■</span> Positive Changes
<span style="color: darkred;">■</span> Scrub Forest	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"> </span> Treatment Area

### GIS laboratory in Chennai



### BEST PRACTICES - GIS for Forest Management

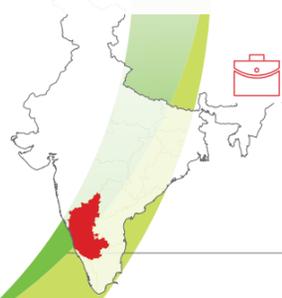
To strengthen the quality of project planning and monitoring, TAP has introduced GIS which has proved to be an effective management tool. GIS has been used by the Tamil Nadu Forest Department to prioritize the works in the forest areas, delineate micro-watersheds, plan for appropriate water harvesting structures, etc. Monitoring vegetation and forest degradation changes using GIS has also helped in development of protocols for bio-resource/landscaping level conservation.

### Pottery Making as a part of income generation activities, Padveddo Village, Vellore District



# KARNATAKA

## Sustainable Forest Management and Biodiversity Conservation Project



**EXECUTING AGENCY**  
Forest Department,  
Government of Karnataka

**LOAN AMOUNT**  
Amount: JPY 15,209 million  
Agreement signed: 2005

**LOAN COMPLETION**  
2015



A novel concept of Eco-Tourism in protected areas is providing new livelihood prospects to the local communities in the form of ticketing, parking facilities and shops.

**Subramaniam** VFC President, Koppa Division

The Karnataka Sustainable Forest Management and Biodiversity Conservation Project covers all the districts of Karnataka. In addition to afforestation, farm forestry, soil and water conservation works, the Project also covers conservation of rich biodiversity and improvement of the management of protected areas within the state. For this purpose, apart from village forest committees, Eco Development Committees (EDCs) have been formed to protect one national park and four wildlife sanctuaries that fall under the Project.

Realizing the importance of mangrove forests that provide a critical habitat for diverse marine and terrestrial flora and fauna, the Project is restoring and conserving the salt tolerant foreshore ecosystems in coastal Karnataka.

The Project also realizes the urgent need for environmental education of children and is covering 2,000 schools to promote ecological awareness among school children.

▼ SHG member making leaf plates as one of the income generation activities



▼ SHG member involved in Petty shop management



### BEST PRACTICES - Initiatives to Strengthen Joint Forest Management

A facilitation network of NGOs has been created to form and build capacities of VFCs and EDCs. The NGOs have also supported VFCs and EDCs in developing micro plans for their respective villages as well as strengthening income generation activities by Self Help Groups. The Karnataka Forest Department has developed a comprehensive system for assessment of the performance of VFCs/EDCs. A mechanism of reward and recognition of best performing VFCs/EDCs have been instituted to generate enthusiasm and competition for improved performance by these institutions. The forest department has also appointed volunteers and motivators (out of state funds) to support the VFCs and EDCs after the completion of the Project.

▼ Bamboo plantation done by Village Forest Community in Kolar district of Karnataka

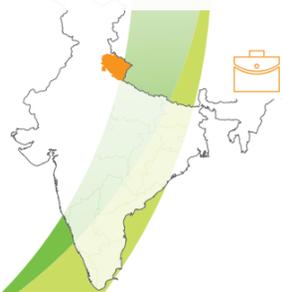


▼ EDC members, Shringeri Range, Koppa Division



# SWAN RIVER

## Integrated Watershed Management Project



**EXECUTING AGENCY**  
Forest Department,  
Government of Himachal Pradesh



**LOAN AMOUNT**  
Amount: JPY 3,493 million  
Agreement signed: 2006

**LOAN COMPLETION**  
2016

Catchment areas of Swan River in Himachal Pradesh are located in the fragile and vulnerable Shivalik hills where the river frequently overflows its banks during the monsoon causing erosion of soil resources. To protect lands from soil erosion

and floods, regenerate the forest cover and enhance agricultural productivity in Swan River catchment area in Una district, this project is being implemented in the selected sub-watersheds of Swan River.

The Project activities include afforestation, civil works for soil and river management, soil protection and land reclamation, and livelihood improvement activities, thereby improving the living conditions of people including the poor in the catchment area. The livelihood activities encompass farm production activities, community infrastructure development and income generation activities through Self-Help Groups.

The catchment of the Swan River has been divided into 42 sub-watersheds, out of which 22 sub-watersheds with an area of 61,900 hectares have been selected for treatment.

The Project is implemented through 95 Panchayat Development Committees (PDCs), an authorized body constituted under the Gram Panchayats. The approach adopted for intervention involves the Community Based Participatory approach jointly facilitated by the Project Implementation Unit of the Project and community based organizations. The Forest Department is the nodal agency of the Project. Besides, the Departments of Agriculture, Horticulture, Animal Husbandry, Irrigation and Public Health and Rural Development of the State are participating in the Project.

▶ **Tarsem Lal (L), a member of Shiva vegetable protection group stand in his turmeric crop with his wife Sushma Devi (R) in Ambota village in Una district.**



▶ **Earthen dam in village Pandoga in Una district**



▶ **Concrete water harvesting dam in village Amlehar in Una district.**



▶ **Dev Raj, a farmer, opens the sluice valve to irrigate his field as water flows with gravity from the dam in village Amlehar in Una district.**

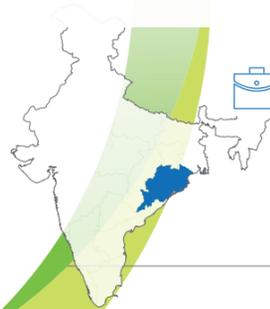


▶ **A farmer working in his field in village Amlehar in Una district.**



# ORISSA

## Forestry Sector Development Project



**EXECUTING AGENCY**  
Forest and Environment Department, Government of Orissa



**LOAN AMOUNT**  
Amount: JPY 13,937 million  
Agreement signed: 2006

**LOAN COMPLETION**  
2016



Karada is a small tribal village in Rayagada division and villagers depend mainly on forest produce. Karada and its surrounding villagers collect plenty of tamarind and other NTFPs, which they sell at nearest market (Ramnaguda which is 8 kms away). Sometimes, petty traders come to the village for purchasing these NTFPs. After the formation of VSS under the Project, the VSS committee purchased one 50 kg weighing machine under VSS's EPA fund and provided loan of Rs. 40,000/- from VSS revolving fund.

**Malati Devi Mutika** VSS President, Karada Village

The Project aims to restore degraded forests and improve the income level of the villagers by promoting sustainable forest management including plantations through Joint Forest Management (JFM) and community/tribal development. The Project is to be implemented in 14 forest and wildlife divisions, namely Angul, Balliguda, Bonai, Deogarh, Jeypore, Keonjhar, Koraput, Parakhemundi, Phulbani, Rayagada, Rourkela, Satlkosai, Balasore, and Bhadrak. These divisions fall in 10 districts of the state.

The major activities are to be planned and implemented by the Van Samrakshan Samities (VSSs) or forest through preparation of comprehensive micro plans not only for the restoration of the degraded forests assigned to the communities, but also for the overall development of the village. One important

sub-objective and approach of the Project is to enhance capacity of the forest department staff, members of VSS, Self-Help Groups (SHGs) and the communities at large.

Under the Project, 196,650 hectares of degraded forests shall be restored and 2,810 hectares of coastal plantations would be undertaken. A total of 2,275 VSSs and 4,500 SHGs would be formed under the Project.

▼ Members of Chandimata SHG run a betel leaf plantation in Khadibil, Jaleswar district



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



### BEST PRACTICES

#### - Autonomous Institution for Implementation

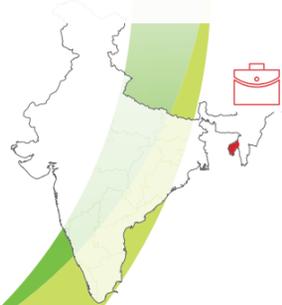
The Orissa Forestry Sector Development Society, which is the implementing agency of the Project, is an autonomous organisation formed by the Government of Orissa under the Forest and Environment Department. The society has been registered under the Registration of Societies Act, 1860. The Chief Secretary and the Agriculture Production Commissioner, Orissa are respectively the President and Vice-President of the Society. The Project Director is the Ex-Officio CEO of the Society. The Society has a High Powered Committee headed by the Chief Secretary, and Governing Body headed by the Agriculture Production Commissioner-cum-Additional Chief Secretary. The Project Management Unit (PMU) is headed by the Project Director. The Society has its own bye-laws and accounting procedures developed in concurrence with the Accountant General and approved by the Government of Orissa. The Annual Action Plan and the annual budget are approved by the High Powered Committee. Being a society helps in taking quick decisions and timely implementation of different activities. Financial powers have been delegated to the PMU head, and also to the division level management unit chiefs to facilitate timely sanction of different works and for smooth implementation.

▼ Forest department staff working inside the hardening chamber at the Orissa Forest Rangers College hi-tech nursery in Angul



# TRIPURA

## Forest Environmental Improvement and Poverty Alleviation Project



### EXECUTING AGENCY

Forest Department,  
Government of Tripura



### LOAN AMOUNT

Amount: JPY 7,725 million  
Agreement signed: 2007

### LOAN COMPLETION

2017

The Project is being implemented in 7 districts (40 blocks) of the State since 2007 through 463 Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs). The Project focuses on restoration of degraded forests and improving the livelihoods of people, especially the tribal population engaged in traditional shifting cultivation. The Project is managing about 70,000 hectares (ha) of forest land through participatory forest management involving 40,000 forest dependent families of which more than 90% are tribals. Under the Project, 64,409 ha of plantation were undertaken including 9,310 ha of agroforestry. Enrichment plantation of broom grass, black pepper was also undertaken to create source of income for JFMC. The Project undertook construction of 2,523 ha of check-dams for soil and water conservation and for ensuring sustainable livelihoods through fishery. As entry point activities, the Project had constructed Vocational Training Centres (VTCs) which added to the village infrastructure.

The Project has formed 1,545 Self-Help Groups (SHGs) in 463 JFMCs, and these SHGs are running 3,051 micro enterprises which included pig rearing, fishery, broom value addition and a wide variety of other activities.

The Project has a special component for support to 2,100 families who had been dependent on shifting cultivation and were moved to 16 Regrouped Forest Villages. The achievement so far has included raising 1,044 ha of agroforestry plantations, providing drinking water facilities and providing sustainable livelihoods through Non-Timber Forest Produce (NTFP) and other income generation activities.

In order to enhance income of economically weaker communities, the Project has formulated 9 Agroforestry models in which forestry, horticulture and agriculture species were planted in the same piece of land with a view to provide short-term to long-term benefits to the members of JFMCs. Under these agro-forestry models, short term intercrops, medium term intercrops and long-term primary crops are mixed in compatible manner. This scheme was proved to be significantly successful in that the beneficiaries are earning an income of Rs.48,000 to 60,000 per hectare per annum.

### ▼ Handloom



Broom Grass is one of the most important and naturally available Non-Timber Forest Produces (NTFP) of Tripura. The Project has made a successful intervention in 2010-11 for systematic harvesting and marketing through its JFMC and SHG. Around 20,000 people are reaping the benefit through this intervention and earning Rs. 5,000 to 8,000 in a season, i.e. from mid of December to mid of February. The brooms are now being sold through 7 sales outlets set up in Tripura besides wholesale marketing to Agartala-based shops and even to outside agencies. Tripura brooms are also being marketed through amazon.in. Upto 2016-17, 3,300 MT of broom grass has been harvested in generating revenue of Rs. 23 crore.

'Crafts & More' is a brand as well as the marketing wing of the Project which was launched in the year 2015. Crafts & More is currently engaged in marketing about 250 products manufactured by over 800 artisans trained by the Project as artisans in various bamboo value added products such as furniture, baskets, ornaments, mats, office and house-hold utility, handicrafts, handloom and embroidery and terracotta products etc. Crafts & More is providing sustainable livelihoods to about 800 families of the JFMCs/EDCs through their self-employment ventures, thus reducing the burden on the Government for providing employment in the public sector.

### ▼ Agroforestry Plantation Taidu RMU



### ▼ Check-Dams and Fishery



### ▼ Embroidery



### ▼ Broom Making

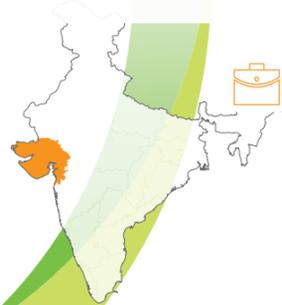


## BEST PRACTICES - Centre of Excellence

The NTFP Centre of Excellence (NCE) has been formed under the Project to focus on Non-Timber Forest Produce (NTFP) and value addition in a comprehensive manner. It is envisaged that NCE shall undertake research and provide modern technologies and productive planting stock. NCE shall also conduct training of community members as well as strengthen value addition and marketing of NTFP. In this regard, five Common Community Facility Centres (CCFCs) have already been set by NCE in partnership with various agencies for value addition of bamboo and various NTFP. Processing of broom grass and incense sticks (agarbatti sticks) have been identified as potential income generation activities considering the comparative advantage of Tripura with regard to these activities.

# GUJARAT

## Forestry Development Project - Phase II



### EXECUTING AGENCY

Forest Department,  
Government of Gujarat



### LOAN AMOUNT

Amount: JPY 17,521 million  
Agreement signed: 2007

### LOAN COMPLETION

2017

The state of Gujarat faces the Arabian Sea, and has an approximate geographical area of 200,000 km<sup>2</sup>. The state is known for its rapid economic and industrial growth.

In 1994, forest coverage in Gujarat was 6.4%, which was significantly lower than the national average of 19.4%. It was evident that urgent interventions were required to stop further degradation of the forests.

In the first phase of the Project, the primary focus was on afforestation, wildlife conservation, trainings and research.

According to the post evaluation of Phase I initiated by JICA, and completed in September 2005, it became apparent that further assistance

to Gujarat was needed to realize maximum return from the activities carried out and efforts made for sustainable forest management under Phase I of the Project. Accordingly, Phase II of the Project was formulated in 2007, the objective of which is to restore degraded forests, improve livelihoods and empower the local people who are dependent on forests by promoting sustainable forest management and community development, thereby improving the environment and alleviating poverty.

In Phase II, 11 tribal districts located in the eastern belt and three non-tribal districts have been covered. Under the Project, plantation was undertaken in 172,456 hectares (ha) including 113,210 ha plantation through Joint Forest

### ▼ RKVY Convergence through irrigation equipment support to SHGs



### ▼ Under IGA, Agarbatti production in progress by SHGs in Village Vajeriya, Narmada Forest Division



### ▼ Custard Apple Collected from Forests being Sold by Farmers



Management (JFM). 800 Social Forestry Development Committee (SFDC), over 1,600 Joint Forest Management Committee (JFMC), and 230 Eco Development Committee (EDC) have been formed and strengthened under the project.

The Project also envisages wildlife conservation and development which includes protected area management in 7 protected areas, eco-tourism development in 3 sites, and eco-development in 7 protected areas and 4 biodiversity hotspots\*.

As part of eco-tourism promotion, the Project plans to construct and manage ecolodges, develop nature trails and establish information centres cum gift shop equipped with audiovisual facility in four protected areas of Shoolpaneshwar Sanctuary, Ratanmahal Sanctuary, Jessore Sloth Bear Sanctuary and Vansda National Park.

\* Biodiversity hotspots are the richest and most threatened reservoirs of plant and animal life on Earth designated by Conservation International, an international NGO.

### ▼ Under IGA, Vermi Compost is being produced by SHGs in Tapi Vyara District, Gujarat



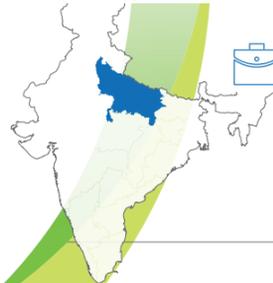
### ▼ Delabhai Balobhai Thadui a farmer, JFMC member collects tomatoes in his field in village Panchala in Narmada Division. Tomato seeds were provided through community development activity.



# UTTAR PRADESH



**EXECUTING AGENCY**  
Forest Department,  
Government of Uttar Pradesh



**LOAN AMOUNT**  
Amount: JPY 13,345 million  
Agreement signed: 2008

**LOAN COMPLETION**  
2018

## Participatory Forest Management and Poverty Alleviation Project

The objective of the Project is to restore degraded forests, improve livelihood and empower the local people who are dependent on forests by promoting sustainable forest management through Joint Forest Management (JFM) approach and community development, thereby improving environment and alleviating poverty. In this project, afforestation activities have been conducted with the participation of local communities to rehabilitate forests, as they are crucial for the livelihoods of those in need. 80,500 hectares were targeted for plantation and 800 Joint Forest Management Committees (JFMCs) have been formed. In addition, financial support was provided to the targeted JFMCs for community development through construction of small infrastructure facilities such as link roads and for livelihood improvement through small-scale income-generation activities. For such village level activities, NGOs were hired not only to help in forming and educating Self-Help Groups (SHGs) but also to provide and arrange trainings in different vocations and then link them with markets in the towns and cities. Furthermore, the Project also has a component of Children Forest Program, which is an attempt to help children learn the importance of forest conservation through environmental education.

Afforestation and Reforestation (A/R) Clean Development Mechanism (CDM) is one of the flexible mechanisms for obtaining carbon credits by sequestering atmospheric carbon dioxide



All of us belong to poor families having very small land holdings. We had formed a Self Help Group in October 2014 under the Project. The Project provided us a loan of Rs. 1.0 lakh to take up improved agricultural practices on our land jointly. During October 2016, my eyesight started deteriorating and I had no resource to fall back upon for my treatment. I availed a loan of Rs. 6,000 from the internal savings of our group and underwent eye treatment. My eyesight is now restored, thanks to my group members and the Project. I have repaid the loan with interest. Today we are free from the clutches of the money lenders as we can take small loans for our petty needs from the internal savings of the group and return the same in time.

**Savita Devi**, Jai Bajrangbali SHG, Basahra village, Allahabad

### Villager explaining about the microplan



through plantation activities in those forest lands where the area is not less than 0.05 ha, with a crown cover of 15% and minimum tree height of 2 meters at maturity.

Under the Project, for the first time, 10 A/R CDM projects have been formulated and are being implemented in 10 forest divisions in Vindhyan and Bundelkhand regions of southern Uttar Pradesh. All 10 projects are being implemented in JFM village forest areas with the objective to provide substantial financial benefits to the local

communities, leading to their empowerment for socio-economic development of their respective villages. On an average, around 10,000 Certified Emission Reductions (CERs) are expected to be generated in each project on an annual basis, which would be tradeable as per prevailing international CER rates. So far, 66 A/R CDM, both large and small projects, have been registered all over the world. In India, 19 projects have been registered out of which 10 are from Uttar Pradesh under the Project.

### Members involved in Joint Forest Management in Uttar Pradesh



### BEST PRACTICES - Empowering SHGs

#### SHGs get an identity as the group members donate a uniform

Out of 2,680 SHGs formed, 1,503 groups are all-women SHGs. All these SHGs wear a uniform, the colour of which is chosen by the group members. The women take pride in wearing their uniform for their monthly meetings and other ceremonial functions. The cost of this uniform is borne by the group by availing loan out of the internal savings of the group. The women feel empowered, as they now possess their exclusive identity.

#### SHG wearing same uniforms during one of the meetings

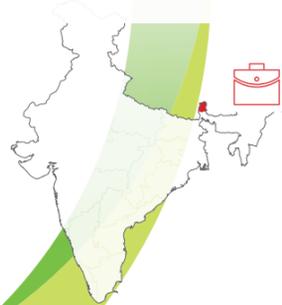


#### Students of Sri Krishna Devi girls inter college during their visit to Kukrail forest conducted under the Children Forest Programme in Lucknow



# SIKKIM

## Biodiversity Conservation and Forest Management Project



**EXECUTING AGENCY**  
Department of Forest, Environment and Wildlife Management, Government of Sikkim



**LOAN AMOUNT**  
Amount: JPY 5,384 million  
Agreement signed: 2010

The Japan-India commitment for biodiversity conservation has been drawing increasing global interest. The year of 2010 was designated as the International Year of Biodiversity by the United Nations and Japan hosted the Convention on Biological Diversity, "10th Conference of the Parties" (COP10) in October 2010.

Despite high global biodiversity throughout the world, there are 34 regions (biodiversity hotspots) that are in critical danger of being destroyed. One of these hotspots is located in the eastern Himalayan region of Sikkim State in India. The objective of the Project is to strengthen biodiversity conservation activities and forest management capacity, and to improve livelihood for local people who are dependent on forests, thereby contributing to environmental conservation and harmonized socio-economic development of Sikkim.

In this project, sustainable biodiversity conservation, afforestation and income generation activities including ecotourism for the community development are to be promoted. This is the first project that has a main emphasis on biodiversity conservation among the JICA-supported projects in the forestry sector in India. The Project shall assist activities such as baseline survey of the region, strengthening management skills for protected areas (including strengthening local community organizations), and carrying out a study to facilitate the designation of the Khangchendzonga National Park as a World Heritage site.

Khangchendzonga is designated as the new UNESCO World Heritage site and is named as mixed heritage site, a first of its kind in India.

### Microplanning with JFMC



### Inventory of Herb Species at Kyonnosla Alpine Sanctuary



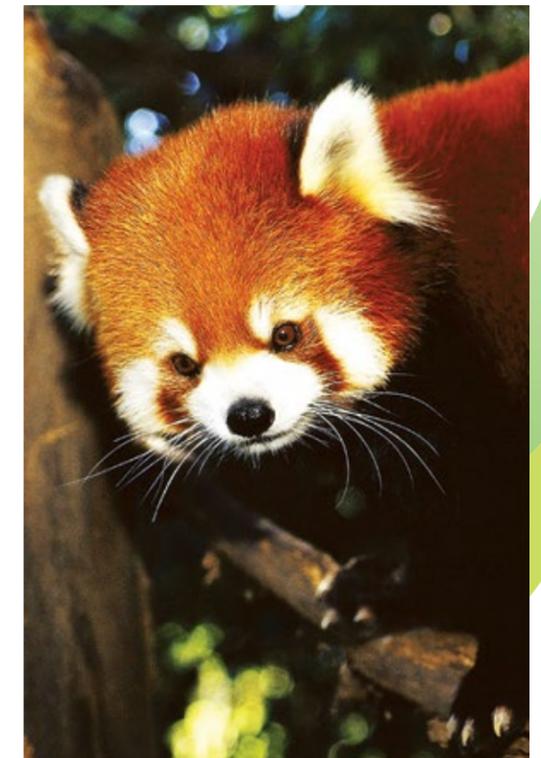
### BEST PRACTICES - Technical Support for Formulation of Eco-tourism Policy

As a part of technical support, services of a JICA appointed eco-tourism expert have been provided to help Sikkim formulate its eco-tourism policy that shall serve as the foundation for economic development, without compromising on environmental conservation.

### Ecotourism



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

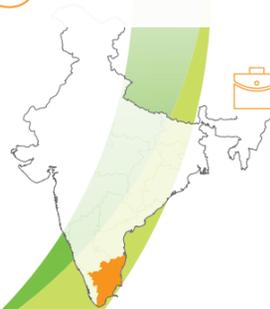


### Khangchendzonga Biosphere Reserve



# TAMIL NADU

## Biodiversity Conservation and Greening Project



**EXECUTING AGENCY**  
Forest Department,  
Government of Tamil Nadu



**LOAN AMOUNT**  
Amount: JPY 8,829 million  
Agreement signed: 2011

The state of Tamil Nadu is located in the southern part of India and in the Western Ghats Mountain Range which is one of the biodiversity hotspots and with 28 protected areas and 553 endemic species. In addition to 230 redlisted species, many problems are reported, such as man-animal conflicts. Among the impoverished residents today struggling to meet their livelihood needs, many are so heavily dependent on forest resources that they have no choice but to turn to deforestation to make a living. In Tamil Nadu, long-term afforestation projects supported by the Japanese ODA Loans have been implemented, and these projects have contributed to increasing the forest and tree cover. However, the forest cover is around 22%, much below the national target of 33%.

Given these circumstances, it is urgent to manage protected areas and forests scientifically for a sustainable forest management system and to improve the livelihoods of people living in forests

or on forest fringes while conserving the region's biodiversity. The objective of the Project is to strengthen biodiversity conservation by improving the eco-system and management capacity as well as undertaking tree planting outside the recorded forest areas, thereby contributing to environmental conservation and harmonized socio-economic development of Tamil Nadu. Additionally, the tree planting activities are expected to contribute towards reducing the effect of greenhouse gases.

In order to conserve the biodiversity in this state with its many precious endemic species, this project will conserve the ecosystem (by removing invasive and exotic species), strengthen the monitoring systems for fires, poaching, and other threats, establish fences and trenches to reduce man-animal conflicts, improve the livelihood of people living in or on the fringes of forests, and carry out community-based ecotourism.

▼ Mixed plantation of *Melia Dubia* and Bamboo trees



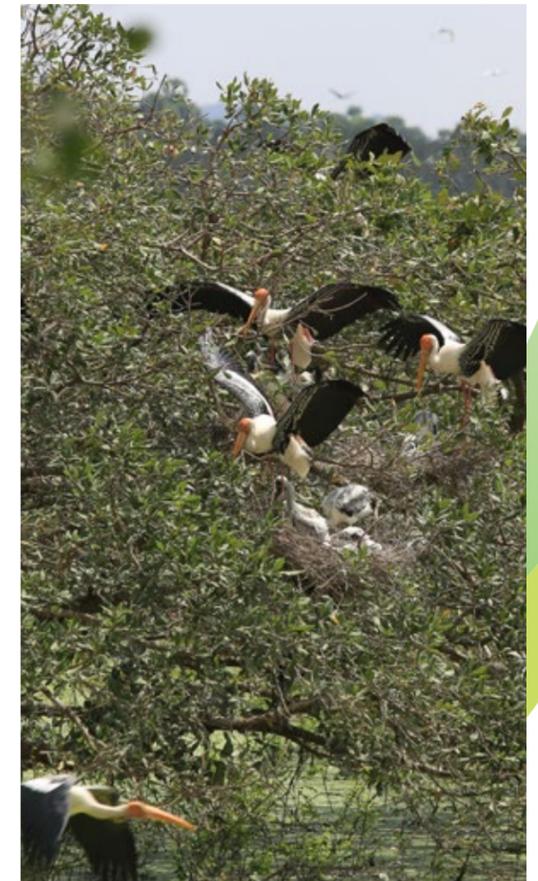
▼ Elephant Proof Trench at Parakkadavu, Tamil Nadu



▼ Animal Immunization Camp

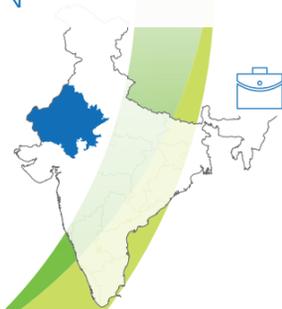


▼ Vedanthangal Bird Sanctuary Maintained by JICA



# RAJASTHAN

## Forestry and Biodiversity Project - Phase II



**EXECUTING AGENCY**  
Forest Department,  
Government of Rajasthan



**LOAN AMOUNT**  
Amount: JPY 15,749 million  
Agreement signed: 2011

The state of Rajasthan is the driest state in India and two-thirds of its geographical area is covered by Thar Desert. Owing to severe climatic conditions, the forest & tree cover of the state at 4.7% is far below the national average of around 21.3%. Furthermore, the state, especially Western Rajasthan, faces a major challenge of desertification due to recurrent drought and increasing human and livestock pressures. Past JICA supported forestry projects in the state have contributed to increase in forest cover and promotion of community participation in conservation and protection of forests. Efforts

have also been made to check desertification and to restore ecological status of the desert area by intensive afforestation and silvopasture. However, considering the huge size of the state and adverse climatic and geographic conditions, more efforts are needed to increase forest cover and protect the rich biodiversity of the state. The Project aims to enhance forest area and livelihood opportunities of the forest dependent people and to conserve biodiversity by undertaking afforestation and biodiversity conservation measures through Joint Forest Management (JFM) approach, thereby contributing to environmental conservation and socio-economic development of the state.

Community mobilization and poverty alleviation initiatives form integral components of the Project. The project activities include canal side plantation, sand dune stabilization cum pasture development,

silvopastoral plantation and block plantation in desert areas of the state. Rehabilitation of degraded forests, aided natural regeneration, fuel wood and other plantation are to be taken up in the non-desert areas. Water conservation measures shall go hand-in-hand with the plantation activities to be taken up under the Project. Biodiversity conservation activities are planned to be taken up in the fringe areas of 7 Protected Areas of the state. In-situ Conservation of the Great Indian Bustard (GIB), the state bird of Rajasthan, a critically endangered species in Desert National Park (DNP), Jaisalmer is a component of the Project. Inviolable spaces have been created and habitat improvement works have been taken up in DNP under JICA support. In-situ conservation of four horned antelope in Sitamata WLS and Kumnalgarh WLS is another important initiative of this project.

Three Biological Parks have been developed under this project namely Sajjangarh Biological Parks in Udaipur, Machia Biological Park in Jodhpur, and Nahargarh Biological Parks in Jaipur. These parks have been built in accordance with the guidelines of Central Zoo Authority (CZA). "Open to Sky" enclosures have been built and various animals have been housed in these parks. Interesting and informative signboards and paintings have been developed to generate interest about wildlife amongst the public, especially amongst school. Local communities, residing around the park, have been organized in Eco Development Committees (EDC) and have been involved in the operation of these parks. Several EDC member work as guides, e-rickshaw drivers as maintenance staff in the parks. 2 million (approximately) people have visited these JICA supported biological parks since October 2017.

Besides these project related activities, JICA's support is also being extended to the Rajasthan Forest Department for capacity building and monitoring of various activities. JICA support has led to training of the 1,032 ground staff, who have been trained in GPS and 52 others, who have been trained in Open source GIS. Digitization work of 13 Wildlife Sanctuaries (WLS) boundaries and their eco-sensitive zone has been done along with the digitization of 25 WLS encroachment areas.

### BEST PRACTICES - GIS for Forest Management

To contribute to the national goal of bringing 33% of the geographical area under forest and tree cover, the Project encourages villagers to plant trees on the private land. The cluster approach is embraced for better monitoring, marketing and interventions. The tree species have been selected based on the Micro plan developed by the farmers.

#### Female GIB and chick at Desert National Park, Jaisalmer



#### Traditional Embroidery work by Women SHG Members, Barmer DMU



#### Check Dam Jalore DMU

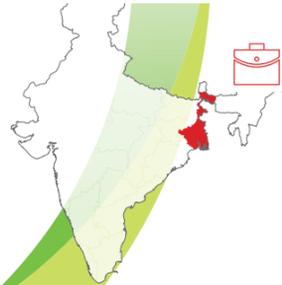


#### Resource Mapping during VFPMC meeting at Sirohi



# WEST BENGAL

## Forest and Biodiversity Conservation Project



**EXECUTING AGENCY**  
Forest Department,  
Government of West Bengal



**LOAN AMOUNT**  
Amount: JPY 6,371 million  
Agreement signed: 2012

The State of West Bengal, located in the eastern part of India, has the second highest population density in India.

The poverty rate is also higher than the national average. Overuse of forest resources such as firewood and other forest products required for daily living is ever increasing, applying immense biotic pressure on forest resources and creating rapid degradation of forests. While there is a rising trend in forest coverage in India, West Bengal's forest cover rate remains at 13% (2015), a low level as compared to the national average of 21.3%. Thus, it is imperative to take remedial actions for restoring the ecology.

Under the Project, 574 Forest Protection Committees (FPCs) and 26 Eco-Development Committees (EDCs) have been targeted for implementation of forestry development, biodiversity conservation and community development activities covering 23 forest divisions across 8 districts in the state. Forest management will be strengthened through Joint Forest Management (JFM) approach, and the measures to prevent man-animal conflicts and to improve the habitat of wildlife in Protected Areas and surrounding areas will be undertaken. Community development and livelihood improvement activities will be carried out to improve the socio-economic conditions of local people, and the institutional capacity as well as infrastructure for the forest department such as hi-tech central nurseries, will be established. Afforestation is the largest component—about 35% of the project outlay, including central hi-tech nursery development for taking up plantation through 5 models over 11,470 hectares (ha). Use of Quality Planting Material

(QPM) has been envisaged in the Project, and development of hi-tech nursery and related nursery operations are critical for the production of QPM.

### ▼ A Quality Planting Material of 'Neem'



The Project aims at adopting JFM approach for enhancing Joint Forest Management Committees (JFMCs) capabilities for better management of forests livelihood development in their respective areas, creating an environment of trust and confidence between them and forest personnel at the grassroots level. Moreover, community asset will immediately interest people to participate in the project activities. Most of the project activities at the village level have been planned to be undertaken in JFM mode through JFMCs,

Self-Help Groups (SHGs) and Beneficiary Groups (BGs). The Project has planned to work with 1,200 SHGs at a rate 2 SHGs per JFMC being supported by a revolving credit fund of INR 125,000 per JFMC. This would be used by the SHGs operating within the JFMC area at a rate of INR 62,500 each to start small Income Generation Activities (IGAs) and enterprise development. JFMCs are planned to be empowered to undertake project activities to manage funds in an efficient and transparent manner.

### ▼ A Quality Planting Material of 'Neem'



### BEST PRACTICES - Instant Reporting System

Several unforeseen incidents like elephant attacks, forest fires and forest crimes happen in the forest area at frequent interval which requires the immediate attention of higher authority for taking necessary action. West Bengal Forest and Biodiversity Conservation Project has developed and implemented an Instant Incident Reporting System to address such incidents through hybrid personal GPS Tracker, Mobile Application & Cloud Application.

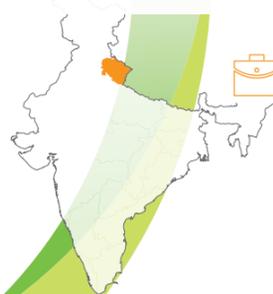
The exact location of the incident and immediate status of danger to forest staff is of foremost importance at such times, according to which the gravity of the situation and quantum of assistance required is decided.

### ▼ Preparation for Plantation at the Nursery



# UTTARAKHAND

## Forest Resource Management Project



**EXECUTING AGENCY**  
Forest Department,  
Government of Uttarakhand



**LOAN AMOUNT**  
Amount: JPY 11,390 million  
Agreement signed: 2014



The Project will work in developing manuals and standard operating procedures (SOPs) for similar sediment mitigation works. Integration of TCP and UFRMP would prove to be one of the highlights of the Project.

**Anup Malik**, Chief Project Director

Uttarakhand has abundant forests and water resources. However, the forests in the state are being degraded due to pressure from an ever-increasing population. The population in rural Uttarakhand has nearly doubled between 1981 and 2011, since the majority of the rural population depends on forest resources for their livelihood, increasing human population and livestock has led to additional demand for fuelwood and animal

fodder. It is estimated that between 2005 and 2011, 150,000 hectares of forests got degraded in the state. In order to safeguard against such damage, it is necessary to implement water and soil conservation measures through afforestation.

The Uttarakhand Forest Resource Management Project aims at addressing the problem of forest degradation in the identified forest fringe areas of the State. The Project is being implemented

### ▼ Raising of seedling in a nursery in Uttarakhand



by involving Van Panchayats (VPs), which are more than eight-decade old community-based organizations in the state by also ensuring their capacity development in the process. The Project targets controlling forest degradation, improvement of livelihood options and through income generation activities of the people living in the target area, thereby, reducing their dependence on forests.

Consequent to the natural catastrophic disaster in Uttarakhand in June 2013, which led to massive slope failures and damage to roads in forest areas, a component of disaster mitigation was also incorporated in the Project. It includes treatment of landslides, reconstruction of damaged forest roads in forest areas and capacity building of forest personnel in this specialized field. This is the first project in the history of JICA-supported forestry projects in the country, where JICA has a component having engineering inputs for disaster mitigation.

In 8 years project duration, 750 VPs will be covered where eco-restoration works over 37,500 ha of degraded forests are to be taken up.

The Project has also taken up the task of development of a geo-database of the Forest Divisions/ Ranges. The database with web-enabled Geographic Information System (GIS) application would be used as decision-making support system and for monitoring of the project activities. The Project has also come up with a policy document on REDD+ that is how Verified Carbon Standard (VCS)-Jurisdictional Nested Approach will be most suitable for the given national as well as project interventions.

### BEST PRACTICES - Memorandum of Understanding (MoU) with Patanjali

The Project has signed a MoU with Patanjali, a leading FMCG company, based on Ayurveda. The MoU aims at developing Non-Timber Forest Products (NTFPs) and Medicinal Plant resource in each VP for creating a permanent source of revenue for them. Patanjali would provide necessary technical and market linkages for the same. This step will also go a long way in empowering VPs, which is one of the hallmarks of the Project.

### ▼ Empowerment of Van Panchayats



# CAPACITY DEVELOPMENT

## ODA Loan Project

### Capacity Development for Forest Management and Personnel Training



**EXECUTING AGENCY**  
Ministry of Environment and Forests



**LOAN AMOUNT**  
Amount: JPY 5,241 million  
Agreement signed: 2008

**LOAN COMPLETION**  
2018

It has been recognized that one of the factors causing destruction of the forests is the arbitrary use of forest resources by the poor village communities living in or on the fringes of forests, which depend on those resources to make a living. It is therefore vital to promote awareness of the importance of forest management among the local village residents while planning for forest conservation, and to provide support to improve the livelihoods of the poor and their effective use of forest resources in a sustainable manner.

To that purpose, it is critical that the frontline staff of each state's forest department, which implements the project and is in daily contact with local village communities, receives effective and well-structured trainings on the latest skills and techniques covering various aspects of the forestry sector, including forest management methods based on a new innovative approach. However, 63 state-operated forest training schools throughout

India, that are in charge of providing the training to the frontline staff are ill-equipped to provide appropriate training due to various reasons such as inadequate state budgetary allocations, poor infrastructure and low priority accorded by the forest departments to trainings. The Project target region is being implemented across 13 states in India which are selected as per the criteria agreed between MoEF and JICA.

In this project, a full training curriculum will be developed to provide training in the latest technology and skills needed for forest conservation, as well as facilitating the implementation of Joint Forest Management (JFM) with local village community members. ODA Loan funding shall also be used to repair and rehabilitate aging training facilities or construct new ones in the states which have no existing training facilities, as of now.



## TECHNICAL COOPERATION

### Project for Capacity Building of State Forest Training Institutions and Central Academy for State Forest Services (CASFoS)

- » Cooperation period: March 2009 to March 2014
- » Counterpart agency: Directorate of Forestry Education, Ministry of Environment and Forests (Dehradun, Uttarakhand) and CASFoS, Dehradun

## BACKGROUND AND OBJECTIVE

By 2001, forest coverage in India had fallen from 40 percent at the beginning of the twentieth century to 23 percent, below the worldwide average of 30 percent. It has been recognized that one of the factors causing destruction of the forests is the arbitrary use of forest resources by the poor village communities, living in or on the fringes of forests, which depend on those resources to make a living. It is therefore vital not only to promote awareness of the importance of forest management among the local villagers but also to provide support for improvement of their livelihoods and effective use of forest resources in a sustainable manner.



To this end, it is crucial that the frontline staff of each state's forest department, who are in daily contact with local village communities, receive effective and well-structured trainings, so that they could be equipped with the latest skills and techniques covering various aspects of the forestry sector, including forest management methods based on a new innovative approach. However, most of the frontline staff currently lack such skills and techniques, and do not yet have adequate experience in sharing techniques with local villagers.

With this background, this Technical Cooperation project aims to improve the in-service training courses at the national level in Central Academy for State Forest Service (CASFoS), Dehradun. Since state forest officers who are trained at CASFoS become leaders and trainers for the



frontline staff in their respective states, the quality enhancement of the in-service training courses at CASFoS is quite important and ultimately leads to upgrading the skills of frontline staff all over the country.

## PROJECT SUMMARY

For this project, Japanese experts who have long experiences in forestry administration were dispatched from Japan's Forestry Agency, Ministry of Agriculture, Forestry and Fisheries, to provide technical supports. The project was initially to review the existing in-service training courses and identify through surveys the needs and challenges of the state-level trainings, followed by development and implementation of need-based model in-service training courses at CASFoS, Dehradun. It also extended support in establishing monitoring and feedback system which helps clarify the impacts of the training courses at CASFoS and improves them systematically.

## PROJECT HIGHLIGHTS

This Technical Cooperation project is designed to have synergistic effects with the ODA Loan Project "Capacity Development for Forest Management and Personnel Training". Whereas the Loan project provides funds for improvement of state-level training environment for frontline staff through the rehabilitation of State Forest Training Institutions and through capacity development of frontline forestry staff, the Technical Cooperation project contributes to the enhanced skills of state-level instructors by improving the national-level in-service training course meant for them.

# TECHNICAL COOPERATION

**EXECUTING AGENCY**  
The Forest Department,  
Government of Uttarakhand

## The Project for Natural Disaster Management in Forest Areas in Uttarakhand

In June 2013, as an after-effect of heavy rains in the Himalayan region, the unexpected large scale destruction due to floods and landslides caused tremendous loss to human life and property in the State of Uttarakhand. More than 6,000 people were declared dead or missing in 4,200 villages, primarily in the northern area of the State. This is, by any yardstick, one of the largest natural calamities in India. As a result, the Slope Disaster Mitigation component of the Uttarakhand Forest Resource Management Project (UFRMP) and the new Technical Cooperation project was

“ ”

The successful launching of a Technical Cooperation Project (TCP) has given much-needed fillip towards evolving an established system for landslide management and erosion control in the hills, through Japanese technology and expertise. Development of three model sites at erosion and landslide-affected areas will provide first-hand exposure to all stakeholders to the modern Japanese technology in this field. Exposure visits and training programmes that are built-in into TCP would help in creating a team of personnel, who would be capable of surveying, site investigation, planning, designing, estimating and implementing landslide and slip management works on the hill slopes and also periodic monitoring of the efficacy of the measures taken up for such stabilization works, and their documentation.

**Anup Malik**, Project Director

▼ UKTC Project Director's visit to Oi River area, Shizuoka prefecture, Japan to understand how erosion control works



▼ Experts imparting the training in Japan to the officers of Uttarakhand Forest Department (UKFD)



designed to develop capacity of Uttarakhand Forest Department (UKFD) for sediment disaster mitigation so that the people of Uttarakhand will be able to prepare themselves in a better way against landslide disasters in the future.

The Project objective is to develop the self-reliant capacity of UKFD in the field of erosion control in the forest area; thereby, contributing to the safer living environment for the people and reduction of economic losses not only in the state of Uttarakhand but also in other Himalayan states as well.

The Project focuses on developing technologies for erosion control works which are adapted in the State, including development of technical handbooks/manuals, and establishment of model sites on erosion control.

▼ Discussion at the project office regarding the erosion control works



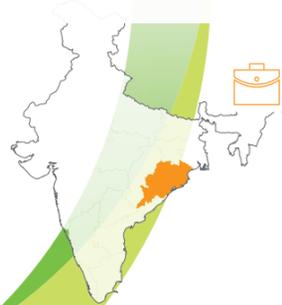
▼ Investigation conducted using pocket compass with Indian engineers and Japanese short-term experts at the model site Nilgard, Uttarakhand



Under the Project, JICA's Japanese experts have been dispatched for assisting the UKFD in field survey, planning, designing and supervision for erosion control works. Trainings are also undertaken through JICA experts', who share knowledge for the betterment of the forest land.

# ODISHA

## Forestry Sector Development Project (Phase 2)



**EXECUTING AGENCY**  
Forest and Environment Department, Government of Odisha



**LOAN AMOUNT**  
Amount: JPY 14,512 million  
Agreement signed: 2017

The Project aims to enhance forest ecosystem along with sustainable livelihood of local people by improving sustainable forest management, sustainable biodiversity conservation and community development, thereby contributing to harmonization between environmental conservation and socio-economic development.

The Project consists of similar strategies and approaches to its previous phase, OFSDP-1. OFSDP-1 succeeded by way of promoting livelihood activities involving the Women Self Help Groups (WSHGs) from the project villages and promoted cluster based business activities. Going forward, in OFSDP-2, cluster based

business promotion will also be planned and promoted from the early stage of the Project, and Project Management Unit (PMU) will establish an exclusive unit, Livelihood Resource Centre (LRC), under PMU to provide specialized business promotion support for business planning, marketing, product development and facilitating linkages with financial institutions and other resource organizations and also to provide financial support to cluster SHGs. The partnership ecosystem will further be nurtured by LRC and will make it more sustainable. Additional components have been added to strengthen the Project in OFSDP-2 with an all-inclusive approach. Some of them are enhanced support of cluster business development, gender mainstreaming, climate changes through scientific monitoring methods and needs based strategic funding.

For sustainable biodiversity management, Japanese concept of "SATOYAMA" will be adopted in the Project. SATOYAMA is the landscape model that includes both human production activities such as forestry, agriculture and animal husbandry, and natural habitats where human influence is an essential aspect of the local ecosystem. Therefore, SATOYAMA initiative can provide ways to utilize and manage natural environment to sustain and improve daily lives of forest fringe villagers.

The Project will target new areas in 12 Forest Divisions and 2 Wildlife Divisions in Odisha State. The target areas have been selected by prioritizing the regions witnessing the high forest degradation as well as high concentration of forest dweller to sustain the forest and people's life.

▼ Villagers cleaning the pond, Purnagar Range, Angul



▼ Women working inside the onion storage Durgapur VSS, Angul



▼ Inspection of Teak Plantation Durgapur Forest Range, Angul

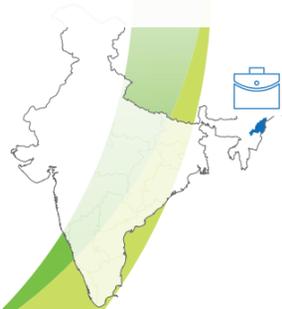


▼ VSS meeting, Poktunga Dehusahi, Angul



# NAGALAND

## Forest Management Project



**EXECUTING AGENCY**  
Department of Environment,  
Forest and Climate Change,  
Government of Nagaland



**LOAN AMOUNT**  
Amount: JPY 6,224 million  
Agreement Signed: 2017

Forest areas in Nagaland account for more than 78% of total land area of the state, out of which 53% are categorized as open forest and has less than 40% canopy density. This is the fourth highest loss of forest cover across states in India and the main cause is Jhum (slash and burn practice) Cultivation method adopted by local people. To protect forest cover and biodiversity in forest regions of Nagaland, this project is being implemented in selected divisions of the state.

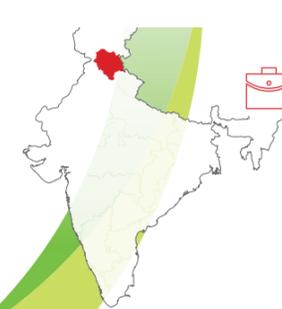
The project activities include improving forest ecosystem, supporting income generation by rehabilitation of Jhum Cultivation (traditional slash and burn practice) area, provide livelihood support and strengthening of forest institutions in the target regions.

Forest ecosystem will be improved by sustainable restoration and rejuvenation of Jhum area, which will lead to enhancement of carbon and micro-nutrients in the soil of forests and will assist in biodiversity conservation. Biodiversity conservation improvement in turn will provide enriched and critical ecosystem services such as food sources, water sources, soil formation, nutrient cycling and primary production with a sustainable range in the forests.

The Project will be implemented in 185 Villages in 22 Forest Ranges in 11 Divisions, covering approximately 80,000 hectares (ha) for forestry intervention.

# HIMACHAL PRADESH

## Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihood



**EXECUTING AGENCY**  
The Forest Department,  
Government of Himachal Pradesh



**LOAN AMOUNT**  
Amount: JPY 11,136 million

**LOAN COMPLETION**  
2018

Himachal Pradesh falls within the Himalayan Biodiversity Hotspot\* and it is bestowed with a repository of flora and fauna. Out of total flora and fauna found in India, 7.3% of flora and 7.4% of fauna, including endangered species listed in Red List of the International Union for Conservation of Nature (IUCN), have been reported in Himachal Pradesh.

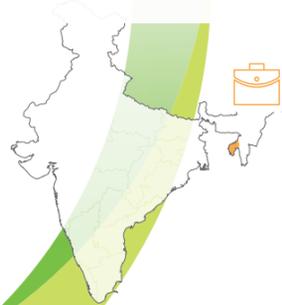
The Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihood is implemented in districts including Bilaspur, Shimla, Mandi, Kullu, Kinnaur, and Lahaul & Spiti. The objective of the Project is to manage and enhance forest area ecosystems in the project area, through sustainable forest ecosystem management, biodiversity conservation, livelihood improvement support and strengthening institutional capacity, thereby contributing to environmental conservation and sustainable socio-economic development in the state of Himachal Pradesh.

The Project aims to enhance farmers' income through crop diversification by providing them assured irrigation systems. The Project aims to contribute to biodiversity conservation and improvement of ecosystem services in forest areas for sustainable socio-economic development in Himachal Pradesh. Since more women are involved in forest activities in Himachal Pradesh, the Project will provide women with incentives to participate in ecosystems management activities, such as through Self-Help Groups.

\* Biodiversity Hotspot – Biodiversity hotspots are the richest and most threatened reservoirs of plant and animal life on Earth designated by Conservation International, an International NGO. There are 4 biodiversity hotspots in India namely, Eastern Himalayas, Western Ghats, Indo-Burma and Nicobar Islands.

# TRIPURA

## The Project for Sustainable Catchment Forest Management in Tripura



### EXECUTING AGENCY

Forest Department,  
Government of Tripura



### LOAN AMOUNT

Amount: JPY 12,287 Million

### LOAN COMPLETION

2018

The Project aims to improve quality of forest in the catchment area by sustainable forest management, soil and moisture conservation and livelihood development. The Project is being implemented mainly in upper catchments of Tripura where forest degradation and soil erosion are severe and livelihood improvement needs are higher.

The Project builds upon the initiative undertaken under Tripura Forest Environmental Improvement and Poverty Alleviation Project (TFIPAP) (2007-2017), with its primary focus on restoration of degraded forests and improving the livelihoods of forest dependent dwellers. The key elements of TFIPAP include afforestation, strengthening Joint Forest Management Committees (JFMCs) and Eco-Development Committees (EDCs) for restoration of degraded forests and piloting numerous livelihood interventions. Going forward, the Project for Sustainable Catchment Forest Management will sustain the initiatives of TFIPAP and improve the degraded forest and mitigate the soil erosion risk by catchment-focused approach.

The Project activities include promotion of bamboo plantation, agroforestry based livelihood, eco-tourism development, development of value addition for bamboo and other Non-Timber Forest Product (NTFP) in order to create alternate

livelihood opportunities for local communities. As bamboo is a key resource, strong emphasis shall be laid on enhancing the production base and value addition of bamboo production. As a unique approach in the project, some activities such as operation of NCE (NTFP Centre of Excellence), Mini-Community Common Facility Centre (CCFC) and agroforestry will be co-financed by the state government to sustain the initiatives in the post project period.

As beat is the smallest administrative unit, Beat Forest Basic Plan (BFBP) shall be prepared by TFD to identify beat specific issues on catchment protection and accordingly design and implement site specific interventions.



JICA's Forestry Sector at a Glance

# ABBREVIATION TABLE

AFD	: Agence Française de Développement	NCE	: NTFP Centre of Excellence
AR	: Afforestation and Reforestation	NGO	: Non Governmental Organization
BPL	: Below Poverty Line	NTFP	: Non-Timber Forest Product
CASFoS	: Central Academy for State Forest Services	ODA	: Official Development Assistance
CCFCs	: Common Community Facility Centres	OFSDP	: Orissa Forestry Sector Development Project
CDM	: Clean Development Mechanism	PDCs	: Panchayat Development Committees
CFP	: Children Forest Programme	PMU	: Project Management Unit
DFID	: Department for International Development	PRA	: Participatory Rural Appraisal
EDC	: Eco Development Committee	SFS	: State Forest Services
EPA	: Entry Point Activities	SHGs	: Self Help Groups
GIS	: Geographic Information System	TAP	: Tamil Nadu Afforestation Project
IGA	: Income Generation Activities	VFCs	: Village Forest Committees
JFM	: Joint Forest Management	VFPMC	: Village Forest Protection and Management Committee
JFMC	: Joint Forest Management Committee	VSS	: Van Sanrakshan Samiti
MIS	: Management Information System	WLS	: Wild Life Sanctuary
MoEF & CC	: Ministry of Environment, Forest and Climate Change		





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