

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

### 1. Name of the Project

Country: The Republic of Turkey  
Project: Coruh River Watershed Rehabilitation Project  
Loan Agreement: June 22, 2011  
Loan Amount: 4,225 million yen  
Borrower: The Republic of Turkey

### 2. Background and Necessity of the Project

#### (1) Current State and Issues of the Agricultural and Forest Sector in the Republic of Turkey

Turkey has about 21 million ha of forests, which account for 27% of the total land area of the country. About 7.5 million people live in the forested area. However, due to limited employment opportunities and restrictions on the use of natural resources including forests, there are a large number of poor people in the area. Deterioration is occurring due to overgrazing and illegal logging by residents. This is producing negative impacts such as soil erosion and an increasing number of natural disasters including flooding. This leads to a vicious cycle where deteriorating natural resources increases poverty which in turn causes the deterioration of natural resources.

#### (2) Development Policies for the Agricultural and Forest Sector in Turkey and the Priority of the Project

The Afforestation and Erosion Control Mobilisation Action Plan for 2008-2012 by Ministry of Environment and Forestry stipulates priority issues which include: 1) rehabilitating the degraded forests; 2) promoting soil erosion prevention activities etc. The Turkish government also stipulates in the Ninth Development Plan (2007-2013) that it will strengthen regional development (including rural area development) and prioritize the strengthening of organizational capacity and human development.

#### (3) Japan and JICA's Policy and Operations in the Agricultural and Forest Sector in Turkey

Japan's priority fields for assistance to Turkey include: 1) environmental improvement; 2) human resource development for economic and social development; 3) disaster preparedness; 4) reduction of disparities; and 5) South-South cooperation. The project comes under "1) environmental improvement." Concerning past cooperation in the sector, JICA cooperated with the Ministry of Environment and Forestry in formulating a master plan in 2004, where it recommended a program which aims to contribute to environmental improvement in Turkey by supporting soil conservation and livelihood improvement. The project aims to assist in turning the master plan into specific projects. Regarding past cooperation in the agricultural sector, a Japanese ODA loan was provided jointly with the World Bank to the Türkiye Cumhuriyeti Ziraat Bankası (TCZB), as a two-step loan (the loan amount: 35,200 million yen, in 1989) with the aim of increasing farm productivity and farmer's income by expanding access to agricultural credit.

#### (4) Other Donors' Activity

The World Bank has experience in conducting similar projects including the Eastern Anatolia Watershed Rehabilitation Project (1993-2001) and the Anatolia Watershed Rehabilitation Project (2005-2011). The project was given a good practice award of the World Bank in 1999. GIZ

(German Society for International Cooperation) is also currently assisting a similar watershed conservation project.

#### (5) Necessity of the Project

People in northeastern Turkey rely on small-scale traditional livestock farming and agriculture. Forest degradation is increasing in the area. The Coruh River watershed, which is the project target area, has about 440,000 ha of forests which account for about 22% of the total land area of the watershed. 66% of the working population is engaged in agriculture and livestock farming. The region is considered one of the poorest regions in Turkey, as a result of the erosion-prone soil and geology, the low productivity of agriculture and livestock farming, inappropriate forestry and management plans, etc.

With this background, an urgent challenge is to contribute to environmental conservation and reducing economic disparities in the three provinces within the Coruh River watershed. This should be achieved by preventing soil erosion, restoring natural afforestation, taking measures against overgrazing and illegal logging by residents, promoting natural resource management such as natural disaster prevention, as well as increasing the income of residents in the watershed by promoting livelihood improvement activities such as increasing and diversifying livestock and agricultural production. Although the World Bank, GIZ and other donors are assisting with restoring afforestation and preventing soil erosion, sufficient funds have not been secured and it is highly necessary for JICA to conduct the project.

### **3. Project Description**

#### (1) Project Objective

The project aims to conduct integrated watershed rehabilitation and improve living conditions of village inhabitant, by recovering and preventing natural resources, and assisting the improvement of livelihood of village inhabitant in three provinces in north-east Turkey, thereby contributing to environmental improvement and mitigating disparities

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

The three provinces within the Coruh River watershed in the northeastern part of Turkey (Bayburt Province, Erzurum Province and Artvin Province)

#### (3) Project Components

- 1) Conservation, rehabilitation and sustainable management of natural resources
- 2) Livelihood improvement of village residents
- 3) Capacity development
- 4) Consulting services

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

6,998 million yen (Loan Amount: 4,225 million yen)

#### (5) Schedule

The planned implementation schedule is from June, 2011 to October, 2018 (89 months in total). The project will be deemed complete when the activities in the watershed have been completed.

(6) Project Implementation Structure

- 1) Borrower: The Republic of Turkey
- 2) Executing Agency: The Ministry of Environment and Forestry
- 3) Operation and Maintenance System: The Ministry of Environment and Forest, the Ministry of Agriculture and Rural Affairs, provincial governments of three target provinces

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

1) Environmental and Social Consideration

- (i) Category: B
  - (ii) Reason for Categorization: The project is classified as Category B because it has been determined that it will not have significant adverse impacts on the environment in light of the sector's characteristics, the project's characteristics and the target area's characteristics, according to the Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations (established in April 2002).
  - (iii) Environmental Permit: An environmental impact assessment (EIA) report for the project is not required under Turkish domestic law.
  - (iv) Anti-Pollution Measures: It is not expected that the project will have a large negative impact on water quality, air quality or cause serious noise pollution during construction and operation, because the project plans to conduct small-scale construction work, etc. for soil erosion controls. Mitigation measures will be considered where necessary, when the Detailed Design Study is conducted.
  - (v) Natural Environment: Although the project target area includes national parks and reserves, the activities planned in these areas only include the formulation of management plans. Therefore, adverse impacts on the natural environment will be minimum.
  - (vi) Social Environment: The project will not require land acquisition or resettlement because it will be conducted within publicly owned forests and pastureland.
  - (vii) Other/Monitoring: In the project, the executing agency will monitor water quality.
- 2) Promotion of Poverty Reduction: In the project, a village development plan including livelihood improvement activities is planned to be implemented targeting village residents. Therefore, the project is expected to contribute to the improvement of residents' lives in the target area.
  - 3) Promotion of Social Development (gender perspective, measures for infectious diseases including HIV/AIDS, participatory development, consideration for persons with disabilities,

etc.): The project will take measures to include women's views in the selection of livelihood improvement projects by, for example, deploying female interviewers. The project will also assist in establishing self-management systems at the community level through the utilization of support from local NGOs and capacity development by conducting training for local communities.

(8) Collaboration with Other Donors: None

(9) Other Important Issues: None

<b>4. Targeted Outcomes</b>
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(1) Quantitative Effects

1) Performance Indicators (Operation and Effect Indicators)

Indicator	Baseline (Actual Value in 2008)	Target (2020) [2 years after project completion]
Area of rehabilitation of degraded forest (ha)	*	Improvement of the current situation (*)
Survival Rate (%) (by total & each afforestation type)	*	60 *
Annual maximum Inundated area by levee breach and overflow(ha)	5,000*	2,000*

\* The watershed sub-area for each sub-component will be decided on at the time of the Detailed Design Study. Therefore, after the Detailed Design Study is completed, the project will conduct a baseline survey where baselines and targets will be set.

2) Internal Rate of Return

Based on the conditions shown below, the Economic Internal Rate of Return (EIRR) will be 19.5%.

[EIRR]

Cost: Project cost (excluding taxes), operating and maintenance costs

Benefits: An increase in agricultural products, animal feed, etc.; benefits from soil erosion control; etc.

Project Life: 25 years

(2) Qualitative Effects: Diversification of livelihoods; environmental improvement through afforestation and forest conservation; and capacity development.

## **5. External Factors and Risk Control**

The survival rate of planted trees may be reduced due to climate change, which in turn may reduce the project effects.

## **6. Lessons Learned from Past Projects**

Ex-post evaluations of similar projects undertaken in the past recommend that, in order to achieve sustainable forest management, (1) the participatory approach is important because it raises residents' awareness; and (2) it is important to integrate livelihood improvement activities into the project. Based on the lessons learned, systems to involve residents will be employed from the watershed plan formulation stage. In addition, livelihood improvement will be integrated into the project as one of the project components.

## **7. Plan for Future Evaluation**

### (1) Indicators to be Used

- 1) Area of soil conservation measures implemented (ha)
- 2) Survival Rate (%) (by total & each afforestation type)
- 3) Annual maximum Inundated area by levee breach and overflow(ha)
- 4) Economic Internal Rate of Return (%)

Other indicator such as Area of soil conservation, Area of rehabilitation of rangeland and Rate of degraded forest etc. will be used.

### (2) Timing

Two years after project completion