

MAINSTREAMING CLIMATE CHANGE IN THE RIO DOCE WATERSHED RESTORATION

Predicted climate change may represent a risk to the legacy of the restoration of the Rio Doce watershed. In this report, the Rio Doce Panel proposes that the Renova Foundation, stakeholder organisations and the decision-makers operating in the watershed initiate an action plan to address these concerns.

Following up on recommendation #3 of the Thematic Report No. 1, the report contextualises the climatic conditions in the Rio Doce watershed and the consequences of possible changes in the current patterns of temperature and rainfall. The main findings reinforce the need to evaluate these impacts on the intended outcomes and to adapt or modify the restoration programmes as required to generate a positive and lasting legacy of the restoration.

POTENTIAL IMPACTS OF CLIMATE CHANGE IN THE RIO DOCE WATERSHED

CLIMATE CHANGE IMPACTS		LEVEL OF EXPOSURE
GENERAL IMPACT	Temperature increase	1
	Precipitation reduction	3
	Precipitation increase	2
ECONOMIC IMPACT	GDP reduction	1
	Depletion in crop area	4
	Decrease in silviculture	4
	Decrease in hydroelectricity generation	3
SOCIAL IMPACT	Migratory pressure	2
	Human health	3
ENVIRONMENTAL IMPACTS	Biodiversity	4
	Desertification processes	2

Source: FEAM (2014, p.121) 1- Low, 2 – Medium, 3 – Strong, 4 – Very strong

Available climate models point to a rising average surface temperature and alterations in rainfall regimes over the entire watershed. On the coast, floods due to sea-level rise and coastal erosion are expected, although no detailed predictions are available for Espírito Santo.

The increased risk of climate change makes communities more vulnerable to flooding, landslides and coastal erosion, indicating the need for policies and investments to build institutional and societal resilience for climate change adaptation, particularly in relation to human and ecosystem health.



RIO DOCE FACTS

1. Climate scientists in Brazil affirm that the recent intense rainfall events of 2020 in the southeast region, followed by drought in other parts of the country, reflect long-term shifts in rainfall patterns traced to global warming.
2. The climate is characterised by average temperatures higher than 18°C, even during the colder months.
3. In areas with an elevation higher than 300 m, the average temperatures during the colder months may drop below 18°C.
4. The occurrence of veranicos (dry spells during the rainy season) is also reported for the whole watershed and is more intense near the coast. They often occur over ten days in February.
5. In the most optimistic scenario, models consistently predict positive mean temperature anomalies between 2°C and 4°C by the end of the 21st century for the area covered initially by the Atlantic Forest Biome, where the Rio Doce watershed is located.

WHAT SHOULD BE DONE

The impacts of the Fundão Dam failure contribute to increasing the territory's vulnerability by exacerbating exposure and sensitivity to risk factors associated with climate change.

Over half of the 42 TTAC programmes present objectives or outcomes that are potentially threatened by or compromised by the predicted effects of climate change, particularly those related to reduction in water resources or extreme rainfall events.

Several TTAC programmes could reduce greenhouse gas (GHG) emissions by adopting appropriate energy use and generation technologies during the construction and operational stages.

The proliferation of global carbon pricing mechanisms offers opportunities to provide financial support for action to reduce climate change.

Renova Foundation is already implementing Nature-based Solutions that can contribute to climate adaptation, forest restoration and emission reduction.

RENOVA FOUNDATION, INTER-FEDERATIVE COMMITTEE (CIF), AND PARTNERS SHOULD SEEK SOLUTIONS TO THE POTENTIAL THREATS POSED BY CLIMATE CHANGE FOR THE EFFECTIVENESS AND SUSTAINABILITY OF ITS PROGRAMMES AND CONTRIBUTE TO A LOW-CARBON AND RESILIENT ECONOMY AT THE WATERSHED LEVEL.

Recommendations

The recommendations reinforce the need for cooperation among the key stakeholders and partner institutions, including state and local governments, public prosecutors and the judiciary.



1. Initiate a dialogue towards the development of a Rio Doce Watershed Climate Action Plan.



2. Propose that the CIF and other entities mainstream climate change within a timely review of relevant TTAC Programmes.



3. Adopt Nature-based Solutions when considering technological alternatives for remediation, restoration and compensation.



4. Invite state and local governments to build capacity and undertake actions to prepare for climate change adaptation.

