



Discussion Paper for the development of the CARICOM Biodiversity Strategy - Climate Change and Biodiversity¹

April 2018

Synopsis

The recent global rapid climate change caused by human activities is a key overarching environmental issue to consider for the CARICOM Biodiversity Strategy. Global and regional climate models suggest that the Caribbean can expect a 5-10mm rise in sea level each year and a 1-4°C increase in temperatures over the next hundred years. Increased drought frequency is expected and when rain does fall it will be as high intensity downpours with subsequent flooding. Higher temperatures are likely to cause shifts in species ranges e.g. animal migration to cooler, higher altitudes or species extinction where this is not possible. Other climate change impacts, such as the impact of ocean acidification on marine resources, are urgent issues which could benefit from a regional coordinated approach.

Climate change also exacerbates the impacts of other environmental threats (e.g. deforestation, land clearance, soil erosion and pollution). These factors in turn decrease the climate resilience of ecosystems and species. As the region's people try to adapt to climate change, biodiversity is directly or indirectly impaired. For example, higher temperatures will require more water for domestic and agricultural needs resulting in higher water abstraction from rivers and depleted habitat and food resources for aquatic biodiversity.

Currently, climate change aspects are emphasised in most regional environmental, including biodiversity related projects. These are often couched under Ecosystem Based Approaches (EbA) to climate mitigation and adaptation. For example, the German Ministry for Economic Cooperation and Development (BMZ) is supporting CARICOM through the financing of a project on "Coastal Protection for Climate Change Adaptation in the Small Island States in the Caribbean". The Nature Conservancy is using EbA to restore coral reefs for coastal protection in Grenville, Grenada. Civil Society Organisations (CSOs) in Trinidad and Tobago were supported by BHP Billiton under the Climate ACTT project to develop EbA projects to protect vulnerable watersheds and coral reefs.

Upcoming regional climate change projects include The Food and Agricultural Organisation (FAO) project to develop a regional work programme and resource mobilisation strategy to address climate resilience in the forestry sector.

The above efforts notwithstanding, more work is needed within the nexus of climate change and biodiversity including research into fine scale impacts of climate change on the Caribbean's biodiversity

¹ This discussion paper focuses on general climate change impacts. The impacts of climate related extreme weather events on biodiversity are highlighted in another paper.

resources. There is also urgent need to build climate resilience in terrestrial and marine ecosystems by reducing pollution and other stressors on the systems. Novel approaches may also need consideration. For example, internationally, there has been a shift in thinking to focus ecosystem restoration programmes on climate resilient species rather than attempting to protect and restore all species and ecosystems.

Climate Risk Assessments are CSOs under the first phase of the Caribbean Critical Ecosystem Partnership Fund Investment. These assessments included innovative tools like Participatory Geographic Information Systems and Participatory Three-Dimensional Modelling (P3DM).

Countries like Belize, Guyana and Suriname are involved in UNFCCC mechanisms for Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ countries also focus on low carbon development pathways. The United Nations Framework Convention on Climate Change (UNFCCC) 2016 Paris agreement specifically recognises forest conservation, and ecosystem based initiatives as an important mechanism for mitigation. The Paris agreement also highlights the specific needs of SIDS and provides support for the attempt to cap global temperature increase at 1.5°C. The CARICOM Regional Framework for Achieving Development Resilient to Climate Change recognises the important role that standing forests play in carbon sequestration and other ecological services and promotes sustainable forest management, to improve carbon sequestration rates in tropical forests.

Mitigation funding (e.g. under REDD+) can be used to further forest biodiversity conservation. Other global climate funding streams e.g. the Green Climate Fund (GCF) or Adaptation Fund can be heavily leveraged for biodiversity initiatives. The GCF is particularly suited for large scale multi-country projects. Apart from these international funding sources, regional funding sources like the USAID/CCCC CCAP are also available.

The Biodiversity Convention Global Biodiversity Strategy addresses climate change in **Target 10** suggesting that: By 2015, the multiple anthropogenic pressures on coral reefs and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning. Further **Target 15** states that: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Taking into consideration the issues outlined above as well as other issues you may be aware of, stakeholders are asked to consider:

What should the CBS showcase, state or highlight on the topic of climate change impacts on biodiversity to best address:

- your organisation's needs
- your country's needs – where national capacity and resources could benefit from additional regional support

- regional needs

Stakeholders are also asked to consider:

- How can the CBS support the development of appropriate regional climate adaptation projects?
- How can the CBS help streamline climate risk assessments and subsequent adaptation measures into biodiversity related projects including protected area management?
- How can the CBS foster learning from past climate resilience projects and programmes to develop and shape new ecosystem initiatives including forestry and fisheries initiatives that specifically speak to climate resilience?
- How can the CBS channel projects to suitable funding sources to ensure successful bids for funding and a coordinated regional approach?
- How can the CBS provide a framework to guide use of EbA in climate mitigation and adaptation?
- How can the CBS encourage or promote mitigation projects and programmes?

Further questions to consider include:

- What is the role of the CBS in supporting research to tease out fine scale data, and combining local and scientific knowledge including citizen science approaches, to help manage biodiversity? Should the CBS support citizen science approaches to data collection?
- How could the CBS boost effective communication of complex scientific climate change information?
- How can the CBS support regional advocacy and negotiations at the UNFCCC COP to as far as possible attempt to limit temperature increases and ensuing climate effects on the region?
- How can the CBS align with the Paris agreement to further regional biodiversity conservation?

Finally: any additional issues, ideas or points you would like to highlight for inclusion or consideration in the development of the Strategy?

Bibliography

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