

## Ex-ante Evaluation (for Japanese ODA Loan)

### 1. Name of the Project

Country: India

Project: Tamil Nadu Biodiversity Conservation and Greening Project

Loan Agreement: February 17, 2011

Loan Amount: 8,829 million yen

Borrower: The President of India

### 2. Background and Necessity

#### (1) Current State and Issues of the Biodiversity Conservation and Forest Management Sector in India

In terms of biodiversity conservation in India, as of March 2009, 4.79% of the country was designated as protected area, with 99 national parks and 523 wildlife sanctuaries. However, the management plans of these protected areas are not well prepared as they are not based on scientific databases to conserve biodiversity. Therefore, in addition to the vital issue of improving forest and tree cover as well as the forest quality, it is also necessary to strengthen capacity among related agencies to ensure a balanced approach for the sustainable growth of ecosystem. Further, at the start of the 20<sup>th</sup> Century, approximately 40% of India was covered by forest, but India's forest and tree cover ratio stood at 23.4% (2005), which is lower than the global average of 30.3% (2005). While many people including those living in poverty depend on forestry for livestock feed, fuel and income, the negative impact on forest has been boosted with the huge population growth. As the forests are degraded (the percentage of open forest is 41.7% (2007)), the functions of forests are not sufficiently fulfilled.

#### (2) Development Policies for the Biodiversity Conservation and Forest Management Sector in India and the Priority of the Project

The Government of India has outlined a target of increasing India's forest and tree cover ratio by 5% in its Eleventh Five Year Plan (April 2007-March 2010). In addition, the Plan also places an emphasis on participatory Joint Forest Management (JFM) to ensure sustainable forest management, promotion of activities by the Eco Development Committee (EDC) to ensure wildlife conservation, support for those who rely on the forest for their livelihood to ensure alternative sources of income, and reduction of man-animal conflict. Furthermore, in order to implement sustainable forest management and biodiversity conservation, the Government of India aims to build an information management system and promote trainings for human resources development.

#### (3) Japan and JICA's Policy and Operations in the Biodiversity Conservation and Forest Management Sector

The "Poverty Reduction and Environmental Improvement" is one of the prioritized areas in the Country Assistance Program for India by the Government of Japan. Accordingly, JICA has set the "Support for Environment/Climate Change Measures" as a prioritized area. More specifically, JICA will support measures to prevent soil degradation and improve soil water retention ability as well as biodiversity through restoration of degraded forest and improvement of forest cover and quality for the sake of sustainable forest management. In terms of Japanese ODA loans given to India, 18 projects totaling 180 billion yen have so far been extended in the forestry sector (of which, 2 afforestation projects with 23.1 billion yen have been already implemented in the State of Tamil Nadu). JICA Technical Cooperation Project, "Capacity Building of State Forest Training Institutions and SFS Colleges" is being implemented for a projected period of five years from FY2008.

#### (4) Other Donors' Activity

In addition to forest management projects being implemented by the World Bank and the EU, the Global Environmental Facility (GEF) has been involved in supporting the preparation of biodiversity strategy and related action plans of India including Tamil Nadu.

#### (5) Necessity of the Project

The State of Tamil Nadu is located in the Western Ghats Mountain Range with 28 protected areas and 553 endemic species, which is one of the biodiversity hotspots designated by the Conservation

International, an international NGO. However, 230 red-listed species are endangered, and furthermore, many problems are reported such as conflicts between man and wildlife, including elephants. Further, there are many people living in or on fringes of forests, who live below the poverty line. A majority of them live in rural areas and most of them are heavily dependent on forest resources for their livelihood. This dependency and unscientific utilization of forestry resources by the local communities result in negative impact on the local biodiversity, therefore, there is an urgent need to improve the livelihoods of rural people, especially those living in poverty, with the aim of achieving sustainable socio-economic development in harmony with the natural environment in this region. In the state, long-term afforestation projects supported by the Japanese ODA loans have contributed to improving the situation of recorded forests areas. However, it is necessary to plant trees in fallow lands outside the recorded forest areas in order to achieve the national target of 33% for forest and tree cover ratio and meet the recently increasing demand for wood and its products.

Under such situation, since the state is promoting the management of protected areas based on each area's management plan as well as biodiversity conservation through forest management, JICA's assistance for the project, with its emphasis on appropriate management of protected areas, tree planting outside of the recorded forest areas and the improvement of livelihoods for the local people, is highly necessary and relevant.

### **3. Project Description**

#### (1) Project Objective(s)

The objective of the project is to strengthen biodiversity conservation by improving ecosystem and the 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.

#### (2) Project Site/Target Area

State of Tamil Nadu

#### (3) Project Component(s)

1) Biodiversity conservation activities (ecosystem conservation in the protected areas (removal of invasive and exotic species, etc.), improvement of the monitoring system for fires, poaching, and other threats in the protected areas, establishment of fences and trenches to reduce man-animal conflict, improvement of the livelihood of people living in or on fringes of forests, community-based eco-tourism, etc.)

2) Tree planting activities outside the recorded forest areas on private farm lands

3) Institutional capacity development of the Department for Forest (research activities, environmental education, augmentation of office facilities and equipments, capacity development, etc.)

4) Consulting services

#### (4) Estimated Project Cost (Loan Amount)

12,899 million yen (Loan amount: 8,829 million yen)

#### (5) Schedule

February 2011 - March 2019 (total 98 months). Project completion is defined as completion of the biodiversity conservation activities (March 2019).

#### (6) Project Implementation Structure

1) Borrower: The President of India

2) Executing Agency: Department of Forest, Government of Tamil Nadu

3) Operation and Maintenance System: Department of Forest, Government of Tamil Nadu

#### (7) Environmental and Social Consideration/Poverty Reduction/Social Development

1) Environmental and Social Considerations

i) Category: B

ii) Reason for Categorization

This project is not considered to have any significant negative impact on the environment, given the characteristics of the sector, the characteristics of the project and the characteristics of the project area, under the “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Consideration” (established in April 2002). For this reason, this project is classified as Category B.

iii) Environmental Permit

The Environmental Impact Assessment (EIA) report is not required for this project, as per the prevailing environmental laws and policies in India.

iv) Anti-Pollution Measures

It has been confirmed with the executing agency that the project does not use agricultural chemicals or fertilizer basically.

v) Natural Environment

The project is to be implemented in national parks, and no negative impact on natural environment is expected, as the project activities will be implemented considering the existing ecosystems based on the management plan of protected areas.

vi) Social Environment

The project will involve neither land acquirement nor involuntary resettlement.

vii) Other/Monitoring

The executing agency and local residents will jointly monitor biodiversity conservation and tree planting activities of the project.

2) Promotion of Poverty Reduction:

Activities of participatory management of protected areas, local development, and improvement of livelihood will be implemented specifically targeting the people living in poverty.

3) Promotion of Social Development (e.g. Gender Perspective, Measures for Infectious Diseases Including HIV/AIDS, Participatory Development, Considerations for the Persons with Disabilities, etc.)

The project will practice participatory activities duly taking gender issues into consideration.

(8) Collaboration with Other Donors

This project will collaborate with NGOs in activities of livelihood improvement and environmental education among others.

(9) Other Important Issues

The management of the protected areas and tree planting activities contribute to immobilization of greenhouse gas as well as national land protection from disaster, which leads to mitigate and adapt to climate change. It is expected to reduce greenhouse gas by approximately 400,000t annually.

**4. Targeted Outcomes**

(1) Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (Available Value in 2010)	Target (2020) [Expected value 2 years after project completion]
Total Number of Protected Areas Intervened by the Project	-	20
Number of EDCs/VFCs/SHGs* in Total under the Project	-	88
Number of Small and Marginal Farmers who Planted Trees Outside the Recorded Forest Areas	-	40,000
Plantation Area Outside the Recorded Forest Areas (ha)	-	143,000
Survival Rate of Trees Planted Outside the	-	Second year after planting:

Recorded Forest Areas (%)		70
Trainees of Forest Department Staff (numbers)	-	5,790

\* VFCs: Village Forest Committees, SHGs: Self Help Groups

\*\* Cases of man-animal conflict will also be monitored for reference (numbers of human deaths, human injuries and crop damages).

## (2) Internal Rate of Return

Based on the conditions indicated below, the Economic Internal Rate of Return (EIRR) for the project is 10.80%.

### 【EIRR】

Cost: Project cost (excluding tax), operation and maintenance cost

Benefit: Income from timber

Project Life: 40 years

## 5. External Factors and Risk Control

Political and economic stagnation/deterioration as well as natural disasters in India and the area surrounding the project sites

## 6. Lessons Learned from Past Projects

From the ex-post evaluation of similar projects in the past, it has been learned that in order to smoothly implement afforestation and forest management by the VFCs, it is important (i) to prepare, in comprehensive and easy-to-understand language, guidelines that indicate the scale of JFM, the basis of the wood-lot selection, the basis for operating VFCs and a system for getting people to take responsibility, then (ii) to implement the project in accordance with those guidelines. When the management of protected areas and eco-tourism are carried out through the EDCs and VFCs, the same kind of guidelines will be prepared and applied as needed.

## 7. Plans for Future Evaluation

### (1) Indicators for future evaluation

- 1) Total Number of Protected Areas Intervened by the Project
- 2) Number of EDCs/VFCs/SHGs in Total under the Project
- 3) Number of Small and Marginal Farmers who Planted Trees Outside the Recorded Forest Areas
- 4) Plantation Area Outside the Recorded Forest Areas (ha)
- 5) Survival Rate of Trees Planted Outside the Recorded Forest Areas (%)
- 6) Trainees of Forest Department Staff (numbers)
- 7) Economic Internal Rate of Return (EIRR) (%)

### (2) Timing

Two years after project completion