

Report on Results of Survey on Environmental and Social Considerations

I. Environmental and Social Considerations

1. Summary of Project Components with Environmental and Social Impacts

This project does not include any sectors or characteristics likely to cause impacts, nor does it fall in a region susceptible to impact as specified in the Japan International Cooperation Agency Guidelines for Environmental and Social Consideration (April 2010). Since it has been deemed to have minimal adverse impact on the environment, the project is classified as Category B.

Within this technical cooperation project, the partner country will implement a road disaster risk reduction project a pilot project. This road disaster risk reduction project will be a project for strengthening road infrastructure in terms of preventative maintenance, and is expected to include seismic retrofitting of bridges (the addition of facilities to prevent bridge collapse, etc.) and measures for slopes (drainage and anchoring work, etc.). It has been confirmed that the project will reinforce existing structures, and will not cause any large-scale resettlements.

The specific locations for the pilot project have not yet been decided; they will be selected from a list of candidate locations provided by the partner country upon discussion with the Counterpart.

2. Base Environmental and Social Conditions

The geographical and geological conditions of El Salvador make it vulnerable to natural disasters caused by earthquakes, heavy rain, volcanoes, and tsunami. However, the effects of climate change have also been suggested due to the conspicuous disasters in recent years caused by torrential rains. According to a report by the World Bank, 88.7% of El Salvador's land area is a disaster risk area, with 95.4% of all residents living in a disaster risk area.

Human loss caused by recent torrential rainstorms includes 199 deaths due to Tropical Cyclone Ida in November 2009 and 32 deaths due to Tropical Depression 12-E in 2011, during which more than 50,000 people were forced to evacuate. Additionally, damage from earthquake disasters include 1,259 deaths after large earthquakes in January and February 2001, with more than 1.5 million people affected. In particular, the subsequent landslide in the Las Colinas district of Santa Tecla near the nation's capital claimed the lives of more than 750 people. In addition to human loss, these natural disasters also caused a large amount of damage to public infrastructure. Not only affecting people's lives, they also greatly impacted the country's economic activities including distribution and transportation.

3. Systems and Structures for Environmental and Social Considerations in the Partner Country

3.1 Environmental Impact Assessment (EIA)

To receive environmental authorization for the project, the Ministry of Public Works, which will implement the project, will submit environmental permit applications including design plans to the Ministry of Environment and Natural Resources. An EIA is not required for general road disaster projects, and environmental licenses are granted in approximately one month by submitting the application only. Furthermore, if conducting an EIA, approximately 10-14 months in total are needed: 4-6 months for conducting the assessment and 6-8 months for review and authorization.

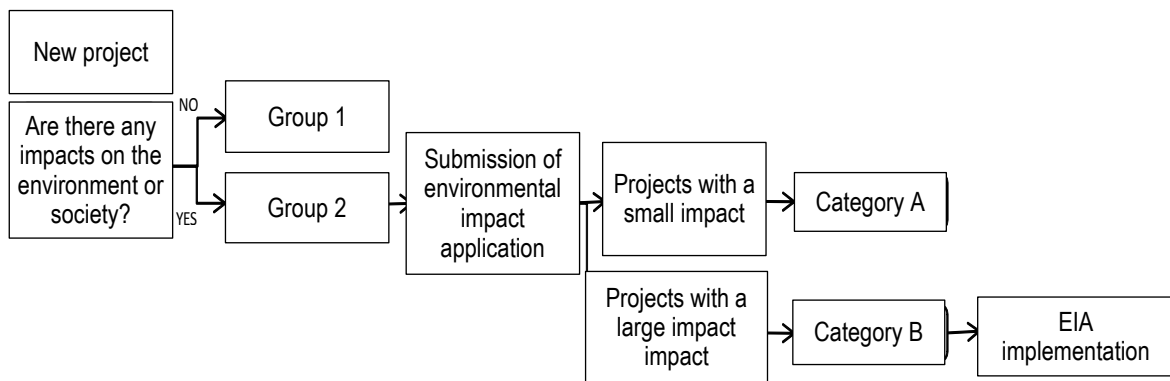


Figure 1: Environmental Categorization for Activities/Projects in El Salvador

3.2 Main Related Laws and Regulations

The main laws and regulations related to environmental and social considerations in El Salvador are shown in Table 1.

Table 1: Main Laws and Regulations Related to Environmental and Social Considerations in El Salvador

Name	Summary of content pertaining to EIA
Constitution of the Republic of El Salvador	Overall provisions for environmental management (Articles 34, 60, 69, 101, 102, 113, 117)
Environment Law	Provisions for environmental protection, preservation, and restoration. Stipulates that all projects are obligated to obtain environmental approval.
Environment Law Guidelines	Stipulates that the Ministry of Environment and Natural Resources will exercise jurisdiction for reviewing reports when the EIA is implemented and TOR is created.
Special Guidelines on Environmental Quality	Stipulates criteria for judging quality of the air, water, noise, soil, and fuel, etc. Defines emissions limits for exhaust gas, foul odors, and waste materials, etc.

Categorization Manual for Activities and Projects Related to Environment Law	Manual for categorizing all activities/projects based on their impact on the environment and society
Forest Law and Guidelines	Defines environmental management for the sustainable use of forest resources.
Irrigation and Drainage Law	Stipulates usage of water, soil, plants and animals, minerals, and resources.
Urban Development/Construction Law and Guidelines	Stipulates that urban development shall be conducted with environmental approval and observe all other environmental regulations.
Trunk Road/Community Road Law	Stipulates that it is necessary to obtain advance permission from the national or local government controlling the road when constructing water pipes, etc.
Nature Reserve Law	Stipulates the management of nature reserves for protecting ecosystems.
Official List of Endangered Species	Stipulates the protection of endangered species (including the red list).
Wildlife Protection Law	Stipulates the protection of wildlife.
Cultural Heritage Protection Special Law and Guidelines	Stipulates that all projects are obligated to obtain permits from the Bureau of Cultural Affairs.
Archeological Research Guidelines	Provisions on archeological research
Local government ordinances	Stipulates the obligation of formulating laws to manage forests, water, soil, plants and animals, minerals, and energy in municipalities.
Penal code	Stipulates penalties incurred when violating environmental laws and regulations.

4. TOR for Survey on Environmental and Social Considerations

The TOR (draft) for the survey on environmental and social considerations planned to be signed for the R/D is shown below.

(1) Base for Survey pertaining to Environmental and Social Considerations in Partner Country

- Laws and criteria pertaining to environmental and social considerations (EIA, pollution control, resettlements, resident participation, information disclosure)
- Analysis on any divergence from the partner country's legal regulations and/or the JICA Environmental and Social Considerations Guidelines (April 2010)
- Relevant agencies in charge of environmental and social considerations and their roles
- National parks, nature reserves, wildlife, and cultural heritages in the area surrounding the pilot project. Land usage, regional community, poverty, ethnic minority groups and indigenous peoples, economic activity in the area surrounding the pilot project

(2) Implementation of scoping (air pollution, water pollution, waste material, noise/vibration, ground subsidence, foul odors, nature reserves, ecosystems, resident resettlements, living areas and livelihoods, historic ruins, landscapes, ethnic minority groups and indigenous peoples, labor environment, impacts during construction, and measures for accident prevention)

(3) Survey of impacts at the pilot project site

(4) Comparative study of impact evaluation and alternate plans (including a "zero option")

(5) Study of mitigation measures (bypassing, minimization, compensation)

- (6) Creation of (draft) monitoring plan (implementation structure, methods, costs, etc.)
- (7) Clear indication of budget, financial resources, and implementation structure
- (8) If necessary, hold discussions with local stakeholders and create a scoping report (draft) and environmental and social considerations report (draft). Any comments submitted shall be reflected in the final report as necessary.

Impact Evaluation

Environmental evaluations expected at the present time are listed below. The following construction methods for the road disaster risk reduction project are also expected to be implemented, but the environmental evaluations below will likely be revised after the pilot project is determined.

Expected pilot project site

Bridges: pier reinforcing/revetment work, installation of devices to prevent bridge collapse, etc.

Slopes: Boring work for drainage, retaining wall work, anchor work, etc.

Rivers: Revetment work (around bridges), etc.

Urban drainage: Drainage work related to roads, etc.

Classification	No.	Impact Item	Evaluation		Evaluation Rationale
			Before/ during construction	After opening	
Anti-Pollution Measures	1	Air pollution	B-	D	During construction: Temporary worsening of air quality is expected with the operation of construction equipment. After opening: Because the project is for strengthening existing structures, it is not expected to cause increased traffic or worsened air pollution.
	2	Water pollution	B-	D	During construction: Water may be polluted due to drainage, etc. from the construction site, heavy equipment, and vehicles. After opening: Water pollution that contaminates the surrounding environment is not expected.
	3	Waste	B-	D	During construction: Scrap wood and surplus soil from construction is expected. After opening: Waste materials that contaminate the surrounding environment are not expected.
	4	Soil contamination	B-	C	During construction: Soil may be contaminated by the discharge of oil used for construction. After opening: Soil contamination due to the application of herbicide for road maintenance is likely.
	5	Noise/vibration	B-	D	During construction: Noise from the operation of construction equipment and vehicles is expected. After opening: Because the project is for strengthening existing structures, it is not expected to cause increased traffic or noise/vibration problems.
	6	Ground subsidence	D	D	Work that causes ground subsidence is not expected.
	7	Foul odors	D	D	Work that causes foul odors is not expected.
	8	Sediment	D	D	Work that affects sediment is not expected.
Natural Environment	9	Nature reserves	D	D	The existence of national parks or nature reserves in the target area of the project or its surrounding area is not expected. Furthermore, since the road disaster reduction project will be implemented with the purpose of disaster prevention, there are no restrictions on development in designated protected areas in El Salvador.
	10	Ecosystems	D	D	Because the project is for strengthening existing structures, there is likely no impact on ecosystems.
	11	Hydrosphere	B-	C	During construction: During work for bridge pier

Classification	No.	Impact Item	Evaluation		Evaluation Rationale
			Before/ during construction	After opening	
					protection and revetments, some operations may cause changes in the river flow or riverbed. After opening: If bridge pier protection work is done within the river, its flow may be altered due to structures.
	12	Topography, Geology	B-	B-	Existing structures will be repaired in the project; since large-scale earth-cutting and backfilling is not planned, there is likely no large impact on topography/geology.
Social Environment	13	Resident resettlement	D	D	Because the project is for strengthening existing structures, the acquisition of new land and/or resettlements is not expected.
	14	Poor populations	D	D	Because the project is for strengthening existing structures, impacts on poor populations are not expected.
	15	Ethnic minorities and indigenous peoples	D	D	There are no ethnic minority groups or indigenous peoples in the target area of the project or its surrounding areas.
	16	Regional economy (employment and means of livelihood)	D	D	Because the project is for strengthening existing structures, there is likely minimal impact on the regional economy.
	17	Land use and regional resource use	D	D	Because the project is for strengthening existing structures, there is likely minimal impact on the regional economy.
	18	Water usage	B-	D	During construction: If there is water use in rivers in the target and surrounding areas of the project, water may become turbid during construction. After opening: Because the project is for strengthening existing structures, there is likely minimal impact on water usage.
	19	Existing social infrastructure and social services	B-	D	During construction: If restrictions are placed on roads in service during the construction period, traffic congestion is expected. After opening: Because the project is for strengthening existing structures, it is not expected to cause increased traffic or an increased number of accidents.
	20	Social capital and local decision-making organizations	D	D	Because the project is for strengthening existing building structures, there is likely minimal impact on social capital or local decision-making organizations, etc.
	21	Uneven distribution of benefits and damage	D	D	Because the project is for strengthening existing structures, there is unlikely to be an unfair distribution of damage and benefits in the surrounding region.
	22	Conflict of interest within the region	D	D	Because the project is for repairing existing roads, there is nothing likely to cause a conflict of interest within the region.
	23	Cultural heritage	D	D	At the present time, there are no cultural heritage sites in the target area of the project or its surrounding areas.
	24	Landscape	B-	D	There is likely minimal impact on the landscape since the project is for strengthening existing structures. However, mitigation measures, such as tree planting on slopes are expected.
	25	Gender	D	D	Because the project is for strengthening existing structures, no special negative impacts on gender issues are expected with the project.
	26	Children's rights	D	D	Because the project is for strengthening existing structures, no special negative impacts on children's rights are expected with the project.

Classification	No.	Impact Item	Evaluation		Evaluation Rationale
			Before/ during construction	After opening	
	27	Infectious diseases including HIV/AIDS	D	D	During construction: Because no large-scale construction is expected, the influx of laborers will be limited; the possibility of the spread of infectious disease is low.
	28	Labor environment (including work safety)	B-	D	During construction: Considerations are necessary in regard to the labor environment of construction workers. After opening: No work is planned that may have a negative impact on laborers when roads are opened for service.
Other	29	Accidents	B-	D	During construction: Considerations are necessary for preventing accidents during construction. After opening: Because the project is for strengthening existing structures, it is not expected to cause increased traffic or an increased number of accidents.
	30	Cross-border impacts and climate change	D	D	Because the project is for strengthening existing structures and is not large in scale, there are likely minimal cross-border impacts or those related to climate change.

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C+/-: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected.

5. Results of Survey on Environmental and Social Considerations

The road disaster risk reduction project is a project for strengthening existing structures that will contribute to preventing disasters involving roads in El Salvador, and to decreasing the vulnerabilities of its road infrastructure. The expected work on reinforcing bridge piers and boring for drainage on slopes will not be large-scale projects, and new land acquisition is not necessary. Impact assessments and mitigation measures for the construction methods anticipated at the present time are listed below. These will be re-examined after the pilot project site and construction methods are selected.

① Environmental Permits

An EIA is not required for road disaster projects, and it is expected that environmental permits will be granted approximately one month after the implementing agency submits the applications.

② Anti-Pollution Measures

The operation of construction equipment during the work period may cause worsened air quality and water turbidity, albeit temporary. However, mitigation measures will be taken to minimize impacts, including properly maintaining construction vehicles and securing a location for placing waste materials. Additionally, the noise and vibration expected to be generated will be mitigated by restricting construction work at night, etc.

③ Natural Environment

The existence of national parks or nature reserves in the target area of the project or its surrounding area is not expected.

④ Social Environment

No land acquisition or resettlements for the project are anticipated.

⑤ Other/Monitoring

During construction, the contractor is expected to monitor air quality, water quality, and noise through on-site measurements and visual inspections.

(The impact assessments and mitigation measures described above will be re-examined after the pilot project site and construction methods are selected.)

Furthermore, since the following items cannot presently be specified, they will be examined together with the reassessment of the items above when the pilot project site and construction methods are determined.

- Comparative study of alternate plans (including a “zero option”)
- Scoping
- Costs for mitigation measures and their implementation
- Monitoring plan
- Stakeholder discussions
- Items related to land acquisition and resettlement