



Workshop on Blue Carbon Pathways to Sustainable Development

Joint Meeting of the UNEP/GEF Blue Forests Project Advisory Panels on Policy and Ecosystem Services

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Workshop Report



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List of Acronyms

CBD	Convention on Biological Diversity
Dina	Malagasy community law
EBSA	Ecologically or Biologically Significant Marine Area
ES	Ecosystem service
FPIC	Free, Prior and Informed Consent
GEF	Global Environmental Facility
GELOSE	La Gestion Locale Sécurisé ('secured local management'), Malagasy policy framework
ICZM	Integrated Coastal Zone Management
INDC	Intended Nationally Determined Contributions
IPBES	Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services
MPA	Marine Protected Areas
MSP	Marine Spatial Planning
NAMA	National Appropriate Mitigation Actions
NPA	National Adaptation Plan
NBSAP	National Biodiversity Strategies and Action Plans
NDC	Nationally Determined Contributions
PES	Payments for Ecosystem Services
REDD	Reduced Emissions from Deforestation and forest Degradation
SDG	Sustainable Development Goals
SSI	Small-Scale Interventions
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard

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1. Introduction

Nature-based solutions to climate change mitigation are now being broadened to manage other natural systems beyond forests that contain rich carbon reservoirs, and to reduce the potentially significant emissions from conversion and degradation. In particular, the coastal ecosystems of tidal marshes, mangroves, and seagrasses sequester and store large quantities of 'Blue Carbon' in both the plants and in the sediment below them. These coastal ecosystems are quickly being degraded and destroyed along the world's coastlines, resulting in globally significant emissions of carbon dioxide into the atmosphere and ocean, contributing to climate change¹.

Several projects have emerged in the last few years with a focus to support national implementation of Blue Carbon approaches, such as the UNEP/GEF Blue Forests Project or a Blue Carbon project funded by the Prince Albert II of Monaco Foundation.

Once more these two efforts joined forces to support countries address critical policy and ecosystem services issues in order to fast-track national Blue Carbon implementation. In June 2015 around 50 international experts convened in Guayaquil, Ecuador, to share lessons learnt from national and project level implementation efforts on Blue Carbon.

This time the workshop focused on the five Small-Scale Interventions (SSIs) of the UNEP/GEF Blue Forests Project: Ecuador, Indonesia, Madagascar, Mozambique and UAE. The workshop's goal was to identify and provide specific advice to the SSIs, using the Advisory Panels of the Blue Forests project and additional international experts, on policies and strategies needed for implementation of activities in Blue Carbon ecosystems, as well as around the valuation and use of ecosystem services in planning and decision making.

Small-Scale Interventions

The Blue Forests Project aims to build on the current knowledge of carbon storage and sequestration, and ecosystem services provided by blue forests ecosystems (namely mangroves, saltwater marshes, and seagrass meadows) and propose improved methods and approaches to value these services. The project is demonstrating this through on-the-ground activities in five small-scale intervention sites located in Ecuador, Madagascar, Mozambique, Indonesia, and United Arab Emirates. In the project, Ecuador is represented by Conservation International Ecuador, Madagascar is represented by Blue Ventures, Mozambique is represented by WWF-Mozambique, Indonesia is represented by the Indonesian Ministry of Marine Affairs and Fisheries Indonesia, and the United Arab Emirates is represented by the Abu Dhabi Global Environmental Data Initiative (AGEDI).

¹ Crooks, S. *et al.* 2011 Mitigating Climate Change through Restoration and Management of Coastal Wetlands and Near-shore marine Ecosystems. Challenges and Opportunities. Environment Department Paper 121, World Bank, Washington, DC, USA;

Donato, D.C. *et al.* 2011. Mangroves among the most carbon-rich forests in the tropics. *Nature Geoscience* vol. 4, pp. 293–297;
Mcleod, E. *et al.* 2011. A blueprint for Blue Carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO₂. *The Ecological Society of America*. DOI:10.1890/110004.

1.1 Policy

Guidance on international policy efforts such as the United Nations Framework Convention on Climate Change (UNFCCC) or Convention on Biological Diversity (CBD) already exists.²

The focus has now been shifted to the national level. IUCN, as part of the UNEP/GEF Blue Forest Project is conducting national policy assessments (NPAs) to help a) identify and understand the suite of policy options (or pathways) available, b) recognize which policy options can be feasibly implemented given social, political, economic, and scientific capacity and conditions within a site area or a particular country, and c) choose the policy options that are both feasible and meet the basic goals of the interventions as defined by national policies, emerging social goals, or the needs of management organizations and stakeholders.

For instance, policies to be pursued could include:

- The introduction of specifically defined blue forest carbon intervention in National Appropriate Mitigation Actions (NAMAs), Intended Nationally Determined Contributions (INDCs) or cooperative actions between Parties to the Paris Agreement;
- incorporating blue forests carbon and ecosystem services values into NAMAs/INDCs and other carbon policies;
- the incorporation of carbon and co-benefits into marine spatial planning and regulatory instruments;
- market mechanisms for payments for offsets and ecosystem services related to carbon and co-benefits, and incentives for improved management;
- payments for carbon offsets;
- payments for non-carbon ecosystem services; and
- the design of local ecosystem conservation and restoration efforts with a focus on improved benefits to coastal communities.

For each SSI, the NPA identifies a subset of policy pathways (or options) that can be followed; each of these pathways will require different kinds of carbon science and ecosystem service assessments. The workshop was set up to help provide this kind of advice.

Based on these national studies and experiences, a National Policy Assessment Framework to fast-track analysis and implementation is also being developed, with the support of the Prince Albert II of Monaco Foundation.

1.2 Ecosystem Services

Blue Carbon ecosystems have been the focus of protective measures for a long time, mostly for their biodiversity and habitat value, and more recently for the ecosystem services they provide. For example, after the 2004 Indian Ocean tsunami, the important role of mangroves in protecting coastal communities from floods has been brought to the attention of decision makers and the wider public, which has led to new conservation regimes and replanting

² For example, Herr et al. (eds.) (2012). Blue Carbon Policy Framework: Based on the discussion of the International Blue Carbon Policy Working Group. Gland, Switzerland: IUCN and Arlington, USA: CI. vi+39pp.

activities. Blue Forest ecosystem services beyond carbon are often critical to community well-being and livelihoods as well as to ocean-based economic development, and cultural identity.

For the GEF Blue Forests SSIs, these ecosystem services are an important dimension of their efforts to achieve stronger conservation of blue forest ecosystems. Fisheries in particular play a vital role for most sites where the SSIs are active. Healthy blue forest ecosystems help protect coastlines not only from floods and extreme weather events, but also from erosion. Mangroves in particular provide firewood and construction material to local communities. Blue Forest ecosystems also purify water, contributing to the health and productivity of nearby coral reefs. Lastly, they are of great cultural and spiritual value in many places.

1.3 Workshop objectives

The purpose of the workshop was to discuss and share lessons learned regarding implementation of Blue Carbon policy and management practices at the national level, especially from the five Blue Forests small-scale interventions. The workshop aimed to advise project interventions on blue forests carbon ecosystem services methods and assessments to support the effective implementation of the country activities. The workshop also aimed to identify information gaps and capacity needs for implementing Blue Carbon efforts in the UNEP/GEF Blue Forests project.

Workshop goals were to identify:

- Priority policy pathways for each of the Small Scale Interventions (SSI) towards sustainable development of blue forests, and priority actions in the next 6-12 months;
- Resources required to implement priority actions – including but not limited to data, information, training and funding;
- Technical support to be provided by the Advisory Panels on Policy and Ecosystem Services; and
- Draft National Policy Assessment Framework, to ensure uptake and upscaling in other countries.

Workshop products are:

- A report outlining the proceedings and main discussion points of the workshop;
- Identified priority policy pathways which will form the basis for policy recommendations and briefs to be developed by IUCN over the course of the project in order to inform the SSIs on means to overcome possible challenges to key success factors and to support replication of activities in other countries;
- A project note outlining all technical support to be provided by the Advisory Panels to the SSIs on Policy and Ecosystem Services over the remaining course of the project, with priorities identified; and
- A National Policy Assessment Framework to ensure uptake and upscaling in other countries.

2. Workshop details

The workshop started with introductory presentations about the UNEP/GEF Blue Forests Project, the role of the Advisory Panels and expectations from the SSIs, followed by the concept of policy pathways to sustainable development of blue forests, and a draft framework for developing National Policy Assessments and the End-of-project toolkit(s) (see draft agenda in Annex II).

2.1 UNEP/GEF Blue Forests Advisory Panels

Policy Advisory Panel

The Project Level Policy Advisory Panel (Pro-PAP) aims to increase the capacity of the small-scale interventions (GEF Blue Forest efforts in Ecuador, Mozambique, Madagascar, Indonesia and Abu Dhabi) in providing guidance to policy makers so as to integrate blue forests methodologies into site-specific and national ecosystem management plans and policies. It is expected that an increased understanding will facilitate the development of better management practices and the potential replication of methodologies and approaches at the national level and beyond.

Ecosystem Service Advisory Panel

The focus of the Project Level Ecosystem Services Advisory Panel (Pro-ESAP) is to provide guidance and support to each SSI and the overall project in relation to the application of blue forests ecosystem services methodologies and approaches. The Pro-ESAP will be comprised of a panel of 3 to 5 experts, which will include project partners and notables in the field of ecosystem services assessment in coastal ecosystems. Final selection of members will be discussed and approved by the PSC.

2.2 Policy Options and Policy Pathways

The workshop identified policy options of the SSIs, in order to provide specific advice and develop general guidance on how to achieve a certain policy. For that purpose, the following definitions were used. They are also reflected in the National Policy Assessment Framework which is being finalized.

Policy Option: A country can pursue a variety of policy options, or any combination thereof, including:

- The introduction of specifically defined coastal carbon interventions in NAMAs or INDCs as cooperative actions between Parties to the UNFCCC Paris Agreement;
- The incorporation of carbon and co-benefits into Marine Spatial Planning, Integrated Coastal Zone or Ocean Management Plans and regulatory instruments;
- Market mechanisms for offsets and payments for ecosystem services related to carbon and other benefits;
- Incentives for improved management, payments for carbon offsets, payments for non-carbon ecosystem services; and,

- The design of local ecosystem conservation and restoration efforts, including Marine Protected Areas with a focus on improved benefits to coastal communities.

The policy options can be different in scope and level:

- National laws or strategies (e.g., Environment Code, National Biodiversity Strategy);
- Mechanisms & programmes (e.g., (Reducing Emissions from Deforestation and Degradation (REDD+), Payment for Ecosystem Services (PES), carbon offsets); or
- Planning instruments (e.g., Marine Spatial Planning (MSP)).

The policy options can support a variety of international, regional or national commitments, including, e.g., UNFCCC, CBD Aichi Targets and NBSAPS and the Sustainable Development Goals (SDGs). The goals and existing conditions in each country will influence whether and how different policy options can or should be nested.

Policy Pathways: A policy pathway indicates the strategies and steps (including new science or data) needed to achieve or realize the Policy Option.

For example, a country may decide to include mangrove forests in an existing national REDD+ scheme. The policy pathway provides guidance on issues such as existing legal constraints and/or requirements (e.g., forest definition); implications on or interference (positive or negative) with other existing policies, incentive schemes or programmes on mangroves (e.g., existing protected areas); necessary science and data (e.g., knowledge about areal extent, soil carbon stock or value of other ecosystems services).

The policy pathways aim to:

- Create or develop a piece of legislation, policy or mechanism that does not exist yet;
- Strengthen and revise a piece of legislation, policy or mechanism which is in place but needs strengthening and/or a revised scope;
- Implement and enforce a piece of legislation, policy or mechanism that is in place but does not have sufficient impact because it is not properly implemented and/or enforced.

The policy pathways described aim to achieve a:

- Very high level policy option such as the revision of a National Climate Change Strategy;
- More programmatically focused option such as a specific financial incentive scheme, and outline the necessary steps to ensure this is aligned with high-level policies, plans and spatial planning efforts

Priority Policy Pathway: Not all policy options and related pathways are feasible to implement given the differences in social, political, economic, and scientific capacity and conditions within a site area or a particular country. Therefore, it is important to identify which policy pathway(s) makes the most sense for a particular country. Priority setting is also required to channel the appropriate science, data, and methods required for the development and implementation of a given policy option.

2.3 Draft National Policy Assessment Framework

The workshop participants were given the opportunity to learn about the National Policy Assessment Framework and provide comments on a draft report. The workshop itself informed the finalization of National Policy Assessment Framework. Many countries have yet to implement targeted climate and carbon policies for coastal carbon ecosystems alongside other coastal priorities, challenges and demands. This National Policy Assessment Framework is helping to do that.

Using a detailed Assessment Tool, it provides countries with a straightforward, structured and easy-to-apply five-step assessment framework.

- Step 1. Collect relevant background information on coastal carbon ecosystems.
- Step 2. Identify the features of the enabling conditions.
- Step 3. Identify the status of the features, using the assessment tool.
- Step 4. Determine policy priority option(s).
- Step 5. Develop policy priority pathway(s).

By applying the National Policy Assessment Framework, countries can achieve a first order analysis leading to a more comprehensive and integrated approach to coastal management, with clear answers of whether and which climate and carbon related policies and mechanisms make sense for them, and how they can be aligned with existing coastal regulation and policies.

The National Policy Assessment Framework will be made available shortly.

2.4 End-of-project toolkits

The UNEP/GEF Blue Forests Project is meant to deliver different toolkits on carbon accounting and ES methodologies at the end of its lifetime (2018), with the goal of supporting replication and upscaling in other parts of the world and in other projects. Global policy guidance is also expected by the end of the project.

Rather than having stand-alone toolkits, an integrated (Component 4) toolkit that consists of either or both a hard copy and digital (pdf) set of documents and/or a website that operationalizes a holistic synthesis of policy, science, and ecosystem service methods for blue forests, with a focus on selected policy pathways that are the focus of the Blue Forests Small-scale Interventions, is being proposed.

When asked to comment on the proposed toolkit, the workshop participants, and the SSIs in particular, mentioned:

- The need to create an overarching goal for and framing of what the toolkit is aiming for (e.g., to support sustainable development)
- The need to think about modularity;
- Refining the focus on a toolkit for projects that have already started and to address, for example, how to deal with lack of data, and central aspects challenging across SSIs;
- The need to have recommendations tailored for specific contexts, since these kinds of toolkits may be too general for people in the field; and
- Opportunities for building on existing Blue Carbon project guides.

A revised concept for the end-of-project toolkit will be developed and shared for comments.

2.5 Intervention mind-maps, including links to their work beyond Blue Forests

To create a shared understanding of the interventions, their current activities, goals and achievements so far, a mind map was drawn for each SSI. The priorities for each SSI are summarized below. The SSIs had an opportunity to identify their main challenges, and outline key areas where they wished to seek help from the Advisory Panels and experts.

Ecuador

The key ecosystem services for Ecuador include carbon storage, scenic beauty, food security, and coastal protection.

In terms of livelihoods priority activities, Conservation International (CI) Ecuador puts emphasis on enhancing small-scale fisheries (including developing markets and providing support on gender-related issues to local communities) and socio-economic monitoring.

CI Ecuador is focusing its policy work on:

- Socio-Manglar: an incentive scheme financed by the government for the protection and sustainable use of mangroves; with some engagement from the private sector (e.g., General Motors built a fund from its sales to contribute to the Socio Bosque fund).
- Mangrove concessions: although mangroves are owned by the state, concessions allow the local communities to have privileged access to specific territories. Focus is on the development of new conservation agreements in the area
- Valuation for penalties: the aim is to expand the role of penalties, based on an assessment of the net present value of the ecosystem services lost. Funds are given to community groups verified by the association.

Another key aspect of the project is communications and the need to develop appropriate information and delivering it to key people.

Indonesia

The Indonesian SSI is based in Banten Bay and the Derawan Islands and focuses on mangroves and seagrasses. The key ecosystem services include fisheries, tourism and coastal protection. This intervention has already undertaken carbon mapping of mangroves and seagrasses using remote sensing. A recent report on greenhouse gases included information relating to mining, forestry, transportation, and industry although information from coastal and marine ecosystems was lacking.

Ecosystem management falls under different levels of government (sub-district, district, provincial, central) and often one mangrove system may fall under two separate jurisdictions. The One Map-Indonesia initiative aims to bring together land use, land tenure and other spatial data into a single database. Land tenure is a huge issue in Indonesia and the owners of the land need to be identified before any restoration projects can be undertaken. It is hoped that the One Map policy will help deal with overlapping land claims.

Madagascar

The biggest priority is rebuilding local fisheries, with activities focusing on community-led sustainable mangrove management. Blue Ventures is involved in numerous general capacity building activities that support sustainable mangrove management, including:

- Providing support to local management associations for mangrove management;
 - Supporting sustainable timber harvesting over the outright ban currently in place. Charcoal production is strictly banned and yet is the leading cause of mangrove loss as there is very little enforcement. People living within the mangrove management area have access to timber for building fences, etc.
- Reforestation (currently all voluntary);
- Sustainable fisheries management;
- Development of management plans;
- Land tenure;
- Good governance; and
- Carbon monitoring.

There are numerous opportunities for sustainable livelihoods in this region including aquaculture (sea cucumber, mud crab fattening), ecotourism, and production of mangrove honey. There is a need for leakage management, providing fuelwood and timber for local people and a sustainable source of income. They are also examining opportunities for sustainable financing, investing the potential for fisheries PES, carbon monitoring and sustainable timber harvest.

Mozambique

The original intention of WWF-Mozambique was to focus their work on the Zambezi Delta mangroves. However, due to its physical remoteness, political instability in the region, and private sector activities in the area (construction of large dam), it is inadvisable to work in this area. The focus now will be on a smaller area and the local community in the region.

WWF is refining their Blue Forests Project activities to work both at the community level and with the government, to create a functional management and action plan on mangroves. There is an opportunity to work with Co-Management Natural Resources Committees to help implement the Blue Forests initiative at the local level. These committees work well for fisheries and it would be useful to have something similar for mangroves. There is an interest in accessing international carbon markets but this will require the mapping and assessment of carbon stocks. Education on the value of mangroves is needed at all levels (community up to national government).

United Arab Emirates

AGEDI presented an overview of the roadmap that the Initiative has taken towards its Blue Carbon and Ecosystem Services Programme of work which ties into its Climate Change Programme. The presentation included its initial phases of the programme including its systematic conservation planning MARXAN work, as well as habitat maps for the UAE. It went on to discuss its initial Abu Dhabi Blue Carbon Demonstration Project which was conducted in

partnership with GRID-Arendal. as well as the next phases of the programme including the expansion of the carbon science to the northern Emirates and ecosystems services studies. The programme is now within its expansion phase looking at climate change studies on adaptation issues including a marine vulnerability study and coastal vulnerability index. Building a program together with people was key to the success of this project. Education activities were aimed at many different levels. Results from this project have been incorporated into national policy including within the SDGs, INDCs, Ramsar, and the national climate change action plan.

Work is continuing on carbon science including drone work to calculate the volume of carbon in mangroves. The information gained from this work has been included in the Abu Dhabi wetlands supplement.

Current efforts relating to ecosystem services include:

- Assessing the current status of blue forests communities and determining what is most at risk;
- Assessing Willingness to Pay/ Willingness for Compensation, for example, related to water quality ;
- Natural Capital mapping - what are best practices?

Education continues to be a high priority activity for this intervention. Efforts are being made to embed the language of Blue Carbon and ecosystem services within the activities of different stakeholder groups. Education activities include traditional mechanisms for communications (e.g., graphics, videos, one-pagers, etc.), 360° panoramic tours, 360° videos (e.g., to show mangrove die-off), and involving communities in the drone work to increase their sense of ownership.

2.6 Links to other initiatives relevant to interventions' goals (based on mind-maps)

The purpose of this session was to identify supportive linkages to other initiatives, and make connections between other efforts and those of the SSIs.

Ben Milligan, UCL, Preliminary findings from Blue Capital Report

Together with the International Institute for Environment and Development (IIED), the Blue Capital Report is reviewing evidence of how marine and coastal resources support economic development and looking at examples of where policy, legal and regulatory frameworks have been successfully realised.

Environmental accounting is designed to supplement the national accounts used to, for example, calculate GDP (core to macroeconomic decision-making). Current national accounting approaches (as standardized in the UN System for National Accounts or 'SNA') do not adequately take into account the natural asset base on which countries depend. The recently developed UN System for Environmental Economic Accounting supplements the SNA, providing standards and experimental approaches for integrating data and statistics concerning environment (including marine/coastal ecosystems and associated services) and its relationship with the economy.

Identifying and pathways to large-scale investment in conservation and restoration of marine and coastal ecosystems is a key challenge. These pathways need to develop institutional and policy frameworks enabling aggregation of projects at community level and package them together in a way that an institutional investor may be interested in.

Potential avenues for UCL/IIED Blue Capital Report Initiative to support SSIs include:

- Contribute knowledge and advice concerning policy options for coastal ecosystem services across multiple domains;
- Provide advice supporting SSI input to policy reform processes (e.g., comments on proposed legislation); and
- Connect SSIs with knowledge and experts relating to natural capital accounting, and use of ecosystem services in macro-economic policymaking.

Potential opportunities for SSIs to enhance relevance of their work for economic and development decision-making:

- Ensure that ecosystem services assessments are compatible with the Common International Classification of Ecosystem Services;
- Consider options for using ecosystem services assessments to build pilot natural capital accounts, using the UN System of Environmental-Economic Accounting; and
- Consider engaging with ongoing initiatives to develop natural capital accounts – World Bank WAVES Partnership, national work in Mozambique, Indonesia, etc.

Mark Spalding, TNC; Mapping Ocean Wealth project

<http://oceanwealth.org/>

Informed by science, communications and policy work, Mapping Ocean Wealth visualizes in quantitative terms all that the ocean does for us today so that we make smarter investments and decisions for the ocean of tomorrow. Mapping Ocean Wealth moves us from broad global numbers to specific local details, allowing us to evaluate nature as an economic asset. The data then become actionable and inform engineering, financial and policy language that lead to better planning, conservation and investment decisions.

Atlas of Ocean Wealth – a pdf document of the atlas is available for download at <http://oceanwealth.org/resources/atlas-of-ocean-wealth/>.

Mapping tool – a digital mapping tool focusing on coastal protection can be accessed at <http://maps.oceanwealth.org/>.

Coastal protection – a summary of a coastal protection literature review can be found at <https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Pages/Mangroves-coastal-defence.aspx>, and specific reports are available on

- Wave attenuation:
 - <https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Pages/wind-swell-mangroves.aspx>;
- Storm surge attenuation:
 - <https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Pages/mangroves-storm-surge.aspx>; and on

- Sea level rise:
 - <https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Documents/mangrove-surface-elevation-and-sea-level-rise.pdf>

TNC is working towards a global mangrove wave attenuation map which will parallel the coral map contained in the atlas. The global map will look at waves and mangroves and deliver findings as “avoided costs” in terms of both people protected or built capital protected or area protected.

The ‘Managing Coasts with Natural Solutions’ report, edited by Mike Beck and Glenn-Marie Lange and published by the WAVES Partnership, provides *Guidelines for Measuring and Valuing the Coastal Protection Services of Mangroves and Coral Reefs*, and is available for download at [https://www.wavespartnership.org/sites/waves/files/kc/Technical Rept WAVES Coastal 2-11-16 web.pdf](https://www.wavespartnership.org/sites/waves/files/kc/Technical%20Rept%20WAVES%20Coastal%202-11-16%20web.pdf).

Fisheries – a summary of a coastal protection literature review can be found at [https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Pages/Mangroves Fisheries.aspx](https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Pages/Mangroves_Fisheries.aspx)

TNC’s first mangrove fisheries model which is described at [https://www.conservationgateway.org/ConservationPractices/Marine/Area-basedManagement/mow/mow-library/Documents/Hutchison et al. 2015.pdf](https://www.conservationgateway.org/ConservationPractices/Marine/Area-basedManagement/mow/mow-library/Documents/Hutchison%20et%20al.%202015.pdf). A summary of it can also be found in the Atlas of Ocean Wealth (p14-17).

Tourism and recreation

Although some work has been done in this field, it has not been published and therefore the Atlas of Ocean Wealth is the main source of information (p58-59 and p60-61).

Katherine Wyatt, Stanford University, InVest – Natural Capital Project

<http://www.naturalcapitalproject.org/invest/>

InVest (Integrated Valuation of Ecosystem Services and Trade-offs) is an Open Source software which collects relevant background information on coastal carbon ecosystems, and identifies features of enabling conditions and status of features to determine policy options.

InVest provides simple models that are useful in diverse situations - iterative science-policy process; accessible tools; a wide variety of metrics, not just dollar terms (e.g., kg of lobster caught, number of jobs provided); and learning-by-doing.

In Abu Dhabi, InVest has already been applied and could be used for ecosystem services work in other SSIs.

Nathalie Roth, 4Climate, UNFCCC, Climate finance

Signals from the UNFCCC relevant for the SSIs and Blue Carbon ecosystems are:

- Ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity (Preamble to the Paris Agreement);
- Achieving a balance between anthropogenic emissions by sources and removals by sinks of GHG by 2050 (often referred to net zero emissions by 2050) (Art.4);
- In context of their NDCs, Parties should take into account existing methods and guidance under the Convention (this may include REDD+), (Art. 4 para.14);
- Conservation and enhancement of sinks and reservoirs of GHG, including forests. (Art. 5);
- Implementation of, including through results-based payments, policy approaches and positive incentives for activities relating to REDD+, joint mitigation and adaptation approaches, and incentivizing, as appropriate, non-carbon benefits associated with such approaches;
- The importance of adequate and predictable financial resources, including for results-based payments for REDD+, joint mitigation and adaptation approaches, and the importance of non-carbon benefits associated with those approaches. Coordination of support from public and private sources. (Decision to give effect to the Paris Agreement, Finance, Nr. 54);
- Financing of cooperative approaches: cooperative approaches that involve the use of **internationally transferred mitigation outcomes (ITMOs)** towards NDCs shall promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting (Art 6.2; 6.3);
- Establishment of **a mechanism** to contribute to the mitigation of greenhouse gas emissions and support sustainable development, on **a voluntary basis**, supervised by a body designated by the UNFCCC / New carbon market: “Sustainable development mechanism” (Art 6.4).

David Barley, Althelia Fund, Impact investment Fund

Althelia Ecosphere was set up in 2011 as an asset management business designed to meet the conservation funding challenge through pairing economic and financial performance with premium social and environmental outcomes, impact and risk management.

In 2013, the Althelia Climate Fund was launched, along with leading public and private investors, with subscriptions exceeding €101m. The Fund’s vision is based on integrated rural landscapes that support the conservation of natural ecosystems and the species they contain, ecologically sustainable commercial activities, and thriving new and traditional communities. Its mission is to finance this transition to sustainable land use, creating new environmental assets that reflect the value of natural capital. Investments reduce deforestation, mitigate climate change, protect biodiversity and provide a fair and sustainable living to rural communities through activities that offer investors competitive returns.

In 2016, the Sustainable Ocean Fund (SOF) was launched, an impact vehicle that will make investments into real assets and management improvements in coastal fisheries, sustainable

aquaculture projects, the seafood supply chain, and other select coastal projects whilst applying best-in-class social and environmental governance. The SOF aims to reach a first financial close in Q4 2016. Target impacts include improved food and climate security, livelihoods and ecological biodiversity.

Potential links to SSIs

Althelia as a platform is an experienced carbon project investor and is building its marketing capacity for ecosystem credits and environmental assets. Blue Carbon is still mainly a prospect but a methodology has been approved through Verified Carbon Standard (VCS), and as projects at the development stage emerge, they could be considered for support as part of an overall project investment. In the current forest carbon market conditions, Althelia might be unlikely to consider stand-alone Blue Carbon project but rather consider them as part of an integrated landscape or seascape strategy, with other economically productive activities.

Currently, at a broader scale, there was huge variability in the maturity or readiness of marine and coastal projects, reflecting a fragmented sector that, to date has been largely non-commercial and not considered as an investment area. Therefore, despite the considerable value of the space, few investment-ready opportunities exist. Those projects that are emerging often fall short of being investment grade owing to a lack of clear information around their operational and financial structure and their mechanism to receive investment and potentially yield returns.

One area of interest was the idea of a “Blue investment desk” to help originate, structure and bring to “market” investable Blue Economy projects. The desk would comprise a small team of investment professionals who will act as a go to point for potential Blue Economy projects to receive private side advisory, structuring and investment brokering services. The desk would add value by accelerating the execution of Blue Economy projects and providing knowledge transfer to local stakeholders to enable replication. The idea is that the desk will assist the syndication and investment process through local capital and also work to cross train local financial bank teams to a point where they would then be able to move toward managing project investments themselves in this area and to support “Blue Economy” goals. The concept is being tested.

2.7 Exploring climate and marine & coastal management priority policy options and pathways in the small-scale interventions

The purpose of this session was to identify priority policy options for the SSIs, based on project and/or country, to sustainably and effectively manage their blue forest ecosystems. The summary and detailed national policy situation can be re-read in the National Policy Assessments, available on the UNEP/GEF Blue Forests Project website.

Ecuador

	Successes	Problems	Challenges
Mangrove Concessions	<ul style="list-style-type: none"> • Exclusive use and boundaries • Local empowerment 	<ul style="list-style-type: none"> • Local piracy • Lack of technical support 	<ul style="list-style-type: none"> • Areas of mangroves with no protection
Socio Manglar	<ul style="list-style-type: none"> • Direct incentive and empowering local organizations 	<ul style="list-style-type: none"> • Lack of financial sustainability (depending on government support). 	<ul style="list-style-type: none"> • Financing the program; • Strengthening FPIC and gender; • Communicating impact.
Shrimp pond regulations	<ul style="list-style-type: none"> • Restructuring shrimp pond concession 	<ul style="list-style-type: none"> • Lack of enforcement of the law; • Poor coordination between Environment and Aquaculture authorities 	<ul style="list-style-type: none"> • Including private sector in conservation activities in public-private partnerships
Opportunities	<ul style="list-style-type: none"> • Need to work a lot on adaptation planning, especially working with communities; • Using tools to stop intrusions into mangroves; • Three priorities: BC NAMA, penalties for deforestation, socio manglar; • Lots of good legislation but needs better follow through/enforcement 		

Indonesia

REDD+

Reforestation policies

Opportunities	<ul style="list-style-type: none"> • Develop “Indonesia National Science Plan of Action on Blue Carbon”; • Engage in national and international Blue Carbon programs; • Expand science and policy programs; • Increase capacity for outreach to other ministries to integrate Blue Carbon programs; • Conduct assessment on fisheries and Blue Carbon values for capture and aquaculture fisheries; • Restore and protect mangrove and seagrass ecosystems; • Improve training and capacity building (policy, science and field training).
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Madagascar

Carbon Offset Projects

REDD+	<ul style="list-style-type: none">• <u>Challenge</u>: No clarity on REDD+ strategy as a whole-terrestrial habitats are a priority (mangroves are fourth in priority).• <u>Opportunity</u>: REDD+ policy and political willingness- Elaboration of a clear policy on REDD+ that effectively includes mangrove ecosystems; determine government proportion of funds to be taken from revenues (place restriction to avoid corruption).• MPAs and Management Transfers- ensure effective integration of mangrove resources into REDD+
LMMA s	<ul style="list-style-type: none">• <u>Opportunity</u>: To harness huge local commitment to environmental issues;• Co-management of MPAs- to facilitate procedures for community implementation of MPAs;• To be incorporated into legislation.
Mangrove Management overall	<ul style="list-style-type: none">• Clarify role of mangrove management within climate change management policy.
Successes	<ul style="list-style-type: none">• GELOSE- transfer management to local communities;• Co-management of MPAs- delegates state authority to local association and promoter;• Dina- simple, community-led and applied so need more buy-in, removes necessity of state intervention at grass roots level.
Challenges	<ul style="list-style-type: none">• Lack of data or inaccurate data;• Lack of institutional coordination and capacity;• Lack of communication between ministries;• Lack of law enforcement.
Opportunities	<ul style="list-style-type: none">• GELOSE- need to facilitate procedures;• Mangrove commission- push for the removal of mangrove exploitation ban; effectively influence mangrove forest integration into REDD+ policy and NAMA.

Mozambique

Mangrove management plans	<ul style="list-style-type: none">• Currently do not exist
REDD+	<ul style="list-style-type: none">• REDD+ strategy approved - government is leading a carbon stock assessment although mangroves are not included because they are considered a risky environment to work in;• WWF is trying to engage with the Environment Ministry to get mangroves included
PES	<ul style="list-style-type: none">• Biofund trust fund established by WWF that drives funds to some communities; could be an opportunity for PES
Main challenges	<ul style="list-style-type: none">• Raising awareness of existing laws;• Increased coordination between agencies;• Good laws but poor enforcement;• Political situation including a long civil war that results in a lot of destruction in coastal areas.
Opportunities	<ul style="list-style-type: none">• Co-management committees established for fisheries and now for mangroves - they are empowered to work with the national government and are a good way to engage with communities;• Coastal management committees-looking for funding to establish these.

UAE

NDC

National Biodiversity Strategies and Action Plan (Aichi Targets)

Challenges and Opportunities

- Building Blue Carbon-related capacity on local, national and regional levels;
- Lack of historical data;
- Further extend network of stakeholders to join Blue Carbon dialogue including private sector and regional bodies; governments must be included from the start;
- UAE natural capital map will include BC storage and ecosystem services valuations;
- Further integrate Blue Carbon and ecosystem services into national policies;
- Regional and international Blue Carbon and ecosystem services data, knowledge sharing base.

Successes

- Blue Carbon has high level of support from stakeholder at many levels;
- Blue Carbon and ecosystem services are now a common language within multiple planning domains and efforts;
- Ecotourism projects in UAE – work closely with government because they understand value of natural environment to their industry;
- Private sector (e.g., oil) supports Blue Carbon;
- Regional sharing of experiences and commencing discussions of creation of a regional scientific working group on Blue Carbon and ecosystem services;
- Blue Carbon is included within multiple reporting platforms including Ramsar, EBSA criteria, National Biodiversity Strategy and Action Plan, climate change plans.

2.8 Ecosystems services in the small-scale interventions

The purpose of this session was to provide a detailed understanding of the state of the ecosystem situation.

Ecuador

Conservation International Ecuador presented the situation in their project, which is focusing on mangroves in the Bay of Guayaquil. Key ecosystem services to further study include coastal protection. Here, the Port and Municipality of Guayaquil are key potential partners. Further, food security, with fisheries in particular, is of vital importance for coastal communities. Tourism is a growing opportunity in Guayaquil, which is a departure point for the Galapagos. As a result, scenic beauty is another ecosystem service on which to focus assessment and spatial analysis.

Ecuador's mangroves benefit from a rather unique approach for cooperative management called Socio Manglar, where payments are made to local communities for mangrove conservation. Mangrove concessions for sustainable use and protected areas are additional management tools.

One of the key challenges the intervention faces is a lack of information on ecosystem services, and not having access to scientific journals as universities do, due to prohibitive costs.

Indonesia

For Indonesia and their work on Bantan Bay and Derwan Islands, key ecosystem services include fisheries, coastal protection and erosion control, coastal water quality, livelihoods (through tourism, etc.), as well as cultural values. Fisheries and aquaculture are important economic activities benefitting from mangrove ecosystem services. Diversifying livelihoods from mangrove products such as Pidada jam, syrup, soaps, etc. is an opportunity to provide incentives for mangrove conservation and increase the support of local communities for Blue Forests activities.

Madagascar

Blue Ventures presented their ecosystem services work in Madagascar which is taking place in two sites: the Ambaro-Ambanja Bay mangrove complex in the northwest, and Baie des Assassins in the southwest of the country.

Blue Ventures is engaging closely with local communities in their work. These communities benefit from mangroves as habitat for seafood species. Small-scale fishers generally do not have much policy influence compared to industrial fishers. The shrimp fishery recently collapsed due to overfishing, poor regulation, increasing population and improved gear, so that currently, it is not a very active stakeholder. Charcoal production has a major impact on mangroves, and it is the producers, mostly family-run operations, who are the most opposed to Blue Ventures' blue forests activities. They have a great deal of influence in the community but not on a policy level.

Blue Ventures is currently engaged with a governance reform and could use support on mangrove strategy from the workshop group.

Mozambique

In Mozambique, the intervention is focused on the Zambezi Delta where the value of mangrove ecosystems for local communities lies mostly in fisheries, mud crab and gastropods, as well as firewood and timber resources, and medicinal use.

Local communities are one of the key beneficiaries and stakeholders. They are highly dependent on natural resources. Their engagement in decision-making processes however is fairly low. Extractive companies are another actor, as they see potential for the exploitation of natural gas and heavy sands (titanium). There are also dam construction underway.

The improved management of mangrove wood resources through a harvesting plan and protecting priority areas is one of the intervention's objectives. Their important role in coastal protection also aligns with Integrated Coastal Zone Management and Climate Change Adaptation Strategies. Environmental education and the empowerment of local coastal management committees on natural resource management is another key opportunity for enhancing Blue Forest conservation in Mozambique.

United Arab Emirates

The UAE are looking at a number of broader undertakings, including the mapping of National Natural Capital; a MARXAN analysis; a Local, National and Regional Biodiversity Assessment; and Habitat Condition Map which will include ecosystem services with a focus on areas with cultural significance and dugong areas.

Further key ecosystem services for the Emirates are also channel maintenance, shoreline stabilisation, waste dilution and water quality, with the key beneficiaries being hotels, beach users, the residential estate market and commercial properties. For the UAE, there are certain aspects to keep in mind when assessing and valuing ecosystem services. There is an expectation for example, that the government should provide a clean and safe space, and hence using a 'willingness to pay' approach is challenging as there is no expectation that individuals should pay. Also using insurance claims to estimate the ecosystem services of coastal shoreline protection is not easily transferable from other places because the valuation is set differently.

There are key UAE laws in which the role of Blue Carbon ecosystem services has been acknowledged. For the UAE, these are also a part of their work for IPBES.

2.9 Climate priority policy options

During the workshop, participants shared experiences, successes and challenges with the SSIs in order to identify responses to overcoming obstacles and/or identifying new opportunities for climate policy goals and pathways for the interventions. Three introductory presentations were provided.

Paul Guggenheim, Counterpart International, Dominican Republic: *NAMAs – experience from the Dominican Republic*

The Dominican Republic is the eighth most vulnerable country to climate change in the world (Global Climate Risk Index 2015), subject to extreme hurricanes, tropical storms, forest fires, sea level rise and water temperature rise. Mangrove coverage in the DR is estimated at 21,000+ ha.

Counterpart International works to build resiliency through coral reef restoration, fishing and agriculture activities, and sharing best sustainable practices, including for marine protected areas. In 2014 they conducted a mangrove study.

Counterpart International is in the process of developing a Blue Carbon NAMA in the context of international negotiations under the UNFCCC – Bali Action Plan 2007. The Blue Carbon NAMA concept

- Is coherent with the Dominican Republic's national strategy, integrating mangrove conservation, restoration and sustainable practices;
- Enables a national-level, multi-sector approach to induce change from business-as-usual; and

Advice requested included the need to approach donors and work with them at an early stage of the NAMA development to be able to develop the priority areas for action.

Charlotte Streck, Climate Focus: INDCs – what does this mean for national policymaking?

Key aspects of the Paris Agreement include:

- It is universal and applies to all countries;
- It is a bottom-up agreement – countries decide their own local and national priorities;
- It is voluntary but reporting is mandatory – countries must submit their Nationally Determined Contributions (NDCs) every 5 years and they must be increasingly ambitious;
- It is transparent, however, there is no common accounting framework;
- It provides an opportunity for cooperation in Article 6 - countries can develop joint NDCs or work on joint projects.

The NDCs must be fair and ambitious in the light of national circumstances (“common but differentiated responsibility”). The INDCs submitted to the UNFCCC in the run-up to Paris gave an indication of what countries are willing and able to do. As part of ratification these will be converted to NDCs. Countries have the opportunity now to revisit the INDCs and when they ratify the Paris Agreement they will submit their final NDC.

There is no mention in Article 6 on Cooperation of carbon markets, trading, or credits but it does open the possibility of cooperation that may or may not include the issue of carbon credits.

A new instrument will be the Internationally Transferable Mitigation Outcomes (ITMOs).

Moritz von Unger, Silvestrum: *Reducing Emissions from Deforestation and Degradation (REDD+)*

REDD+ is not a fixed or comprehensive legal and institutional regime or mechanism. Many projects, programs and initiatives exist and are loosely connected to the UNFCCC REDD+ Framework.

The broad REDD+ framework includes key concepts:

- Development of a national strategy;
- Robust forest monitoring system;
- Step-wise approach for implementation;
- Modalities for forest reference emission levels;
- Information and reporting (MRV);
- Safeguards; and
- Principles of results-based finance

Mangroves are the cross-cutting issue and may benefit from REDD+ capacity and results-based finance. There are certain restraints that keep mangroves from the REDD+ framework, as there is still a lack of clarity as to their status as forests. Also, data accuracy is different from inland forests, mangroves are often not included (fully) in reference-levels calculations, and whereas inland forests have had years of preparation and project implementation, Blue Carbon forests have not. Nevertheless, Articles 5 and 6 of the Paris Agreement are broader than REDD+, thus allowing for a Blue Carbon approach in its own right.

Guidance provided

REDD+

When it comes to including Blue Carbon to the REDD+ framework there are also some setbacks from the SSI countries. In Madagascar, it was considered a risk to try to integrate the current project into REDD+ as the National Strategy would be bound by any baselines put in place. In Mozambique, there was little trust in REDD+ in general, so there may not be much support from the government. Finally, in Indonesia discussions focus mostly on peatlands and forests, so there may not be space for Blue Carbon.

Unfortunately, there are no examples of demonstration projects to look at what works so it may be worthwhile investing in capacity to learn. As a result, it would be worth investigating if mangrove conservation should focus on habitat and environment values, if there is no pursuit on integrating it into REDD+.

NAMAs

The challenge lies in identifying the right people in the government, and finding an entity that has the role of registering NAMAs in a database. Furthermore, there is need for access to correct data (e.g., in the Dominican Republic there is good information inside protected areas but not outside). There is also need to identify key experts to undertake a Blue Carbon study, and use it as a cornerstone or demonstration to raise awareness of key stakeholders. Finally, it is important to note that in Ecuador a lot of data available on mangroves but not specifically about Blue Carbon, and they have not found the technical resources yet.

NDCs

Although there could be a broader participation and cooperation through Blue Carbon partnerships, the question that remains is how to use the broader flexibility from Paris Agreement to move forward. With respect to formulation of NDCs and national climate change strategies, there is need to investigate how to integrate Blue Carbon, and how these strategies can be improved, and tailored in a way that can be used by other countries. As a means to that, good examples should be selected and looked at how they could be improved.

2.10 Marine & coastal management priority policy options and pathways

The following themes were discussed in breakout groups with the main conclusions and identified needs reported below. Some of those needs will be addressed by the Advisory Panels of the UNEP/GEF Blue Forests Project.

Natural capital mapping

- The SSIs would benefit from a short information piece on why natural capital is important and how it fits into the economy
- The project, and the SSIs, could benefit from providing briefing materials on natural capital.

Payment for Ecosystem Services (PES)

- The SSIs and participants asked how to best make the case to governments on potential additional payments, who should/could pay and to whom?
- There is a need to link payments with value chains.
- Background material is needed to raise awareness on PES and educate people on how they can benefit.

National biodiversity strategies and action plans

- There is a need to review all Aichi goals and determine how they link back to Blue Carbon as well as similar reviews for SDGs, Sendai DRR agreement, and others.

Sustainable value chain

The sustainable value chain breakout group focused on Indonesia using shrimp as an example. The need to examine the value chains dependent upon the conservation of mangroves vs. value chains that are dependent upon the exploitation of mangroves was identified, to determine where there is overlap. Using such information would help to plan and re-evaluate whether to plant or restore mangrove areas. At the same time, the restoration of idle shrimp ponds seems a low hanging fruit; yet there is a need to gather information on restoration of abandoned shrimp ponds. Finally, consumers play a key role, by getting more information on where their shrimp came from. There was a broader need to have a certificate on the legality of the fish product.

Mangrove or Seagrass Action plans

The group provided examples of where mangrove/seagrass conservation has been included in other types of plans (e.g., biodiversity action plans, EbA, etc.) or programs (e.g., Mangroves for the Future) and reported the need for providing examples of good plans, best practices, lessons learned, etc. Mozambique wants to incorporate Blue Carbon and ecosystem services into its mangrove action plan that is currently under development. In Ecuador it may be better to include something in the national development plans, in the chapter on environment. Finally, countries need to determine what best entry point they have for their situation, e.g., biodiversity conservation broadly or seagrass conservation specifically.

ICZM and MSP

There was a need to find and share examples where Blue Carbon or other forms have already been integrated into spatial planning efforts and elevate the examples to a generic level to view the benefits of including Blue Carbon.

2.11 Exploring Interventions' work on ecosystem services

The purpose of this session was to enable cross-intervention learning and exchange with workshop participants on the successes and challenges of the SSIs.

Each SSI elaborated on their key challenges regarding the assessment and management of (non-carbon) ecosystem services. Those challenges were then addressed by the workshop participants and experts in plenary (and are presented below in the bullet points under the questions).

Being able to communicate ecosystem services well was a challenge voiced by a number of interventions.

The element of communication was the most prominent in the discussion. Questions revolved around the appropriate tools to use in order to communicate the results to different user groups, how to drive ES conservation at community level, ideas on how to show the importance of ecosystem services at the local level, and how to reach decision makers (i.e., technical staff, especially people whose work affects the environment (e.g., oil and gas, nuclear industry), the state, developers and more.

Further, the need for highly visual material was identified, and as were strategies for communicating ES, especially using local examples, and not just international benefits. Communication should also target different audiences, especially locally, both on islands and the mainland, regarding the benefits of ecosystems and their protection that would also help local people (i.e., showing that preservation of blue forests has more economical benefits over the long term). It is also important to compile key resources and identify what communication tools and material are available among partners. Infographics, numbers and specific information relevant to SSIs are considered helpful. In particular, the UAE infographic on Blue Carbon could be a model for other interventions.

Another element discussed in the workshop was that it would be ideal to work with small group of journalists who would be invited regularly to be educated and updated (e.g., HICAP journalist workshops). That way, disseminating information would not be done in the last minute, and the journalists would be happier to report and publish such material as they will be more familiar with the issues. Additionally, site visits and meetings with local people, if possible, would be beneficial. Apart from these journalists, provision of information of the projects should be given to other journalists. If done, then it is more likely they will come in the future to ask further information. Creating extraordinary opportunities, such meetings ministers or celebrities is also advisable as it would create a buzz. The aim would be to create a network of journalists.

It was considered critical to organise informal focus groups to identify who the audience is and what their needs are. Once this is done, it will be important to create tailored messages adapted to suit the agenda of each audience. This way, there could be stories for different places, audiences, and languages. Once again, identifying key communication platforms is essential.

The question was posed that “if these people are better informed, what decision will it affect?” Essentially, the overarching question was on what would help move the needle a bit to get a new Blue Carbon project, for instance.

During these discussions, the Ecuador SSI stated that they are considering learning exchanges between mangrove concessions. In Madagascar, for the Mihari program, the idea was to link LMMAs, and facilitate exchanges, as this helps build partnerships. An idea was to share UAE’s communications plan, as they had already done some reporter site visits.

The next part focused on specific challenges SSIs faced, which were then addressed by workshop participants and experts in plenary.

Rotating governments: How to deal with multiple changes and rotations in government officials and staff? There's an upcoming election in Ecuador in 2017, how can we prepare?

For this issue, the first response was to enlist help from senior, well-connected persons (potentially ex-politico) who could advise on the ways to communicate with high-level officials. It was also essential to anticipate changes in government and plan accordingly. The case of tailored message was highlighted once again. Another way to deal with the aforementioned issue, was by building community ownership to ensure community support independent of government, as it would buffer against changing priorities with new governments. Finally, it was suggested they build horizontal partnerships with other agencies, and not just government departments.

Accessing government data: How to overcome problems assessing carbon information from government?

For this challenge an imperfect solution was to use international information from sites with similar settings/ conditions, with no need to get site-specific data. A second option was to follow a twin-track approach by using generic data, and getting a university interested in analysing samples and publishing them.

Assessment of coastal protection service – what model should be used? How can we best share information with ports and municipalities for conservation of mangroves?

For the third challenge, the idea was to have Katherine Wyatt share the Natural Capital information, use generic info as first level of communications, look at the cost of sedimentation to their activities, provide reports with stories of how blue forests have benefitted the local areas, and by being creative as to collecting historical data (e.g., old hydrographic charts, oil and gas exploration maps, old oyster beds, pearls, etc.).

What is the scientific basis and methodology for ecosystem assessments, and to convince decision-makers?

The workshop concluded that this was a larger and more technical question to be specifically supported by the Ecosystem Services Advisory Panel.

Alternative livelihoods – what are ideas and innovative solutions, short-term income generating ideas to help people in subsistence economies, simple PES examples, etc.?

Proven approaches can be found at the Blue Solutions / PANORAMA database (www.panorama.solutions). Indonesia and Blue Ventures also had concepts to share.

Incorporating blue forests into national framework – how to capture the attention of government?

For this issue, responses revolved around raising awareness of blue forests, for example, through infographics, and identifying and disseminating success stories through synergies with Blue Solutions and the PANORAMA Platform. Finally, it would help to conduct capacity building and exchanges, by bringing government officials to areas with success stories for instance.

What are international methodologies for an Ecosystem Services assessment applicable for the Zambezi delta?

It would be good to establish examples of good practices for policies and valuations. Of particular use would be a commentary on the methodology, either from the Advisory Panels or the developer of the methodology, to generate feedback from the intervention on what works or does not work for them, create a repository of available methodologies, provide a handful really good examples of methodologies to focus on (rather than collect everything), and have the methodologies peer-reviewed by the Advisory Panel.

How can we access historic data, a challenge for creating baselines for the extent of mangroves and seagrass, as well as for Sea Level Rise?

A potential solution to that would be international data sets that are freely accessible, for example on the WCMC Ocean Data Viewer <http://data.unep-wcmc.org/>.

How can we include intrinsic and (non-economic) cultural values important for the Emirates?

Workshop participants noted the standardized terminology available through the ICES (Common International Classification of Ecosystem Services) System, and also pointed to an ICES workshop report on Mapping Cultural Dimensions of Marine Ecosystem Services available at http://www.ices.dk/sites/pub/Publication_Reports/Expert_Group_Report/SSGHIE/2013/WKCES13.pdf

How can we upscale efforts on ecosystem services across borders?

The answer to that challenge was to identify the full range of beneficiaries, and by using examples, such as CCPS, or the Indonesia example from the Mapping Ocean Wealth Atlas.

Annex I Workshop participants

Name	Title	Organization Name	Location
Nathalie Roth	Managing Director and Senior Advisor	4Climate	Luxembourg
Jane Glavan	Partnership Project Manager	AGEDI	Abu Dhabi, United Arab Emirate
David Barley	Investment Director	Althelia Ecosphere	London, United Kingdom
Dr. Tonny Wagey	Regional Coordinator ATSEA Program	ATSEA	Jabodetabek, Indonesia
Andreas Hutahaean	Head of research group on Blue Carbon	Blue Carbon Centre	Indonesia
Katrina Dewar	Velondriake Project Coordinator	Blue Ventures	Andavadoaka, Madagascar
Charlotte Streck	Co-founder and Director of Climate Focus	Climate Focus	Berlin, Germany
Dr. Jennifer Howard	Director of Marine Climate Change	Conservation International	Washington DC, United States
Montse Alban	Ecosystem Service Manager	Conservation International-Ecuador	Guayaquil, Ecuador
Paul Guggenheim	Country Representative Dominican Republic	Counterpart International	Dominican Republic
Dr. John Virdin	Director of the Coastal and Ocean Policy Program	Duke's NIEPS	Durham, United States
McKenna Davis	Coordinator, Transatlantic Program	Ecologic Institute	Berlin, Germany
Dr. Tundi Spring Agardy	Director, Marine Ecosystem Services Program	Forest Trend	Washington DC, United States

Christian Neumann	Project Manager, Marine Ecosystem Services	GRID	Arendal, Norway
Steven Lutz	Programme Leader, Blue Carbon	GRID	Arendal, Norway
Tiina Kurvits	Project Manager, Ecosystem Management	GRID	Ottawa, Canada
Dr. Yann Laurans	Director of IDDR's Biodiversity Programme	IDDR	Paris, France
Dorothee Herr	Marine Programme Officer	IUCN	Berlin, Germany
Dan Laffoley	Principal Advisor, Marine Science and Conservation for the Global Marine and Polar Program / Marine Vice Chair	IUCN	Peterborough, United Kingdom
Alexis McGivern	Junior Professional at IUCN / Consultant	IUCN	Geneva, Switzerland
Obaid Ali Humaid Al Shamsi	Biologist at Ministry of Climate Change and Environment	Ministry of Climate Change and Environment	United Arab Emirates
Katherine Wyatt	Ecosystem Services Analyst, Marine Team	Natural Capital Project	Seattle, United States
John Baxter	Principal adviser, Coastal and Marine Ecosystems	Scottish Natural Heritage	Scotland
Dr. Moritz Von Unger	Senior Policy Expert, Counsel and Attorney	Silvestrum	Bruxelles, Belgium
Clare Waldmann	Consultant at s. Pro-Sustainable Projects GmbH	Sustainable Project	Berlin, Germany
Mark Spalding	Senior Marine Scientist	TNC	Siena, Italy
Dr. Linwood Pendleton	International Chair of excellence, European Institute for Marine	UBO	Brest, France

	Studies		
Dr. Amber Himes-Cornell	Social Science Researcher	UBO	Brest, France
Dr. Ben Milligan	Senior Research Associate	UCL	London, United Kingdom
Steve Fletcher	Head of Marine Programme	UNEP-WCMC	Cambridge, United Kingdom
Denise Nicolau	Mangrove Officer	WWF	Mozambique

Annex II Agenda

Monday 25 July – Introductions

8.30 Coffee and croissants

9.00 – 9.30 Welcome by Ecologic Institute – McKenna Davis, Ecologic Institute Fellow, Coordinator Biodiversity and Coordinator of the Transatlantic Program

Introduction of workshop participants

Moderator: Christian Neumann

9.30 – 10.30 Introduction to the Workshop

Moderator: Dorothee Herr

Key working tools

Presentations to set the scene

- Overview of the UNEP/GEF Blue Forests Project [Steven Lutz, GRID-Arendal]
- The role of the Advisory Panels and expectations from the SSIs [Jane Glavan, AGEDI]
- The concept of policy pathways to sustainable development of blue forests, and draft framework for developing National Policy Assessments [Dorothee Herr, IUCN]
- End-of-project toolkit(s) [Christian Neumann, GRID-Arendal]

10.30 – 11.00 Coffee

11.00 – 12.30 Intervention mind-maps, including links to their work beyond Blue Forests [20 minutes each + 5 for Q&A]

Moderators: Amber Himes-Cornell & Linwood Pendleton

- To create a shared understanding of the interventions, their current activities, goals and achievements so far

12.30 – 14.00 Lunch

14.00 – 15.30 Intervention presentations continued as needed

15.15 – 15.45 Tea

15:45 – 17.00 Links to other initiatives relevant to interventions’ goals, based on interventions mind-maps

Moderators: Dan Laffoley & Jane Glavan

- To identify supportive linkages to other initiatives:
 - Ben Milligan, UCL, Preliminary findings from Blue Capital Report
 - Mark Spalding, TNC; Mapping Ocean Wealth project
 - Katherine Wyatt, Stanford University, InVest – Natural Capital Project
 - Nathalie Roth, 4Climate, UNFCCC, Climate finance
 - David Barley, Althelia Fund, Impact investment

Tuesday 26 July – Exploring Interventions’ climate and marine & coastal management priority policy options and pathways

8.30 Coffee and croissants

8.45 – 10.30 Presentations on interventions’ policy options (goals), based on the National Policy Assessments [Use power point template; 15 minutes each + 5 for Q&A]

Moderators: Dorothee Herr & Moritz von Unger

- Identify priority policy options as the best option(s) for the SSI (project and/or country) to sustainable and effectively manage their blue forest ecosystems
- End of session: Confirm 5-7 priority policy options for further discussion during the workshop

10.30 – 11.00 Coffee

11.00 – 12.30 Working session on interventions’ specific climate priority policy options and pathways

Moderator: Dorothee Herr

- To share experiences, success and challenges of the SSIs in order to
 - identify responses to overcoming; and/or
 - new opportunities for interventions’ climate policy goals and pathways

Presentations to set the stage for discussion (5 min):

- NAMAs – experience from the Dominican Republic - Paul Guggenheim, Counterpart International, Dominican Republic
- INDCs – what does this mean for national policymaking? – Charlotte Streck, Climate Focus
- REDD+ - Moritz von Unger, Silvestrum

12.30 – 13.30 Lunch

13.30 – 15.00 Presentations on interventions’ ecosystems and services [10 minutes each + 5 for Q&A]

Moderator: Christian Neumann

- To provide a detailed understanding of interventions’ ecosystem situation

15.00 – 15.30 Tea

15.30 – 17.00 Working session on interventions’ specific marine & coastal management priority policy options and pathways

Moderator: Dorothée Herr

- Share experiences, success and challenges of the SSIs in order to
 - identify responses to overcoming; and/or
 - new opportunities for interventions’ coastal/marine policy goals and pathways

Wednesday 27 July – Exploring Interventions’ work on ecosystem services

8.30 Coffee and croissants

9.00 – 10.00 Interventions’ specific ecosystem services goals [10 minutes each + 5 for Q&A]

Moderator: Christian Neumann

- To enable cross-intervention learning and exchange with workshop participants on success and challenges of the SSIs.

Coffee 10.00 – 10.30

10:30 – 12:00 Coaching sessions on each intervention’s challenge, self organised groups

Moderator: Christian Neumann

12.00 – 13.00 Project Toolkits and Upscaling

Moderator: Dorothée Herr

- To receive feedback from workshop participants on usefulness to trigger uptake and upscaling of project results

Lunch 13.00 – 14.00

14.00 – 15.00 Intervention needs for technical support and expertise from the Policy and ES Advisory Panels

Moderators: Dorothee Herr & Christian Neumann

- Priorities for SSIs in the next 6-12 months
- Based on workshop proceedings, conclude on specific needs (for the next 6-12 months, end of projects?)

Tea 15.00 – 15.30

15.30 – tbd Intervention needs for technical support and expertise continued as needed

tbd – 17:00 Next steps and any other business

Moderators: Christian Neumann & Jane Glavan