

Republic of Ecuador

National Secretariat of Risk Management and Emergency (SNGRE)

Ministry of Urban Development and Housing (MIDUVI)

# Project for Safe and Resilient Cities for Earthquake and Tsunami Disaster (PCSR)

## Summary Report

October 2021

Japan International Cooperation Agency  
( J I C A )

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O Y O C O R P O R A T I O N  
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## GENERAL INFORMATION

- **Project Country**  
Republic of Ecuador
- **Name of the project**  
Project for Safe and Resilient Cities for Earthquake and Tsunami Disaster (PCSR)
- **Time of Implementation of the Project (Planned and Actual)**  
**Planned:** from July 17, 2017, to March 31, 2021  
**Actual:** from July 17, 2017, to September 30, 2021  
In the 8th meeting of the Joint Coordination Committee (JCC), the extension of the finalization Project date was approved from March 31, 2021, to September 30, 2021. (51 months approximately).
- **Overall Goal and Purpose of the Project from the Discussion Record (RD)**  
**<Overall Goal>**  
SNGRE and MIDUVI implement nation-wide activities to build safe and resilient cities from disasters.  
**<Project Goal>**  
Technical support structure from SNGRE and MDUVI to municipalities is established with the objective of risk reduction from earthquakes and tsunamis.
- **Implementing Agencies**  
National Secretariat of Risk Management and Emergency (SNGRE)  
Ministry of Urban Development and Housing (MIDUVI)  
**Note:** On October 3, 2018, the name of the organization was changed from the Risk Management Secretariat (SGR) to the National Risk and Emergency Management Service (SNGRE).
- **Pilot Municipalities**  
Primary Pilot Municipalities (Atacames, Portoviejo, and Salinas)  
Secondary Pilot Municipalities (Esmeraldas, Sucre, Santa Elena, and Santa Cruz)
- **Training in Japan and third countries**  
Japan, Peru and El Salvador

			
The First meeting with MIDUVI	Midterm Review	Tsunami map presentation	9th (Final) JCC

## OUTPUT 1 TSUNAMI EVACUATION PLAN

**Output 1: Pilot Municipalities provide timely assistance to evacuate communities rapidly in response to tsunami warnings issued in accordance with Tsunami Warning Technical Protocol.**

**Activity 1.1 Update the Tsunami Warning Technical Protocol and monitor approval processes of the Protocol.**

With the cooperation of IG-EPN and INOCAR and the support of JICA experts, SNGRE conducts evacuation drills and evaluations twice a year, and regularly verifies and updated Tsunami Warning Technical Protocol.

**Activity 1.2 Conduct the baseline survey concerning the understanding level of local community on tsunami evacuation.**

The Baseline Survey on the understanding level of the residents regarding the tsunami evacuation was conducted in the primary pilot municipalities.

**Activity 1.3 1.3. Improve tsunami warning information dissemination structure/ protocol/ evacuation plan.**

INOCAR has created a tsunami inundation map for the seven pilot municipalities. SNGRE elaborated the Technical Manual for Elaboration of Tsunami Evacuation Plan (MTEPET), and based on this, the primary and secondary pilot municipalities formulated their own tsunami evacuation plans. Altitude display boards were created and installed in the 7 pilot municipalities to raise awareness of the tsunami evacuation. Tsunami evacuation buildings were identified and the signboard indicating the tsunami evacuation building was installed. In addition, the municipalities were encouraged to identify sites for the construction of tsunami evacuation towers.

**Activity 1.4 Conduct capacity development activities for local communities utilizing raising-awareness materials and conduct tsunami evacuation drills.**

Public awareness activities were organized by SNGRE and the pilot municipalities. Educational material (videos, posters, and leaflets) to mitigate tsunami disaster risk were created and utilized the educational activities such as mural, open house, online seminar, useful apps, picture-story show, etc. as good practices for risk mitigation. Before the Pandemic, tsunami evacuation drills were held nationwide and each municipalities every year.

**Activity 1.5 Conduct the end-line survey concerning the understanding level of local communities on tsunami evacuation.**

An end-line survey on the understanding of the residents regarding the tsunami evacuation was conducted in the primary pilot municipalities. The level of understanding was improved in the primary pilot municipalities.

				
Altitude signboards	Tsunami Inundation Simulation Maps	Vertical evacuation seminar (Salinas)	MTEPET	End-line survey of the PCSR

## OUTPUT 2 RISK REDUCTION AGENDA

**Output 2: ARR focusing on Mitigation/ Prevention and Preparedness is updated by municipalities.**

**Activity 2.1 Conducts a nationwide baseline survey on current hazard data of earthquake and tsunami disasters.**

Baseline survey on nation-wide hazard information according to each disaster was conducted by SNGRE with support of JICA experts and other technical members to confirm existing hazard data.

**Activity 2.2 Understand feasible contents of ARR.**

Working group meetings were held among SNGRE, other technical collaborating members, and JICA experts to understand the content of the feasible ARR by SNGRE.

**Activity 2.3 Study techniques and know-how applied in JICA projects for the objective of revision of the ARR.**

SNGRE and technical members of the pilot municipalities reviewed the projects in Peru that had been successful in formulating ARR and visited Peru (CISMID, etc.) as a third country training in order to formulate ARR effectively and efficiently.

**Activity 2.4 Conduct a baseline survey on current hazard data of earthquake and tsunami disasters.**

The baseline survey in the primary pilot municipalities was conducted by SNGRE and technical members of the pilot municipalities to understand the condition of hazards and countermeasures in each phase, mitigation, preparedness, and emergency response.

**Activity 2.5 Determine an outline of ARR which covers priority areas and countermeasures on risk reduction.**

SNGRE and JICA experts discussed and determined basic guidelines for the preparation of the ARR of the pilot municipalities

**Activity 2.6 Review the existing Contingency Plan and other relevant documents.**

The primary pilot municipalities reviewed the Contingency Plan in Japan and Ecuador with the support of SNGRE and JICA experts.

**Activity 2.7 Prepare ARR, which gives focuses on mitigation/ prevention and preparedness.**




The ARRs of the primary pilot municipalities were newly elaborated by support of SNGRE and JICA experts and approved by the Mayors or municipality councils, socialized, and printed.

**Activity 2.8 Elaborate ARR Guideline that will be utilized by the pilot municipalities.**

The guidelines for elaborating ARR (LPARR) of the municipalities that are not primary pilot municipalities were socialized, printed, and published. The LPARR was disseminated to the 221 municipalities of the country.

**Activity 2.9 SNGRE provides assistance to municipalities other than the pilot municipalities in revising ARR.**

Based on support by SNGRE with support of JICA experts utilizing LPARR, the secondary pilot municipalities elaborated their own ARRs. The ARRs were approved by the Mayors or municipality councils, socialized, and printed.

		
<p>ARR prepared by the pilot municipalities (Atacames, Portoviejo, and Salinas)</p>	<p>LPARR</p>	<p>ARRs prepared by secondary pilot municipalities</p>

## OUTPUT 3 IMPLEMENTATION STRUCTURE OF BUILDING REGULATION MANAGEMENT

**Output 3. Implementation structure of building regulation management in accordance with ‘Building Regulation Management Handbook (MPOPRPC)’ is established at a municipality level.**

**Activity 3.1. Conduct baseline survey to understand the current situation of building construction permit/ inspections/ occupation permits.**

A baseline survey to understand the current situation of building construction permit/ inspections/ occupation permit was conducted for the primary pilot municipalities.

**Activity 3.2. Study foreign building regulation as well as JICA projects for the development of ‘MPOPRPC’.**

Reviewed the laws and regulations of other countries and results of JICA projects to be used as inputs for the MPOPRPC. Technical members of MIDUVI and primary pilot municipalities visited El Salvador to study the JICA project “TAISHIN”.

**Activity 3.3. Elaborate ‘MPOPRPC’ in consultation with building engineers, construction companies, and other relevant association(s). / Activity 3.4. Elaborate, execute, and update building regulation management plan(s) in accordance with the ‘MPOPRPC’.**

The technical member of MIDUVI and primary pilot municipalities with the support of ESPE, Association of Architects and Engineers, elaborated the MPOPRPC (draft), discussed the Operation Plan of Construction Systems and supported the creation of municipal ordinance.

**Activity 3.5. Organize seminars on earthquake-resistance engineering and building regulation management, which are targeting architects, construction companies, and other relevant associations.**

Holding workshops on earthquake-resistant techniques and construction systems for architects, construction companies and other relevant associations, two times per year for 221 municipalities of the country.

**Activity 3.6. Produce socialization materials on earthquake-resistant/ building regulation management in order to raise awareness of local communities. / Activity 3.7. Organize activities utilizing the materials developed in Activity 3.6 with the objective of raising awareness of local communities.**

Preparation of teaching materials for residents on earthquake resistant techniques and construction systems, as support for better construction in the community. Holding workshops for pilot municipalities, twice a year.

**Activity 3.8. Assistance to three municipalities in preparing building regulation management plans in accordance with the ‘MPOPRPC’.**

MIDUVI and JICA experts supported the elaboration of the Construction Systems Operation Plan of secondary pilot municipalities.

**Activity 3.9. Conduct end line survey on building construction permit/ inspections/ occupation permit**

end line survey was conducted for the primary pilot municipalities regarding construction and habitability permits and inspections, for the secondary pilot municipalities regarding ordinance of construction systems, and for MIDUVI regarding ministerial ordinance of MPOPRPC.

			
Training on construction processes	MPOPRPC	Implementation Plan	Implementation Plan of Portoviejo



