

Project for Strengthening National Strategy of Integrated Natural Disaster Risk Management - Technical Cooperation between Brazil and Japan -

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INTRODUCTION

The year of 2011 was remarkable for Brazil. This year there was a great sequence of sediment-related disasters in the mountain region of the state of Rio de Janeiro that killed about a thousand people. In recent years there has been an intensification of natural disasters in the world, both in relation to the frequency with which it is occurring and in relation to its intensities. And to do this, remembering what has been advocated in recent international agreements on the Sustainable Development Goals (SDG) and the Sendai Protocol, cities must prepare for these disasters to become safer and more resilient. Motivated by the disasters that occurred in the mountainous region of Rio de Janeiro, in 2011, Brazil appealed to international cooperation agencies from foreign countries to provide support for strengthening of natural disaster risk management in Brazil. Immediately Japan, through the Japanese Agency for International Cooperation (JICA), offered to provide this support.

INSTITUTIONAL ACHIEVEMENTS

The objective of the Technical Cooperation Agreement was to strengthen the national strategy of natural disaster risk management of Brazil, GIDES (**G**estão **I**ntegrada de **D**esastres de **S**edimentos) Project and it was signed between Brazil and Japan in 2013.

The four Brazilian ministries are involved in the GIDES Project: Ministry of Cities, through the National Secretariat of Urban Programs involved the Directorate for Risk Prevention and the Urban Planning Board; Ministry of National Integration, which, through the National Civil Defense Department, involved the National Disaster Alert Center (CENAD) and the Reconstruction Directorate; Ministry of Science, Technology, Innovation and Communications, through the National Center for Monitoring and Alert of Natural Disasters - CEMADEN; And the Ministry of Mines and Energy through the Brazilian Geological Survey (CPRM). In turn, three pilot municipalities were chosen aiming at following and developing together with the project, the municipalities of Petrópolis and Nova Friburgo with the State of Rio de Janeiro and Blumenau with the State of Santa Catarina.

As a result of the Project activities under the cooperation among these various institutions, the publication of the Federal Government's new Strategic Investment Plans (PPA 2016-2019), approved by a federal law, was prepared during the year 2015. There was intense participation of the Ministries involved in GIDES to define the Thematic Program "Risk Management and Disaster Response", based on proposals that were deeply discussed during the debates that took place within the project. This program will conduct the ministerial actions in an integrated manner between 2016 and 2019 in the Risk Management Program.

TECHNICAL ACHIEVEMENTS

Besides the need to develop or improve the methodologies to deepen the knowledge of the phenomena related to sediment related disasters, such as debris flow and landslides, an unexplored theme in Brazil, the scope of the project was proposed addressing the following topics:

- Improved protocols for collecting disaster information, monitoring and prediction for issuing risk information and early warning
- Enhancement of assessment and mapping of sediment related disasters risks
- Enhancement of the procedures of the Contingency Plans
- Planning of urban expansion considering the risk of sediment-related disasters
- Prevention and rehabilitation plans

With this defined scope, the results of the project will realize through six technical manuals that will be made available to all Brazilian municipalities, especially those with the greatest risk of natural disasters. At the time of the submission of this manuscript, these manuals have a very advanced first version, having already begun the tests of the methodologies developed during the execution of the pilot project. The manuals are listed in the table below, as well as their correlation with the counterparties responsible for them:

Table 1 – Project summary

Federal Government	Involved Sectors	Manuals (all for Sediment related Disasters)	State Governments	Pilot Municipalities
Ministry of Cities	Risk Prevention Directorate	• Structural Intervention Planning to Prevent Steep Slope	Rio de Janeiro and Santa Catarina	Petrópolis, Nova Friburgo and Blumenau
	Urban Planning Directorate	• Urban Planning		
Ministry of National Integration	CENAD	• Contingency Plan		
	Reconstruction Directorate	• Designing Interventions for the Debris Flow		
Ministry of Science, Technology, Innovation and Communication	CEMADEN	• Prediction and Alert for Sediment related Disasters		
Ministry of Mines and Energy	CPRM	• Hazard and Risk Mapping		

One of the challenges for the development of these manuals was how to achieve the consistency between the manuals and the harmonization with the existing bibliography in Brazil. Now the standardization of technical terms is still ongoing. At first, there was a lot of conceptual confusion because the institutions involved did not always have the same meaning for technical terms.

CONCLUSIONS

The project provides the consolidation of a broad forum of technical debates for the development of its activities, where the discussions have already extrapolated the tactical-operational level, even generating supports for strategic decision-making at the national level.

With all these mobilizations and activities in progress, involving several tens of people and organizations, it is hoped to be able to complete all the objectives by the end of the project. Since there is a great expectation of the Brazilian technicians with the conclusion of the works, with the published manuals, the new challenge of the federal and state governments will be in the replication of the knowledge acquired with the project to other Brazilian municipalities, so that they can adopt the good practices related to the risk management of natural disasters, especially sediment related disasters.

Keywords: Natural disaster risk management, Sediment-related disaster, Technical Cooperation between Brazil and Japan