

# A FRAMEWORK FOR ASSESSING ENVIRONMENTAL AND SOCIAL IMPACTS OF DISASTERS

## ENSURING EFFECTIVE MITIGATION AFTER THE FUNDÃO DAM FAILURE

Following the collapse of the Fundão Dam, authorities conducted a rapid assessment of damages to establish the terms of the agreement known as the TTAC. The first recommendation of **Thematic Report No. 1** is to complete a comprehensive and in-depth assessment of the environmental and social impacts of the dam's failure.

**This Issue Paper aims to present a systematic approach to facilitate the collection and analysis of key data and information required to carry out an impact assessment and evaluate TTAC programmes' effectiveness.**



### REMEMBER?

For the Rio Doce Panel, impact mitigation is composed of three types of action:

- 1 To remediate damage
- 2 To restore the environment and people's livelihoods
- 3 To compensate for damage that cannot be remediated

## WHAT SHOULD BE DONE

A complete assessment of the actual consequences of the dam collapse is necessary to **identify cumulative effects from past and present human actions in the watershed and the coastal zone.** It will address the **potential threats to the effective delivery of mitigation programmes** (recommendation #3 of Thematic Report No. 1).

A comprehensive ex-post assessment (an evaluation of impacts after an event or an intervention) also provides an **opportunity to communicate information and interact with the local population, community and political leaders, and other stakeholders** interested in the out comes of the mitigation actions.

The Issue Paper contains the template of a synoptic table to describe the impacts on valued components to which the dam failure contributed. Using the table will help in describing and characterizing the impacts, documenting the pathways linking the dam failure and other processes to the impacts and connecting mitigation actions to those impacts.

In addition to contributing to a better understanding of the impacts of Fundão Dam failure, it is expected that the framework will also be helpful for practitioners, decision-makers and scientists involved in identifying, assessing and mitigating impacts of other disasters with severe environmental consequences.



## WHAT IS IMPACT ASSESSMENT?

In this paper and in line with the Panel's publications, the term 'impact assessment' refers to the process of identifying and assessing any change, positive or adverse, in the environment or any of its biophysical or social components, resulting from a past, present or intended future human action. Impact assessment is used for supporting decision-making about human actions that can affect the environment, including the mitigation of the consequences of disasters.

## Recommendation



The Rio Doce Panel proposes that Renova Foundation undertake the following actions: **Adopt a structured and systematic approach for a comprehensive assessment of the environmental and social impacts of the Fundão Dam failure, taking into account the following advice:**

- Impacts should be identified, described and characterized in detail, including information on the affected area, estimated temporal scale and an appropriate indicator of impact magnitude, acknowledging uncertainties.
- The assessment should consider the cumulative effects of other past and present actions that could affect each valued component.
- The assessment should consider the cumulative effects of other past and present actions that could affect each valued component.
- For each impact, the following steps should be undertaken: describe ongoing or planned mitigation actions, identify threats to effectiveness, and explain any adverse environmental or social impact of mitigation.
- This assessment is a living tool to be continuously updated and improved.