



Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range

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CONSERVATION INITIATIVES

Prepared by the Dugong MOU Secretariat

Purpose

1. The purpose of this document is to summarise the key conservation activities undertaken to implement the Dugong MOU Conservation and Management Plan (CMP), through the Dugong, Seagrass and Coastal Communities (DSCC) Initiative¹, which the Dugong MOU Secretariat has either led or actively engaged in over the period 1 January 2013 – 31 December 2016. During that period the focus of the Secretariat has been on building capacity for conservation and management; resource mobilization, including fundraising; as well as providing technical support to Range States. Information on future activities proposed to be undertaken to implement the DSCC Initiative can be found in the Draft Programme of Work (2017–2019) to Support the Implementation of the Dugong MOU document (CMS/Dugong/MOS3/12.1). Several of the initiatives described below will be further supported by presentations at plenary or at side-events during the meeting.

Background

2. The DSCC Initiative (see CMS/Dugong/MOS3/Inf.2) was launched in February 2012 and presented a programme to improve livelihoods and create economic opportunities linked to the conservation of dugongs and their seagrass habitats is undertaken. At the Second Meeting of Signatories (MOS2) to the Dugong MOU (February 2013, Philippines), Signatories endorsed the implementation of the DSCC Initiative over the coming 3-5 years.

3. Since the launch of the DSCC Initiative, the Secretariat has been actively working with dugong Range States, partners and local communities to develop incentive-based approaches to conservation in order to create sustainable livelihoods. Support has generally been provided by the Secretariat as seed funding and technical advice to fully develop project proposals and to provide leverage to secure the funds necessary for full implementation of the projects.

4. The core activities identified by the DSCC Initiative include: (a) the CMS Dugong MOU Standardised Dugong Catch and Bycatch Questionnaire (CMS Dugong MOU Questionnaire); (b) the GEF-5 Dugong and Seagrass Conservation Project; (c) the Global Dugong Genetics Project; (d) the Gulf Collaboration Concept, which includes a Gulf Bycatch component; and (e) the Conservation Incentive Pilot Projects. As agreed at MOS2, funding for these projects was to be sought and implementation to occur from 2013–2018.

5. The DSCC Initiative provides the framework to develop and implement conservation tools and pilot projects that demonstrate how innovative partnerships can combine conservation efforts, sustainable development and financial investment thereby supporting implementation of the CMP.

¹ www.cms.int/dugong/en/publication/dugong-seagrass-and-coastal-communities-initiative

CMS Dugong MOU Questionnaire

6. The Dugong MOU Secretariat provided funding to enable a partnership with the Marine Research Foundation and a team of global experts to develop and implement a questionnaire² which could be implemented at low cost across large geographical areas, and that generates standardised data sets. The questionnaire was designed to collect data on dugongs, as well as marine turtles and cetaceans, and has resulted in a large data set of dugong numbers and distribution across a significant portion of the dugong's geographic range.

7. The questionnaire was initially deployed in 18 countries spanning four key geographic areas (East Africa, South Asia, Southeast Asia and the Southwestern Pacific) with 6153 respondents. The results of the questionnaires provide the latest information on the distribution and abundance of dugong populations in these areas, while identifying and mapping areas of important dugong habitats such as seagrass beds, and assessing the relative risks to distinct populations from fisheries.

8. The questionnaire has also been used to gather more information on dugong distribution, trends and threats in Egypt (200 respondents), Indonesia (124), Malaysia (900), Mozambique (184), the Solomon Islands (32) and Vanuatu (217) – a total of 7810 respondents to date. The flexibility and low cost of implementing the questionnaire means that countries can rapidly assimilate a snapshot of the distribution of dugongs and fishery overlaps, and identify hotspot areas where conservation action might be needed.

9. The CMS Dugong MOU Standardised Dugong Catch and Bycatch Questionnaire Final Report (CMS/Dugong/MOS3/Inf.4) provides background information on the development of the questionnaire, how it was implemented as well as a regional analysis of the results of the questionnaire. The report will also be available on the Dugong MOU website under Publications. This project provides information on dugong numbers, trends in captures and evidence of fisher-dugong interactions for a large part of the dugong's range that was previously unavailable, and provides a stepping-stone to more focused research in the areas where dugongs were found to exist and where fishery pressures were high.

10. A more recent development for the questionnaire includes a short ten-question follow-up questionnaire, to be used in areas where the main questionnaire has already been deployed in the past, and seeks only to provide an update to numbers of dugongs observed or entangled in fishing gear. The ten-question version of the questionnaire can be found on the Dugong MOU website³. This short questionnaire is not intended to replace the more robust and comprehensive main questionnaire, as it does not provide information on the past historical data or any spatial information.

11. One of the key challenges in undertaking surveys with the questionnaire was the lack of standardisation in the manner in which the questionnaire was used at the local level. These differences in implementation created substantial gaps in the overall data analysis. The Secretariat suggests that for additional guidance on the use of the questionnaire and its related documents, partners contact Dr. Nicolas Pilcher⁴.

12. Further background on the CMS Dugong MOU Questionnaire, including the results reported at MOS2, can be found in the MOS2 paper 'Progressing Dugong Conservation: Dugong, Seagrass and Coastal Communities Initiative'⁵ and the MOS2 Meeting Report⁶. Information on how the CMS

² www.cms.int/dugong/en/publication/revised-survey-questionnaire-project-manual-and-upload-file-available-1

³ www.cms.int/dugong/en/publication/revised-dugong-questionnaire-upload-file-and-new-short-questionnaire

⁴ npilcher@mrf-asia.org

⁵ www.cms.int/dugong/sites/default/files/document/doc_11_progress_conservation_0.pdf

⁶ www.cms.int/dugong/sites/default/files/document/report_0.pdf

Dugong MOU Questionnaire will contribute to future Dugong MOU conservation activities can be found in the Draft Programme of Work paper (CMS/Dugong/MOS3/12.1).

GEF-5 Dugong and Seagrass Conservation Project

13. An important component of the DSCC Initiative involved the development of the Dugong and Seagrass Conservation Project, which is leveraging funding from the Global Environment Facility (GEF) and co-funding from a number of dugong Range States. The project will enhance the effectiveness of conservation efforts under the Dugong MOU for dugongs and their seagrass ecosystems across the Indian and Pacific Ocean basins through specific actions in eight countries, and wider regional and global activities (funded by GEF and co-financing).

14. Throughout 2012 and 2013, the Dugong MOU Secretariat developed the project and in the first instance, secured USD 5.88 million from eight countries for the conservation of dugongs and seagrass ecosystems. Held back-to-back with the Second Meeting of Signatories to the Dugong MOU, an International Workshop for the GEF-5 Dugong and Seagrass Conservation Project was held in Manila, Philippines on 21-22 February 2013. The workshop gathered the then seven GEF-5 Project Partners (Indonesia, Madagascar, Malaysia, Mozambique, Sri Lanka, Timor-Leste and Vanuatu) and the four Supporting Partners (Australia, Myanmar, Philippines and United Arab Emirates (UAE)) to review progress on project preparation and development.

15. In June 2013, following exploration by the Dugong MOU Secretariat of potential additional partners, the Solomon Islands became the eighth GEF-5 Project Partner. Throughout 2013, further supporting partners joined the project. In addition to Australia, Philippines and the UAE, Papua New Guinea, Seychelles and Tanzania provided co-financing and India and Kenya joined Myanmar in providing formal written support. In late 2013, as invited by the Dugong MOU Secretariat, the Mohammed bin Zayed Species Conservation Fund assumed the role of Executing Agency of the GEF-5 Project, and the Dugong MOU Secretariat in collaboration with the UNEP Regional Office for Asia and the Pacific commenced the handover of the project in anticipation of its final approval in early 2014.

16. The GEF-5 Project represents a major international collaboration. It is unique in being the first coordinated approach to enhance the effectiveness of conservation of dugongs and their seagrass ecosystems through community-based stewardship, incentive-based conservation, removal of knowledge barriers and national and regional mainstreaming activities. The project covers 38 national projects, managed in collaboration with 26 local partners in Indonesia, Madagascar, Malaysia, Mozambique, Sri Lanka, Solomon Islands, Timor-Leste and Vanuatu. See the Project Summary in CMS/Dugong/MOS3/Inf.3 for more information.

17. The project has made substantial progress in supporting and promoting dugongs and seagrass conservation, generating experience and lessons of relevance to other conservationists and their efforts towards dugongs and seagrass conservation. The project website⁷ has been very well received and has already catalysed interest from various potential donors and strategic partners.

18. The Mid-Term Review of the GEF-5 Project commenced in December 2016. Three consultants were appointed to undertake the review. The consultants will review the GEF-5 Project on an individual project and country level and will consider the appropriateness of the conservation measures undertaken as part of the project. It is anticipated that the review will be completed in early 2017.

⁷ www.dugongconservation.org

The Global Dugong Genetics Project

19. The Global Dugong Genetics Project aims to examine the phylogeography of the dugong based on historical samples from throughout the dugong's range. It will update conservation and management actions through mapping the distribution of discrete dugong populations; identifying historical and potential migratory routes; and highlighting small populations as a priority for conservation. The Project was a collaboration between James Cook University and Nelson Mandela Metropolitan University.

20. From 2011–2013 genetic sampling took place and from 2013–2015 analysis was undertaken. To date, a total of 217 samples of dugongs held in European museum collections have been analysed to reveal the population genetic structure of the dugong throughout its range. The results will be disseminated in the form of a scientific paper that is currently pending publication.

21. This project is on-going. The Secretariat would like to encourage the collection and stockpiling of genetic samples so that when financial and technical resources become available, a comprehensive analysis can be conducted. Stockpiling genetic samples is important to mitigate the issues associated with collecting contemporary samples due to the scarcity, low numbers, and relative inaccessibility of dugongs. More information on the Dugong Genetics Network and on protocols for collecting genetic samples can be found at CMS/Dugong/MOS3/Inf.8.

22. Further background on the Global Dugong Genetics Project, including the results reported at MOS2, can be found in the MOS2 paper 'Progressing Dugong Conservation: Dugong, Seagrass and Coastal Communities Initiative'⁸ and the MOS2 Meeting Report⁹. Information on how the Global Dugong Genetics Project will contribute to future Dugong MOU conservation activities can be found in the Programme of Work paper (CMS/Dugong/MOS3/12.1).

Gulf Collaboration Concept

23. In 2013, the Dugong MOU Secretariat developed a concept for a Gulf Dugong Conservation Action Programme (Gulf Collaboration Concept) to fill data gaps, update information on dugong populations and identify conservation needs and priorities at the national and regional (Gulf) level. The purpose of this programme is to increase understanding and awareness of the dugong and its seagrass habitats and to provide updated information for their conservation in the Gulf Region. While the programme focus is largely on dugongs as a flagship species, conservation of seagrass habitats will directly benefit many other species and the marine and coastal environment. The programme also aims to promote closer cooperation amongst the four dugong Range States in the Gulf: Bahrain, Qatar, Saudi Arabia, and United Arab Emirates.

24. As part of the Gulf Collaboration Concept, the Gulf Bycatch component aims to work with relevant government authorities and interested stakeholders to assess the status of knowledge regarding bycatch of dugongs (using the CMS Dugong MOU Questionnaire) and other marine megafauna; to understand the policy and regulatory framework; and to inform management and decision-making in the Northwest Indian Ocean region on bycatch of marine megafauna.

25. The Gulf Bycatch proposal is a result of a meeting of partners including Emirates Wildlife Society (EWS) – WWF, the UNEP Regional Office for West Asia, the Environment Society of Oman, CMS IOSEA Marine Turtle MOU, and the Environment Agency – Abu Dhabi (EAD) to assess bycatch of marine mega-fauna (turtles, in-shore cetaceans, elasmobranchs, and dugongs) in the Northwest Indian Ocean region.

⁸ www.cms.int/dugong/sites/default/files/document/doc_11_progress_conservation_0.pdf

⁹ www.cms.int/dugong/sites/default/files/document/report_0.pdf

26. The Gulf Collaboration Concept will contribute to the sub-regional assessment of the conservation status of dugongs in the Northwest Indian Ocean region. This project will enable partnership and knowledge sharing between all Gulf Range States to collectively inform a complete baseline for the Gulf population of dugongs, and to identify and implement effective conservation actions in the region.

27. The Secretariat has had preliminary bilateral discussions with the four Range States to describe the Concept and seek feedback on its value-added to the sub-region, and has met with the Secretariat of the Gulf Cooperation Council as well to seek its feedback. Additional discussions are necessary. In addition, various potential sources of funding to implement the Concept have been identified and approached but to date no funding has been secured.

Dugongs of the Western Indian Ocean Region: Identity, Distribution, Status, Threats and Management Project

28. Commencing in March 2014, the USD 450,000 project funded by the Western Indian Ocean Marine Science Association (WIOMSA) is aligned with the Dugong MOU Conservation and Management Plan. The goal of the project is to support and improve the overall management effectiveness of existing protected areas, including across trans-boundary areas, as well as via the identification and effective integrated management of proposed new protected areas that encompass dugongs and their habitat within the range of Comoros, Kenya, Mozambique, Seychelles and Tanzania.

29. The objectives of the project are to:

- a. Identify the historical and current extent of available seagrass habitat and distributions of dugongs across the Western Indian Ocean;
- b. Identify any population structure of dugongs of the Western Indian Ocean within global populations and any population discreteness within the Western Indian Ocean region;
- c. Identify any anthropogenic vectors of population decline within 'hotspots' and determination of the 'viability' of dugongs within 'hotspots';
- d. Formulate and implement 'hotspot' specific dugong management and conservation protocols, to mitigate identified threats;
- e. Formulate and implement 'hotspot' specific dugong management and conservation protocols, to mitigate identified threats. In formulating these, cognisance of coastal Conservation and Management Plans (CMP) elsewhere will be critical and will include fostering community stewardship initiatives, community poverty alleviation through alternative livelihoods (as undertaken in Mozambique); and
- f. Develop a Western Indian Ocean wide CMP, for implementation in the greater Western Indian Ocean. Increase the understanding of governments, NGOs and coastal communities of the value of coastal resources. This will be accomplished specifically through all applicable Western Indian Ocean coastal conservation initiatives, including, but not restricted to, signatories to the Dugong MOU and the Nairobi Convention on protected areas.

30. The project will contribute to the sub-regional assessment of the conservation status of dugongs in the Southwest Indian Ocean region. The information obtained from the project will include population genetics, dugong population distribution, size and trends, seagrass distribution, and anthropogenic impacts and pressures.

E-Resource Kit

31. The E-Resource Kit is a TOTAL, Total Abu Al Bukhoosh, EAD and CMS Dugong MOU initiative. The E-Resource Kit has been developed to provide an easily accessible online resource that

incorporates decision-making for the selection of the most appropriate methodologies for studies of dugongs, seagrasses and the associated human communities. The E-Resource Kit is targeted for use by researchers, non-government/civil society managers and decision-makers in dugong Range States. Development of the E-Resource Kit commenced in September 2015 and has been led by the Dugong Technical Group.

32. The E-Resource Kit will be launched at the Third Meeting of Signatories (MOS3) to the Dugong MOU and has the potential to make a significant contribution to dugong and seagrass conservation across the dugongs' range.

33. The Seagrass and Dugong Technical Workshop that follows MOS3 will demonstrate the E-Resource Kit and give participants the opportunity to work through examples using the E-Resource Kit under the guidance of technical advisors. The E-Resource Kit will be freely available online. At the time of writing of this document, the E-Resource Kit is not yet published; therefore kindly refer to CMS/Dugong/MOS3/Inf.7 for a general overview.

34. Signatory States are requested to consider endorsing the E-Resource Kit as a valuable resource that will enable dugong Range States to undertake effective research to obtain objective, robust and comparable data into dugongs, seagrasses and the associated human communities.

35. The Dugong MOU Secretariat would like to kindly thank all the partners involved in developing the E-Resource Kit, including TOTAL, Total Abu Al Bukhoosh, EAD, Intex Design, the Mohamed bin Zayed Species Conservation Fund and the Dugong Technical Group.

Conservation Incentive Projects

36. The Dugong MOU Secretariat is committed to catalysing the development of incentive-based projects for dugong and seagrass conservation. The incentive concept aims to develop streamlined, human-centred, incentive approaches to co-design incentive-based solutions with communities that will:

- a. Improve livelihoods for coastal communities (alternative, sustainable activities);
- b. Stop destructive practices and relieve pressure on local seagrass ecosystems and the fisheries they support;
- c. Strengthen understanding of ecosystem services provided by seagrass; and
- d. Minimise bycatch/threats to threatened species, such as dugongs.

37. Under the DSCC Initiative, five initial Range States were selected for seed funding to implement pilot incentive projects: India, Mozambique, Myanmar, Papua New Guinea and Thailand. These projects were complementary to those being implemented under the GEF-5 Dugong and Seagrass Conservation Project and the Mozambique pilot incentive project was successfully incorporated into the GEF-5 Project. Various components of the Thailand incentive project are reported below. Unfortunately the pilot projects in India, Myanmar and Papua New Guinea were not successful in securing additional funds for implementation.

38. In Myanmar, the Dugong MOU Secretariat worked with Blue Ventures Conservation¹⁰ to develop an ecotourism project to provide a sustainable funding mechanism to support conservation actions for dugongs and their seagrass habitats. In India, the Secretariat worked with Organization for Marine Conservation Awareness and Research (OMCAR¹¹) Foundation to raise awareness about dugong and seagrass conservation and to develop an incentive mechanism for sustainable fishing practices to minimise damage to dugongs and their seagrass habitats. In Papua New Guinea the

¹⁰ www.blueventures.org/

¹¹ www.omcar.org

Secretariat worked with the Department of Environment and Conservation to develop a pilot that would use financial incentives such as aquaculture to address direct hunting of dugongs by changing people's practices and improving the livelihoods of local communities in Daru.

39. The Dugong MOU Secretariat also provided seed funding to an incentive project in Trang, Thailand, where a local NGO, Save Andaman Network Foundation, developed a regional Dugong and Seagrass Action Plan for Trang Province; and worked with an international NGO, Advanced Conservation Strategies, to develop a design thinking methodology for the development of an incentive mechanism for dugong and seagrass conservation and management, which can be transferred to other projects.

40. Building on this initial seed funding, the South East Andaman Community Tourism and Seagrass Initiative has evolved into an innovative partnership between local communities, the private sector (hospitality), scientists, NGOs and the Dugong MOU Secretariat to enhance the capability of communities to monitor and conserve seagrass ecosystems by harnessing the power of tourism. The project will contribute to the development of sustainably-financed, community-supported and locally-managed marine protected areas (LMMAs) as well as other conservation actions for seagrass ecosystems in coastal communities across the Indo-Pacific. The initiative aims to develop community tourism opportunities; raise awareness on the status of dugongs and seagrass (through education and outreach); and explore opportunities to enhance the resilience of seagrass ecosystems and the maintenance of livelihoods in coastal communities.

41. The GEF-5 and Trang, Thailand projects aim to generate self-sustaining alternative incomes to relieve pressure on seagrass and fisheries; establish market-based incentives for fishers to adopt responsible fishing methods; encourage communities to monitor and safeguard dugong populations and seagrass ecosystems; and ensure the continued existence of dugongs and seagrass ecosystems for future generations. The results from these projects are foreseen to provide a very strong foundation of knowledge and practical experience that can be applied more widely across other dugong Range States when developing and implementing incentive-based projects as proposed in the Draft Programme of Work (CMS/Dugong/MOS3/12.1).

Emerging Opportunities

42. In December 2016, the Dugong MOU Secretariat participated in the Aquacelerator Initiative¹². Led by the Australian Government Department of Foreign Affairs and Trade InnovationXchange, in partnership with SecondMuse, the initiative aims to provide sustainable products and systems that strengthen the relationship between seafood and ocean health.

43. A particular challenge of the development of incentive projects has been the identification of appropriate sustainable funding mechanisms which can be channeled toward the protection of seagrass ecosystems and the services they provide, especially dugong conservation. As the options for improved livelihoods in coastal communities of least developed and developing countries are limited, aquaculture may present viable options to diversify revenue generation.

44. The potential benefits of participating in the Aquacelerator Initiative include linking and developing the aquaculture innovations as sustainable funding mechanisms for project sites funded by GEF-5 Dugong and Seagrass Conservation Project, as well Dugong MOU supported projects including the South East Andaman Community Tourism and Seagrass Initiative. In addition, the initiative could grant access to other expertise (for example in business development and private sector) and potential donors (philanthropic and investors).

¹² www.theblueeconomychallenge.com/

Action requested

The Meeting is invited to:

- a) Note the conservation initiatives summarised in this paper.
- b) Endorse the E-Resource Kit and agree to encourage its use and to promote it nationally and regionally.