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International environmental policy and governance issues

Information on implementation of resolution 4/12 on sustainable management for global health of mangroves***

Note by the Executive Director

Introduction

1. The Resolution specifically requests the UNEP Executive Director to deliver on the following mandates related to the sustainable management of mangrove ecosystems:

2. In paragraph 8, requests the United Nations Environment Programme, in collaboration with other relevant stakeholders and within available resources, to facilitate collaboration among Member States through collaboration and co-production of research, mapping and valuation of ecosystem services and related best management practices.

3. The activities related to this Resolution contribute to the Healthy and Productive Ecosystems Subprogramme. Under the 2019 – 2021 UNEP Programme of Work, the activities related to this Resolution contribute to Expected Accomplishment Subprogamme-3 (SP3) EA (a), "the health and productivity of marine, freshwater and terrestrial ecosystems are institutionalized in education, monitoring and cross-sector and transboundary collaboration frameworks, at the national and international levels".

I. Progress on Implementation of the Resolution

4. To achieve the mandate laid out by paragraph 8 on collaboration and co-production of research, mapping and valuation of ecosystem services and related best management practices, UNEP and its partner the World Conservation Monitoring Centre (WCMC) are producing an analysis of the change of mangrove ecosystem cover extent globally over the last few decades, and the impact of these changes on mangrove-associated biodiversity and the delivery of ecosystem services. WCMC is collaborating with the World Mangrove Alliance and the Global Mangrove Watch to build on the

* In accordance with the decisions taken at the meeting of the Bureau of the United Nations Environment Assembly held on 8 October 2020 and at the joint meeting of the Bureaux of the United Nations Environment Assembly and the Committee of Permanent Representatives held on 1 December 2020, the fifth session of the Assembly is expected to adjourn on 23 February 2021 and resume as an in-person meeting in February 2022.

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latest satellite imagery from the Japanese Aerospace Exploration Agency in order to analyse changes in mangrove extent at global, regional, national and sub-national scales. Based on the satellite imagery analysis, WCMC will provide an analysis of how changes in mangrove ecosystems are globally impacting mangrove-associated biodiversity and the delivery of ecosystem services such as fisheries production, shoreline protection and carbon sequestration at global, regional, national and sub-national scales. Detailed case studies will be provided for selected ecosystem services in selected mangrove areas in order to showcase the impact of mangrove loss on biodiversity and ecosystem services. The analyses will be made available online as a useful resource for Member States during the Convention on Biological Diversity Conference of Parties in 2021. Furthermore, UNEP is developing data layers and an interactive tool specifically for exchange of information related to mangroves on the World Environment Situation Room (WESR) platform.

5. Under the Global Environment Facility (GEF) Blue Forests Project executed by GRID-Arendal, UNEP implemented actions related to paragraph 8 of UNEA Resolution 4/12. UNEP supported the launch of mangrove carbon ('blue carbon') market projects in Kenya and Madagascar[1] which cover the protection and restoration of almost 2000 hectares of mangrove and supported the livelihoods of at least 20,000 people. These innovative projects provide a template for collaboration and replication of mangrove carbon market projects around the world.

6. UNEP is also currently supporting the expansion of these activities to seagrass ecosystems adjacent to the mangroves and has provided guidance as well as technical and financial support to develop a seagrass carbon project in Kenya. This includes the publication of three important reports on seagrass ecosystems; "Out of the Blue: the value of seagrasses to the environment and to people", "Protecting Seagrass Through Payments for Ecosystem Services: A Community Guide", and "Opportunities and Challenges for Community-Based Seagrass Conservation", and the coordination of an international network of seagrass experts with diverse representation.

7. UNEP has also supported a payment for ecosystem services and conservation agreement scheme related to crab-farming in mangroves in Ecuador, covering 41,000 hectares of mangrove and supporting the livelihoods of at least 10,000 people. By supporting and highlighting these best practices on sustainable management of mangroves, UNEP is encouraging collaboration and replication regionally and globally.

8. UNEP in partnership with the Nairobi Convention Secretariat has also launched the Guidelines on Mangrove Restoration for the Western Indian Ocean Region. This publication, for the first time for the region, analyzes risks of and challenges to mangrove restoration projects and provides potential solutions. The report provides critical normative guidelines for restoring mangrove ecosystems in the region and will help to foster regional research and collaboration on mangrove restoration.

9. Within GEF projects, UNEP has also helped to restore a total of 370 ha of mangroves on the East coast of Madagascar: 170 ha in Menabe region and 200 ha in Boeny region and built capacity through technical support and training provided to local management committees (GEF Project "Adapting coastal zone management to climate change considering ecosystems and livelihoods").

10. In the Seychelles, UNEP supported the removal of invasive species from 20 ha of mangroves and restored an additional 9 ha of mangroves to protect social infrastructure from coastal erosion. Two kilometers of channels have been desilted to improve hydrological flow, between 100 ha of artificially fragmented mangroves and 7 culverts have been constructed to improve hydrological flow through 300 ha of artificially fragmented mangroves (GEF Project "EBA South").

11. In the Caribbean region, UNEP supported reduction of land-based sources of pollution to critical mangrove nursery areas and produced a report on the status of marine ecosystems with emphasis on mangroves, coral reefs and seagrass beds including a regional Strategy and Action Plan for the protection of these key marine habitats (GEF Project "Caribbean Large Marine Ecosystem + Project). A Regional Mangrove Restoration Manual is also being produced for the Caribbean. Through the Carib-Coast EU funded project, the Regional Activity Center for Specially Protected Areas and Wildlife of the Caribbean (SPAW-RAC) is further developing a synthesis report on the status, ecosystem services and best restoration practices of mangroves in the region.

12. UNEP's mangrove activities are currently being supported by generous extrabudgetary financial support from the Swedish International Development Agency (SIDA) and the Norwegian Government, as well as within GEF projects. UNEP's mangrove activities are carried out under Subprogramme 3 on Healthy and Productive Ecosystems, Expected Accomplishment SP3 EA (a), "the

[1] In Kenya with the Kenya Marine and Fisheries Research Institute and the Kenya Forest Service and in Magadascar with Blueventures

health and productivity of marine, freshwater and terrestrial ecosystems are institutionalized in education, monitoring and cross-sector and transboundary collaboration frameworks, at the national and international levels". Mangrove work at the UNEP Headquarters is currently supervised by a P-5 level Head of Unit (20%), and carried out by a P-4 and a P-3 level Task Managers (20%), a P-3 level Programme Management Officer (30%), 3 UN-Volunteers (50%) and a G-level administrative assistant (50%).

II. Recommendations and suggested actions

13. The Assembly may wish to recommend that UNEP strengthen collaboration with Member States and partners to scale up the support to projects related to protecting the delivery of ecosystem services and sustainable financing, including through carbon sequestration, and to support the livelihoods of mangrove-dependent communities. Support to mangrove restoration and conservation projects could be increased through the development of a "blue carbon fund" to support projects in the context of recovery from the impacts of the coronavirus pandemic.

14. The Assembly may wish to recommend that manual produced by UNEP on the best practice guidelines for the restoration of mangrove ecosystems be applied widely in collaboration with Member States and with relevant partners to restore degraded mangrove ecosystems and protect healthy mangrove ecosystems around the world.

15. The Assembly may wish to recommend to UNEP to develop a knowledge sharing and partnership platform dedicated to mangrove research in order to facilitate exchange between UNEA members.

16. The Assembly may wish to recommend that mangrove conservation and restoration projects also contribute to achieve the objectives of the UN Decade on Ecosystem Restoration and to input priority areas of research under the UN Decade of Ocean Science for Sustainable Development.

17. The Assembly may wish to recommend that the connectivity with adjacent ecosystems to mangroves such as coral reefs, seagrasses and saltmarshes is more closely integrated in the tools and research that are developed for mangrove restoration and conservation and ecosystem services valuation. There is high ecological connectivity between mangroves and adjacent ecosystems, and increased understanding of this connectivity is an important consideration for comprehensive and integrated ecosystem-based management of mangroves.