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***Coral Reef Partnership in the
Regional Seas Conventions and Action Plans***

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Regional Seas Coral Reef Partnership

1. This document provides additional information relevant to the coral reef partnership presented in meeting document UNEP(DEPI)/RS.14/WP.4.RS, including additional background information on issues and needs, globally agreed targets, the mandates of UNEP and Regional Seas, partnership rationale, and potential focal areas.

Coral Reef ecosystem services, threats and status

2. Tropical coral reefs are among the most biodiverse ecosystems on the planet, supporting one quarter of all marine species. They occur in 109 predominantly tropical countries, including more than 80 developing countries, and sustain human society through a range of ecosystem services, such as livelihoods and food security from fisheries, revenue from tourism, shoreline stabilization and protection from extreme weather events.
3. Along with mangroves and seagrass beds, coral reefs deliver the highest annual value in terms of ecosystem services of all natural ecosystems on the planet. The Economics of Ecosystems and Biodiversity (TEEB) study found that coral reefs generate up to US\$1,25 million per hectare from tourism, coastal protection, bioprospecting and fisheries annually. Ecosystem service values are very site specific and vary considerably, especially for tourism.
4. Approximately 850 million people live within 100 km of reefs and derive some benefits from coral reefs, with over 275 million depending directly on reefs for livelihoods and sustenance. Reef-dependence is particularly high in small-island states, among many countries in the coral triangle, and among coastal populations in developing countries.
5. Threats to coral reefs include over-fishing and destructive fishing, coastal development and land-based pollution, including sewage, nutrient and sediment input that reduce water quality. These threats are pervasive in all regional seas, affecting the majority reefs in the world and presently driving most reef degradation and associated loss of ecosystem services. Local threats undermine the ability of the reefs and dependent peoples to withstand and adapt to the increasing impacts of climate change.
6. Climate change impacts on reefs have already been observed through the increased frequency and intensity of coral bleaching events due to above-average sea surface temperatures. It is predicted that under a business as usual scenario most coral reefs will experience temperature that induce bleaching every year before the middle of this century. Extreme weather events will further compound this stress. The implications of increasing ocean acidity are not yet fully understood but potentially severe for coral calcification and consequently ecosystem structure and functionality.
7. It has been estimated that goods and services provided by almost a fifth of the world's coral reefs have been lost due to reef degradation. A further 15% of reefs are under imminent threat of being lost within the next decade unless effective management actions are implemented.

Coral reef related mandates and functions of UNEP and Regional Seas

8. The UNEP Governing Council has provided specific guidance on UNEP's work on coral reefs, including through Decision 19/15 on the International Coral Reef Initiative and Decisions 20/21 and 21/5 on Coral Reefs. These decisions, inter alia, recognize the strong role of the Regional Seas programmes as implementing and coordinating mechanisms for action towards conservation and sustainable use of coral reefs on the regional scale, and ask UNEP to play an active and leading role in the development, implementation and coordination of activities.

9. UNEP's subprogramme on ecosystem management is particularly relevant to coral reefs, with a focus on supporting countries and regions integrate an ecosystem management approach into development and planning processes. Expected accomplishments are that countries and regions have capacity to utilize ecosystem management tools; and begin to realign their environmental programmes and financing to address degradation of selected priority ecosystem services. The environmental governance and climate change subprogrammes are also relevant to coral reefs. The draft 2013-17 climate change subprogramme focuses specifically on strengthening climate resilience using ecosystem-based approaches.
10. The Regional Seas Programme was launched in 1974 with the aim to address the accelerating degradation of the world's oceans and coastal areas by engaging littoral countries in comprehensive and specific actions towards protection, management and sustainable use of their shared marine environment. Regional Seas provide mechanisms for regional priority setting as well as implementation of specific actions towards environmental assessment and management. Regional Seas thus have an important and direct role in meeting international targets and commitments under global MEAs, the secretariats of which support mainly normative work.
11. Among the UNEP-administered Regional Seas, extensive tropical coral reefs are found in the Caribbean, East Asian Seas, and Eastern Africa. Coral communities also occur in the Western Africa region. Some member countries of the North-West Pacific Action Plan have significant coral reef areas; however, activities are focused primarily on non-coraline ecosystems. Among other regional seas, tropical coral reefs are found in the Red Sea and Gulf of Aden, the ROPME Sea Area, South Asian Seas and the Pacific Region, as well as in the North-East and South-East Pacific Regions. Several Regional Seas recognize coral reefs as critical habitat. Regional Coral Reef Task Forces have been established by at least two Regional Seas, the Nairobi Convention and South Asian Seas.
12. The Global Strategic Directions for the Regional Seas Programme¹ adopted in 2007 include, *inter alia*, the following actions particularly relevant to coral reefs: Emphasizing the ecosystem approach in integrated marine and coastal management as an overarching management framework; Contributing to the effective implementation biodiversity targets and intensifying regional activities by identifying critical issues of marine biodiversity, protecting its major components, and promoting its sustainable use, including focusing on participation in the International Coral Reef Initiative and the implementation of the SIDS Mauritius Strategy; and Assessing and addressing the impact of climate change on the marine and coastal environment and promote cooperation for formulating regional climate change adaptation strategies.
13. Actions to support implementation of the Global Strategic Directions for the Regional Seas Programme include collaborating with UNEP on generating understanding of the value of coastal and marine ecosystem services; trade-offs across the marine and coastal ecosystem services; ecological dynamics underlying coastal and marine ecosystems; how marine and coastal ecosystems can change under different plausible scenarios for the future; and how different responses work under a variety of different conditions.

Coral reefs in global agreements

14. National governments have clearly recognized the importance of coral reefs, the value of their services, their overall declining status and the need for action. This is reflected in decisions and specific targets adopted by the international community, including the following:
15. The WSSD Plan of Implementation paragraph 30d) encourages the application of the ecosystem approach and 32d) and e) call for development of national, regional and international programmes for halting the loss of marine biodiversity, including in coral

¹ UNEP(DEPI)/RS.9/6

reefs, and for implementation of the programme of action called for by the International Coral Reef Initiative.

16. The International Coral Reef Initiative (ICRI) Call to Action and Framework for Action, which provide the global blueprint for action to address the plight of coral reefs, recognize the Regional Seas as key implementation mechanisms at the regional level.
17. The “Strategic plan for Biodiversity 2011-2020”², adopted in 2010 by CBD CoP-10 provides an overarching framework on biodiversity for all MEAs and the entire United Nations system. Aichi Biodiversity Target 10 specifically addresses coral reefs:

“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”.

Target 6 on ecosystem based management of fish and invertebrate stocks and recovery plans and measures for depleted species, and Target 11 on effectively and equitably managed, ecologically representative and well-connected systems of protected areas are also of direct relevance

18. “The Future We Want”³, the Rio+20 outcome document, recognizes that oceans, seas and coastal areas form an integrated and essential component of the Earth’s ecosystem. Of particular relevance to coral reefs is paragraph 176:

“the significant economic, social and environmental contributions of coral reefs, in particular to islands and other coastal States, as well as the significant vulnerability of coral reefs and mangroves to impacts including from climate change, ocean acidification, overfishing, destructive fishing practices and pollution” and supports “international cooperation with a view to conserving coral reef and mangrove ecosystems and realizing their social, economic and environmental benefits as well as facilitating technical collaboration and voluntary information sharing.”

19. Several other paragraphs of the document give added impetus to addressing the plight of coral reefs, including e.g. 71 which encourages existing and new Green Economy partnerships; 97, which acknowledges the regional dimension of sustainable development; and 100, which welcomes regional and cross-regional initiatives. Paragraphs 4, 138, 166, 197, 280 recognize the importance of building ecosystem resilience in the face of climate change and ocean acidification, and to enhance the resilience of marine dependent communities and support disaster risk reduction).
20. The Oceans Compact sets out a strategic vision for the UN system to deliver on its ocean-related mandates, consistent with the Rio+20 outcome document “The Future We Want”, in a more coherent and effective manner. Meeting Aichi Target 10 is emphasized.

A Global Coral Reef Partnership of the Regional Seas – Rationale

21. The development of a Global Coral Reef Partnership of the Regional Seas is proposed, as a means to address the critical need to enhance and scale up sustainable reef management throughout the world’s reef regions, and as a means for UNEP and Regional Seas programmes to meet their commitment with respect to coral reefs, as mandated by their respective governing bodies and detailed in strategies and programmes of work.
22. There are numerous international coral reef programmes and interventions (including supported by the GEF, development banks, bilateral donors and foundations), but these remain geographically constrained, with limited exchange of approaches and lessons learned between reef regions and consequently limited coherence in approaches.

² <http://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>

³ <http://www.uncsd2012.org/thefuturewewant.html>

23. Activities under the International Coral Reef Action Network (ICRAN), a 'Type II' partnership implemented through UNEP and the Regional Seas, were concluded in 2011. Established as an operational network of the International Coral Reef Initiative (ICRI), ICRAN represented a major contribution towards the implementation of the ICRI Call to Action and Framework for Action, the internationally agreed blue print for conservation of coral reefs. ICRAN was enabled through funding towards a matching-grants scheme from the United Nations Foundation, and mobilized a total of USD 20 million. As of 2011 ICRAN was suspended as an operational network of ICRI at its General Meeting in December 2011. Thus far no initiative or network has filled the void left by ICRAN.
24. UNEP and the Regional Seas are uniquely placed by virtue of geographic coverage and scale as well as mandates to jointly develop a suite of solutions to the coral reef crisis. UNEP has extensive experience in working with scientific and technical communities and at the science-policy interface, facilitating and supporting multi-stakeholder international environmental law and policy processes; and promoting regional cooperation to address emerging and transboundary environmental issues. This is supported through UNEP's hosting of secretariats for MEAs, its network of Regional Offices and status as an implementing agency for the GEF.
25. The Regional Seas constitute a global network of regional, intergovernmental mechanisms for delivering environmental protection and sustainable management and development. The Regional Seas collectively have considerable technical capacity as well as networks to convene experts, scientists and institutions in coral reef assessment, management and policy setting.
26. The partnership is envisaged as a means to take action that is founded in current science, addresses priority issues and serves the needs of Governments and the Regional Seas, by defining developing tools and approaches at the global level, and enabling and supporting broad adoption and application at the regional level.

Purpose, Objectives and Thematic Work Areas

27. The purpose of the partnership is to better utilize the platform provided by the Regional Seas to catalyse effective, ecosystem-based coral reef management that safeguards ecosystem services, protects biodiversity, and builds resilience in the face of climate change, thereby directly contributing to delivery of internationally agreed as well as national obligations as they relate to coral reefs, and to the implementation of the ICRI Call to Action and Framework for Action.
28. Common coral reef related priorities across regional seas, identified in regional strategies and plans, include: sustainable management of reef fisheries; supporting climate change adaptation; enhancing MPAs and MPA networks; as well as managing the impacts of land-based activities. Developing and applying ecosystem-based approaches emerges as a cross cutting theme. Partnerships are identified as an important foundation for implementation, as is creating diversified and sustainable financing models.
29. By focusing on a limited number of issues where coral reefs warrant specific attention, tangible progress can be made. To this end the proposed primary objectives of the partnership are
 - I. To jointly develop innovative and practical tools that enable ecosystem based approaches to coral reef planning and management at the global level;
 - II. To support adoption and application of these tools and approaches through regional-level pilot and demonstration interventions implemented by Regional Seas programmes and associated networks;
 - III. To provide coordination, networking and capacity building that empowers action: A community of practice for ecosystem based management of coral reefs provides a

means for inter-regional learning and exchange of best practice and supports testing and application of tools and guidance developed.

30. Development of guidance, methodologies and capacity building tools that are relevant globally or at least in several regions will be prioritized. These can form the basis for demonstration interventions, carried out regionally or nationally as required.
31. Potential thematic work areas, prioritized in regional coral reef action plans and strategies and also aligning with UNEP and FMEB priority work areas, include the following:
 - *Theme 1. Coral Reef assessment and monitoring:* Assessment and monitoring provides a foundation for a broad range of decision-making, including development and implementation of spatial management, adaptation and development planning, as well as for tracking effectiveness of management actions, strategies and policies. The Global Coral Reef Monitoring Network (GCRMN), a network of ICRI, is redeveloping its coordination arrangements and reporting strategy, with an increased focus on regions. The Regional Seas are since the initiation of GCRMN recognized as a key implementation mechanism. Activities through the partnership can facilitate and strengthen Regional Seas engagement in GCRMN, including the development of methodological guidance. Adoption and application of such guidance by the Regional Seas will strengthen national as well as regional level assessment and monitoring, and support application of findings in management decisions. This will also strengthen global and regional coral reef status and trend assessments through GCRMN.
 - *Theme 2. Water quality standards for coral reefs and associated indicators:* Poor water quality degrades reefs, erodes ecosystem services and reduces ecosystem resilience, making them more vulnerable to other stresses including climate change. Failure to control water quality undermines virtually all other efforts to manage coral reefs. Recent research indicates microbial loading is a key driving force behind reef degradation. Most countries and regions have established water quality standards, including for coastal waters, and water quality as well as and effluents are regulated through the LBS protocols of many Regional Seas. Some countries and agencies have established water quality guidelines specifically for coral reefs. However, ecosystem-based standards are lacking or inconsistently developed and applied in most reef areas of the world. Development of a common practice for establishing coral reef water quality standards and associated indicators would provide valuable guidance for managing reef areas and activities that influence them, locally as well as in catchment areas, and would also support efforts to understand and enhance reef resilience. The development of water quality standards for coral reefs can serve as a pilot for UNEP's initiative to develop international standards on water quality from ecosystem perspectives.
 - *Theme 3. Understanding climate change resilience in coral reef seascapes and tools for management and adaptation planning:* Climate change is considered the greatest long-term threat to coral reefs, and means are needed to strengthen the prospects for adaptation of the ecosystem as well as dependent communities. Reef management that builds on and protects the natural resilience of coral reefs provides a strategy to this end. Conventional coral reef assessment and monitoring offers partial but insufficient information on vulnerability and climate change impacts to underpin planning in the face of climate change. Available methods for coral reef resilience assessments and their utilization in management decisions have considerable shortcomings. Reliable and practicable approaches for understanding coral reef resilience and system tipping points are needed to inform ecosystem management strategies as well as adaptation plans for dependent communities and sectors. Such approaches can also contribute to the operationalization of EBA and more effective application of EBA and EBM guidance developed by UNEP, using coral reefs as a flagship ecosystem.
 - *Theme 4: Sustainable reef fisheries through networks of refugia:* Coral reef fisheries sustain millions in often very poor communities around the world. MPAs established

primarily for biodiversity conservation or tourism purposes may have positive effects on fish stocks, but their utility for sustaining fisheries is limited by virtue of this not being a specific and/or prioritized consideration in their design. The UNEP South China Sea GEF project developed and piloted fishery refugia approaches, and activities are being initiated for further implementation under its Strategic Action Programme. In view of the ecological properties of the coral reef ecosystem, behavioural and reproductive traits of reef associated fishery resources, as well as reef fishing practices, human dependence, and reef governance and tenure systems, specific approaches may be warranted for fishery refugia in coral reef areas. To this end, the partnership can contribute to ongoing UNEP activities to develop design criteria for fishery MPAs as well as associated tools and indicators for tracking impact and evaluating effectiveness, with particular attention to coral reef fisheries.

- *Theme 5. Creating revenue streams for management and fostering private sector and community stewardship:* Many sectors are directly dependent on coral reef ecosystem services but may also have direct deleterious effects on these. The ecosystem service approach and ecosystem service valuation efforts have achieved broad acceptance as means towards better management of the environment without giving up development goals. Adequate accounting methodologies for natural capital that provides services to society are needed to fully value natural assets, to enable financial transactions against ecosystem service provision, support fair and equitable access and benefit sharing, and to underpin public investment in management. Coral reefs provide a model ecosystem for developing and demonstrating such methodology.
- *Theme 6. A community of practice for ecosystem based management of coral reefs.* A community of practice for coral reef managers affiliated with Regional Seas will be developed, to facilitate exchange of experiences and lessons learned between individuals and between regions, to function as a sounding board for tools and approaches developed through the partnership, and to support and facilitate uptake and application of such tools and approaches. This will include capacity building interventions, as possible and needed. The community will also serve as a mechanism for information sharing and outreach, building on and further developing the outreach tools of partners.

Practical steps in the development of the partnership

32. Thematic work areas, activities and outputs will be further developed through consultation led by UNEP and primarily with and through Regional Seas programmes and associated networks, to ensure contribution to regional work plans and clear prioritization based on need.
33. Immediate steps in partnership development being carried out during 2012 include consultation with Regional Seas partners to: Define and elaborate as needed partnership objectives, areas of work, priority activities and services; Develop partnership coordination arrangements, including a secretariat function hosted by UNEP; and Establish roles and responsibilities of partners and firm commitments to delivering these. A comprehensive and forward-looking ICRAN end of project evaluation will be conducted to elucidate specific recommendations.
34. It is envisaged that a partnership meeting will be convened in 2013 to agree on a detailed biennial workplan, including specific priority activities under each main objective, with identification of resource requirements. It is recommended that the partnership workplan is presented to Regional Seas governing bodies for endorsement.
35. The development of joint coral reef related activities by UNEP and the Regional Seas through a partnership approach has been presented to ICRI at its General Meeting in July 2012, and also submitted by UNEP as a Rio+20 voluntary commitment.

Structure and roles of partners

36. ICRAN successfully implemented a broad range of activities in six coral reef regions, demonstrating that a global coral reef partnership approach is highly valuable. However, ICRAN was also faced a number of challenges in relation to strategic priorities as well as an overly complicated governance and project structure. Key lessons for development of a successor partnership include:
- ensuring that the core partners are of equal standing, serving a similar function, with common needs and with comparable if not equal capacities to contribute to the partnership;
 - commitment of partners to delivering inputs, functions and services, including raising funds for management of the partnership as well as for implementation of activities;
 - defining simple and clear decision-making and administration arrangements, with overall strategic direction provided jointly by partners and a secretariat leading coordination;
 - involving providers of specific scientific and technical expertise at all stages but on a needs basis, with specific purpose and clearly defined roles.
37. In order to enable the partnership to deliver outputs and results under varying levels of financial support, a scalable approach is recommended both in terms of activities and coordination arrangements. This will entail clear prioritization of partnership activities, resourcing of themes on an opportunistic or ad hoc basis, as well as keeping a lean governance structure.
38. Secretariat functions and coordination of partnership activities will be carried out by UNEP through its Coral Reef Unit. UNEP will provide scientific and technical guidance and advice and connectivity to UNEP's global efforts in relevant fields, including UNEP's Marine & Coastal Ecosystem-Based Management programme and as identified under 'Thematic work areas'. UNEP will further support and facilitate information sharing; liaise with ICRI, GCRMN and other relevant global networks; raise funding; administer grants for partnership activities; and organize partnership meetings as possible.
39. Regional Seas provide a mechanism for ensuring purposefulness and effectiveness of interventions, through consultation with governments, identification of national needs, and delivery of outputs and services to governments; and providing regional expertise and technical and substantive input. Regional Seas are expected to support resourcing of partnership activities, including through fundraising as well as offering regional projects and activities as a basis for further development through the partnership.
40. UNEP Coral Reef Unit and Regional Seas coral focal points and coral reef task force chairs will function as a technical/advisory body to guide substantive activities of the partnership, provide recommendations on application and mainstreaming of partnership outputs; prepare reports and recommendations to the governing bodies of the RS for consideration; provide advise on the development or revision of regional coral reef action plans, as well as establishment of Coral Reef Task Forces or similar structures, as/where appropriate.
41. Endorsement/approval of the partnership as well as commitments to contribute to its successful implementation will be sought from Governing Bodies.

Resource requirements and fundraising

42. Implementation of activities under the partnership will require a diversity of financial donors, in addition to institutional, logistical and, as may be possible, financial support of its members. UNEP will support partnership establishment activities (2012) through existing funds, including concept development, liaison with partners, obtaining partnership

commitments, and initiating fundraising. In-kind contributions from regional seas partners is essential.

43. A fundraising strategy will be prepared as a matter of priority during the development of the partnership in 2012 and early 2013. This will primarily encompass funding for specific outputs (tools and approaches, networking functions) as well as for the partnership as a whole, but may also include demonstration interventions. Initially it is envisaged that the partnership will build on existing activities or projects being initiated that are limited in their geographic scope but lend themselves to scaling up and inter-regional transfer. Where such projects exist the partnership can focus on raising the additional financial support necessary to enable exchanges between regions and further development and tailoring as may be needed. The partnership may also contribute to or enable development of regionally focused projects.
44. Coordination-related costs include secretariat operations, liaison, and information sharing; travel; organization of meetings; reporting and outreach. Such tasks can be carried out on a part time basis by current UNEP CRU staff. Options for support through additional staff or other arrangements will be explored (including e.g. seconded staff, junior professionals), with a view to enhancing the secretariats capacity in response to increases in partnership activities.
45. A detailed partnership budget will be prepared based on input from partners in relation to overall aims as well as activity prioritization.