Submission by

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Views on the research dialogue, including ongoing activities, associated modalities and ways to enhance the dialogue on Coastal Marine Ecosystems

19 September 2011

1. The SBSTA at its 34th session invited Parties to provide, by 19 September 2011, their views on the issues identified in paragraph 56 of document FCCC/SBSTA/2011/2[1]. The SBSTA requested the secretariat to compile these submissions into a miscellaneous document for consideration by the SBSTA at its thirty-fifth session.

2. For this purpose the Coalition for Rainforest Nations and a number of like-minded developing countries met in Pretoria, South Africa, from 2 to 4 September 2011 to consider issues related to the research dialogue, including ongoing activities, associated modalities and ways to enhance the dialogue, in particular on coastal marine ecosystems, such as mangroves, tidal salt marshes and seagrass meadows. This submission has been prepared to reflect those discussions and expresses input from many other developing country Parties on ways to enhance the research dialogue with the aim to provide opportunities for engaging with the marine scientific community to present ongoing scientific findings relevant to the needs of the Convention in particular for conservation and enhancement of coastal and marine ecosystems sinks and reservoirs.

3. While salt marshes and mangroves are intertidal systems, seagrass meadows are submerged ecosystems which can be found in areas with different climates. All these habitats cover approximately 50–80 million hectares. Habitats in coastal marine ecosystems store hundreds to thousands of tonnes (one tonne equals one metric ton) of carbon for each hectare. Soil organic carbon is by far the biggest carbon pool for the focal coastal habitats. In the first meter of sediments alone, soil organic carbon averages 500 t CO2e/ha (tonnes of carbon dioxide equivalent per hectare) for seagrasses, 917 t CO2e/ha for salt marshes, 1,060 t CO2e/ha for estuarine mangroves, and nearly 1,800 t CO2e/ha for oceanic mangroves.[2]

4. Coastal habitats are being destroyed steadily; estimated annual loss rates are roughly 0.7% to 2% and between 340,000 and 980,000 hectares of these endangered habitats may be lost each year. Although the original extent of the focal habitats is unknown, cumulative losses of seagrasses, salt marshes, and mangroves have been estimated at 29%, at least 35%, and up to 67%, respectively, of their historic area. The main causes of habitat conversion vary around the world and include aquaculture, agriculture, forest exploitation, and industrial and urban development.[3]

5. Methods to quantify the impact of human activities leading to GHGs emissions in wetlands including "those that are tidally influenced, including mangrove, saltmarsh, seagrass and tidal freshwater systems" are currently being reviewed by the Intergovernmental Panel on Climate Change (IPCC) with the aim to issue a supplementary report to IPCC Guidelines for national GHG inventories by 2013.

6. Coastal and marine ecosystems have a role in mitigating climate change, capable of sequestering greenhouse gases at very high rates per unit area as relevant reservoirs of organic carbon. Over hundreds to thousands of years this has led to large storage of carbon in those systems, mainly in the sediment. And, when these ecosystems are destroyed, this stored carbon is generally emitted to the atmosphere over a relatively short time. The rate of sequestration of coastal marine systems may be up to 50% more than terrestrial systems and

[1] Report of the SBSTA on its thirty-fourth session, held in Bon from 6 to 16 June 2011, document FCCC/SBSTA/2011/2, 3 August 2011.
[2] Nicholas Institute Report, April 2011.
[3] See n. 2 above.

two percent of global coastal marine systems are degraded per year, four times the amount of yearly tropical deforestation and degradation. This makes their conservation, to avoid their loss and degradation, a priority action for fighting climate change. It is therefore needed to seek financial resources within the UNFCCC to incentivize, in the long term, the conservation and sustainable use of coastal marine ecosystems to retain their sink capacity and carbon stock in the reservoirs, against unsustainable economic activities, which result in the emission of those stocks.

7. These ecosystems have an important role in helping coastal communities adapt to the impacts of changing climate, such as sea level rise, increasing storm intensities, and changing wave patterns which can result in coastal flooding, erosion and salt water intrusion. Further, the ecosystems of seagrasses, salt marshes and mangroves provide numerous co-benefits such as preservation of biodiversity, acting as nursery areas for fish and thus ensuring food security, stabilizing coastal sediments, providing opportunities for tourism and other livelihoods, and providing natural water filtration systems.

8. Methods for quantifying the impact of human activities on mangroves and wetlands are at mature stage[4] which would allow mitigation actions to be implemented by Parties and, as their mitigation potential is known, to allow for incentives to be assigned to conservation and restoration activities on these ecosystems. However, support should be provided to develop national capacity with the view to improve data generation and the quality of national communication on issues related to mangroves and wetlands.

9. On seagrass meadows the available scientific knowledge needs to be refined by collecting data on carbon stocks and their dynamic with the aim to set methods suitable for estimating carbon stock changes attributable to the impacts of various human activities on these ecosystems. Thus the SBSTA should encourage relevant organizations to further strengthen and coordinate efforts on scientific research and observation of seagrass meadows.

10. Further, SBSTA should invite IPCC, subject to availability of funds, to initiate a work programme aimed at quantifying the role of different coastal marine ecosystems and processes in the global atmospheric balance of carbon dioxide.

[4] http://www.ipcc.ch/meetings/session33/doc07_p33_tfi_activities.pdf