Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: India
Project: Rajasthan Forestry and Biodiversity Project (Phase 2)
Loan Agreement: June 16, 2011
Loan Amount: 15,749 million yen
Borrower: The President of India

2. Background and Necessity of the Project

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

India's forest and tree cover ratio stood at 23.8% (2007), which is lower than the global average of 31% (2010). Massive population growth and over dependence on forests for for fodder, fuel and income has contributed to rapid degradation of forests as evident from data that the percentage of open forest in the country is 41.7% (2007)).

In terms of biodiversity conservation, as of March 2009, 4.8% of the geographical area of the country was designated as protected area consisting of 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 management of ecosystem.

(2) Development Policies for the Forest Sector and the Conservation of Biodiversity 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 2012). In addition, the Plan also places an emphasis on participatory Joint Forest Management 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 Forest Sector and the Conservation of Biodiversity in India

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 improve forest cover and quality through restoration of degraded forest, prevent soil degradation and improve soil water retention ability as well as biodiversity conservation for the sake of conservation and sustainable management of natural resources. This Project is consistent with these policies. In terms of Japanese ODA loans given to India, 19 projects totaling 189 billion yen (6% of the total loan amount) have so far been extended in the forestry sector (of which, 4 afforestation projects with 29.2 billion yen have been already implemented in the Rajasthan state). 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.

(5)   Necessity of the Project
The state of Rajasthan[1] has a forest and tree cover of only 7.1% of the geographical area of the state in 2007 (forest cover and tree cover is 4.69%, and 2.42% respectively), which is far below the national average of 23.4 %. The state faces both quantitative and qualitative problems with regard to the forest cover as open forests are as high as 71.8% of the total forest cover of the state. The present situation of the forests is primarily on account of adverse climatic conditions and massive biotic pressure on the forests caused by rapid growth in human and livestock populations of the state.

Two-thirds of the geographical area of the state is covered by the Thar Desert, which is characterized by arid and semi-arid conditions and is prone to recurrent droughts. Rajasthan is the driest state in India and the average rainfall in Rajasthan is 531 mm against the national average of 1,200 mm. Increasing desertification is another major challenge confronting the state.Huge growth in human and livestock population, along with loss of forest cover across the decades, has resulted in scarcity of fodder, fuel wood and other minor forest produce for the forest dependent communities of the state and has adversely affect their livelihoods. The State is endowed with rich and unique biodiversity resources. However, these resources are under constant threat due to variety of factors such as grazing, direct poaching of wild animals and man-animal conflict.

It is therefore necessary to strengthen sustainable forest management in the state through the participation of local communities. Development of alternative livelihood sources is also required to mitigate biotic pressure on forest and ecosystem and break the vicious cycle of poverty and natural resource degradation. The Rajasthan Forest Department has formulated the state forest policy ("Rajasthan Forest Policy 2010), wherein they have set a goal of increasing the forest cover of the state to 20% of the geographical area. Forest department intends to promote large-scale afforestation covering 450,000 km^2 and adopt numerous measures such as sand dune stabilization) to prevent desertification, and undertake various biodiversity conservation improvements in conformity with the approved Management Plan of the area.

In view of the situation in the state and the planned response of the state, JICA's assistance to promote sustainable forest management and strengthen the biodiversity conservation is highly necessary and relevant.

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3. Project Description

(1)   Project Objective
The objective of this Project is to enhance forest area and livelihood opportunities of the forest dependent people and to conserve biodiversity by undertaking afforestation and biodiversity conservation measures through JFM approach, thereby contributing to environmental conservation and socio-economic development of Rajasthan.

(2)   Project Site/Target Area
15 Districts, 7 Protected Areas and their fringe areas in Rajasthan state

(3)   Project Components
  1) Afforestation (Afforestation, Agro forestry, water and soil conservation activities, etc.)
  2) Biodiversity conservation activities (vegetation restoration in protected areas and their surrounding areas, protection of endangered species, etc.)

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[1] The geographical area of the state is about 340,000 km^2, almost the same area as Japan (about 380,000 km^2). Rajasthan is the largest state in India.

3) Community mobilization and livelihood improvement activities (Formation and strengthening of Village Forest Protect and Management Committee (VFPMC),,livelihood improvement activities, training, etc.)
4) Institutional capacity development (Augmentation of office facilities and equipment, training, etc.)
5) Consulting services (support for procurement and fund management, etc.)

(4)   Estimated Project Cost (Loan Amount)
20,515 million yen (including the agreed loan amount: 15,749 million yen)

(5)   Schedule
Planned for June 2011 – March 2019 (94 months in total); the Project will be completed when all the activities are completed (March 2019).

(6)   Project Implementation Structure
  1) Borrower: The President of India
  2) Executing Agency: Rajasthan Forest Department, Government of Rajasthan
  3) Operation and Maintenance System: Rajasthan Forest Department, VFPMC, EDC

(7)   Environmental and Social Consideration/Poverty Reduction/Social Development
  1) Environmental and Social Considerations
    (1) Category: FI
    (2) Reason for the Categorization: This Project is classified as Category FI because no sub-projects could be identified before JICA's approval of the loans (such sub-projects are estimated to have an environmental impact) according to the "Japan Bank for International Cooperation Guidelines for the Confirmation of Environmental and Social Considerations" (established in April 2002).
    (3) Other aspects/Monitoring: Given the project's purpose of carrying out afforestation and biodiversity conservation activities and the scale and expected contents of the sub-projects, no sub-projects are expected to have a serious environmental impact. Where necessary, the Forest Department and VFPMC/EDC will receive support from consultants for technical assistance in jointly carrying out monitoring. It has been assumed that no sub-project that falls under Category A is to be carried out.
  2) Promotion of Poverty Reduction
    In this Project, the participatory management of forest and protected area and activities for community development and livelihood improvement will be implemented with consideration for the forest dwellers that are highly dependent on forest resources and those in the poverty.
  3) Promotion of Social Development (gender perspective, measures for infectious diseases including HIV/AIDS, participatory development, consideration for persons with disabilities, etc.)
    In this Project, participatory activities involving local people are carried out with consideration for gender.

(8)   Collaboration with Other Donors
In this Project, JICA collaborates with NGOs in activities for regional development and livelihood improvement.

(9)   Other Important Issues
Because afforestation activities and management of protected areas are carried out in this Project, this Project contributes to the sequestration of greenhouse gases (GHG). This Project's effect of mitigating climate change (estimated amount of GHG absorption) is about 480,000 tons/year of CO_2 equivalent.

4. Targeted Outcomes

(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicator)

Indicator	Baseline (2010)	Target (2021) [2 years after project completion]
Afforestation area(ha)	–	83,650
Survival rate of planted trees (%)	–	Desert area: 65%, non-desert area: 70%
Survival rate of planted trees in farm forestry (%)	–	75
Number of protected areas intervened by the Project	–	7
Number of VFPMCs/EDCs/ SHGs established and utilized under the Project (*)	–	2,730
Trainees of trainings	–	100,500
Employment (man/day)	–	37,000,000

*SHGs: Self Help Groups

2) Internal Rates of Return
Based on the following preconditions, the economic internal rate of return (EIRR) of the Project is 10.24%.

Costs: Project cost (excluding taxes), operating and maintenance costs
Benefits: Revenue from forest products
Project life: 25 years

(2) Qualitative Effects
Environmental improvement, biodiversity conservation, improvement of the living standards of local residents, improvement of women's social and economic capacity, mitigation of climate change

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 Join Forest Management Committee (JFMC), 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 JFMCs and a system for getting people to take responsibility, (ii) to implement the project in accordance with those guidelines, and (iii) to plan activities based on the needs of local people.
When afforestation, management of protected areas and livelihood improvement activities are carried out through the JFMCs and EDCs, the same kind of guidelines will be prepared and applied as needed.

7. Plan for Future Evaluation

(1) Indicators to Be Used
1) Afforestation area (ha)
2) Survival rate of planted trees (%)

3) Survival rate of planted trees in farm forestry (%)
4) Number of Protected Areas intervened by the Project
5) Number of VFPMCs/EDCs/SHGs established and utilized under the Project
6) Number of trainees in training (persons)
7) Employment (man/day)
8) Economic internal rate of return (EIRR) (%)

(2) Timing
Two years after project completion