

## Ex-ante Evaluation

### 1 . Name of the Project

Country : Republic of El Salvador

Project : San Miguel Bypass Construction Project

Loan Agreement : 20 August 2014

Loan Amount : 12,595 million yen

Borrower : Government of the Republic of El Salvador

### 2 . Background and Necessity of the Project

#### (1) Current State and Issues of the Traffic Sector in El Salvador

El Salvador is the smallest country in Central America which has about 21,000km<sup>2</sup> . Major means of transportation and traffic is the land. The most important artery in the country is Pan-American Highway which runs the center of the country from the east to west (Route 1: CA-1). CA-1 is not only connecting the major cities of the country including the capital San Salvador but also is the most important logistics network in Central America which connects from Mexico to Panama. So it is important to secure the smooth logistic of CA-1.

On the other hand, due to the recent economic development, increasing of the city road transportation demand in urban areas and artery which passes through the center of the city undertaking a role of city road in many of the city. The congestion of the artery is getting worse.

San Miguel City has especially the above mentioned tendency. San Miguel city is fourth largest city in the country with population of about 220,000 and located in the center of the eastern region which suffered with serious damage and delay of development by civil conflict. Due to the progress of urbanization, the traffic volume flowing into the CA-1 which passing through the center of the city has been increased. So the congestion is greatly inhibited both local and intercity transportation.

#### (2) Development Policies for the Road Sector in El Salvador and the Priority of the Project

Funes cabinet, established in June 2009, consider the revitalization of the economy and facilitation of the regional integration of Central American Countries as an important policy. And the economic infrastructure development, including construction of roads and bridges, is positioned in the “revitalization of the economy” which is the one of 5 priority issues of five-year plan for national development 2010-2014.

Also this project is mentioned as the priority one in the “National Plan for Territorial Planning and Development”, which was elaborated in 2004, and planned bypass construction which go around the center of the San Miguel city and widening the existing CA-1 which is located in the east of the city in it.

#### (3) Japan and JICA's Policy and Operations in the Road Sector

This project is consistent with the priority areas "Reactivation of economy and employment expansion" of the Rolling Plan of the Republic under the Country Assistance Policy for El Salvador (April 2012). The track record of the ODA loan with respect to the road sector, "Road Improvement Project" (Loan Amount 10,332 one million yen: 1994) is one example. With taking into account that this country is frequently affected by hurricane, this project received a high evaluation. The unique Japanese viewpoint of disaster risk reduction, for example slope protection, etc., contributed to effect expression of the project. And our country's policy is to help developing countries to tackle the viewpoint of disaster risk reduction in all aspects of development for building a strong society for the disaster. For this reason it is set to be included the perspective of "mainstreaming of disaster risk reduction." in this project.

#### (4) Other Donors' Activity

The United States emphasis on transport infrastructure in the northern area and carried out the northern crossing road improvement project (about 2.34 million US dollars) through the Millennium Challenge Account (MCA).

The Inter-American Development Bank (IDB), from the 2010, supports for local road maintenance putting the transport sector as cooperation priority areas.

The Central American Bank for Economic Integration (CABEI) put a strategic priority areas in the production infrastructure, including road construction, and supports a bypass construction project in the southern city of Usulután.

#### (5) Necessity of the Project

This project is intended to contribute to the development of the country's economy through the enhancement of the transportation capability of the arterial roads in and around San Miguel City. It conforms not only to development issues and development plan of the government of El Salvador but also to Japan and JICA's assistance policy. Thus, the necessity and relevance of JICA to support the implementation of this project are high.

### **3 . Project Description**

#### (1) Project Objectives:

This project, by the construction of arterial roads in and around San Miguel City, aims to enhance the transportation capacity of CA-1 by shortening of the San Miguel region transit time of the vehicle, and thereby contribute to the economic development in San Miguel region and El Salvador.

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

San Miguel Department (San Miguel city, Quelepa city, Moncagua city)

#### (3) Project Components

- 1) Widening of the existing CA-1 (existing, from one to two lanes, asphalt paving): between Moncagua to El Obrajuelo
- 2) Bypass construction (new, two lanes, asphalt paving): between El Obrajuelo to

Hato Nuevo

3) Bypass construction (new, one lane, asphalt paving): between Hato Nuevo to El Papalon

4) Bridge construction (the bridge for the section above-mentioned 2) for crossing San Miguel Grand river and the bridge for the section above-mentioned 3) for crossing Taisihuat river, a total of two bridges)

5) Consulting services (detailed design (D/D), bidding assistance, construction supervision, environmental and social considerations monitoring, road disaster risk management assistance (scrutiny of vulnerability assessment approach, reflected in the existing inventory, proposal of design criteria), project implementation unit support)

(4) Estimated Project Cost (Loan Amount)

16,377 million yen (Loan Amount : 12,595 million yen)

(5) Schedule

From August 2014 to December 2019 (total 64 months)。 Project completion is determined to be at the start of facility operations.

(6) Project Implementation Structure

1) Borrower : Government of the Republic of El Salvador

2) Executing Agency : Ministerio de Obras Públicas, Transporte, Vivienda y Desarrollo Urbano (MOPTVDU)

3) Operation and Maintenance System : Fondo de Conservación Vial (FOVIAL)

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

1) Environmental and Social Consideration

a) Category : A

b) Reasons for Categorization : This project is a new construction of large-scale road, and is classified as Category A according to the JICA Guidelines for Environmental and Social Considerations April, 2010.

c) Anti-Pollution Measures: As the measures for the dust, noise and water quality during construction, regular watering, installation of soundproof walls and appropriate management for wastewater and waste management will be taken. As the measures for the noise after-service, in addition to installation of soundproof wall in the vicinity of residential areas, traffic education of regulation speed such as and horn use will be carried out by MOPTVDU.

d) Natural Environment: The project area does not locate in the region or around sensitive area such as national parks. As there are some trees of endangered species in this project area and its surroundings, the project will be done with maximum efforts for avoid these trees. But when it can't be avoided, the necessary measures will be taken such as afforestation of the same kind or relocation.

e) Social Environment: Land acquisition of approximately 124.6ha and the

related resettlement of 57 households for this project are scheduled to be proceeded according to the resettlement plan that was elaborated by conforming to the "Japan International Cooperation Agency Guidelines for Environmental and Social Considerations" (promulgated in April 2010). Special dissent is not expressed for this project and compensation policy in residents consultation.

f) Contractor will monitor the air quality, noise and water quality during construction. And air quality, noise after in service.

## 2) Promotion of Poverty Reduction

Implementation of this project will not only create jobs required for the construction but also contribute to poverty reduction by industrial development, such as distribution of agricultural products and tourism promotion, and improving access to education and medical facilities

## 3) Promotion of Social Development (e.g. Gender Perspective, Measures for Infectious Diseases Including HIV/AIDS, Participatory Development, Consideration for the Handicapped, etc.):

17 educational facilities (kindergarten, elementary school, etc.) are located on the planned route of this project, and this project will improve the access to these facilities which are now difficult to be accessed in rainy season because there is no road. In addition, as environmental management measures, installation footbridge, bumps and traffic education will be implemented.

(8) Collaboration with Other Donors: None.

(9) Other Important Issues: None.

## 4. Targeted Outcomes

### (1) Performance Indicators

#### 1) Operation and Effect Indicator

Indicator	Baseline(Actual Value in 2011)	Target (2023) (5 years after project completion)
Annual average daily traffic (vehicles / day)		
Widening of the existing CA-1 between Moncagua to El Obrajuelo	22,524	30,911
New bypass construction between El Obrajuelo to Hato Nuevo	N.A.	13,132
New bypass construction between Hato Nuevo to El Papalon	N.A.	2,064

Average running speed in the city (km / h)	8.0	14.1
Required time for passing(min)	58.3	26.9

## 2) Internal Rate of Return

Based on the following assumptions, the economic internal rate of return of this project (EIRR) is 13.94%. And because there is no fee income in this project, financial internal rate of return (FIRR) is not calculated.

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

Benefits: Decrease in vehicle travel expenses

Project Life: 20 years

## (2) Qualitative Effects

Relief of the San Miguel city's traffic congestion, elimination of the bottleneck on the logistics including the peripheral San Miguel City, supports and promotes of urban / regional economic development (improvement of logistics, the promotion of industrial and tourism development), smooth traffic ensuring the Pan American highway (regional Cooperation in Central America), the promotion of climate change adaptation

## 5. External Factors and Risk Control

Natural disasters in the construction target area

## 6. Lessons Learned from Past Projects

### (1) Result of the evaluation for similar projects

In the result of the evaluation of the ODA loan for "Road Construction Project" of which implementation agency was MOPTVDU, unexpected natural disasters, extreme weather events, route changes and delays in land acquisition due to the route changes were the biggest factors for great delays and cost overruns. In order to avoid the design changes that can cause delays and cost overruns of the construction, we have learned that it is desirable to do more detailed technical investigation and design.

### (2) The lessons for this project

Based on the above mentioned lessons, the project is scheduled considering the rainy season likely to occur natural disasters (generally from May to November). This project should be implemented paying attention to design changes that cause delay and cost overrun and following the schedule of implementation agency.

## 7. Plan for Future Evaluation

### (1) Indicators to be Used

As is mentioned 1) Operation and Effect Indicator, (1)Performance Indicators, 4. Targeted Outcomes

### (2) Timing: 2 years after project completion

End