



CONSERVACIÓN
INTERNACIONAL
Ecuador



Blue Carbon and other Coastal Ecosystem Services – Next steps in international and national policy making and implementation



June 23-25, 2015
Guayaquil, Ecuador



Workshop Report



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0. Summary

Identifying ways of factoring the climate change mitigation role of coastal ecosystems, and their role in carbon sequestration, into policy making has been the focus of an international workshop held 23-25 June in Guayaquil, Ecuador. Around 50 international experts joined the discussion in Guayaquil, either in person or remotely and shared lessons learnt from national and project level implementation efforts on Blue Carbon (BC).

A focus was given on the evaluation of the applicability and specific relevance of the range of existing, and potentially new, financing mechanisms as tools for supporting coastal blue carbon conservation and restoration. These include incentive mechanisms, such as

- NAMAs (Nationally Appropriate Mitigation Actions)
- National initiatives such as Ecuador's Socio Manglar or Debt-for-Nature Swaps.
- Inserting mangroves into REDD+ national programmes. Indonesia has already advanced with important steps in this regard; however the need for improving the accounting for soil carbon in coastal ecosystems is one of the main challenges for valuing the real potential of mangroves in result-based mechanisms.

Special attention was given to the formulation and review of policies in order to optimize the multiple benefits of BC activities. Participants sought synergies between mitigation and adaptation approaches as a key step for supporting BC implementation and financing.

With regards to the technical aspects for the implementation of BC initiatives, participants suggested that methodologies for MRV (Measurement, Reporting and Verification) and safeguards should be simple and applicable to the level of information available in each country.

With the UNFCCC COP 21 around the corner, participants also lamented the lack of opportunities and limitations to including wetlands as part of the accounting for land-use and land-use change into countries' INDCs (Intended Nationally Determined Contributions) as well as the negotiation text.

The workshop welcomes participants from Ecuador, Colombia, Honduras, Panama, Costa Rica, Mexico, Madagascar, Indonesia, Dominican Republic, the United Arab Emirates, Germany, Belgium, Canada, the United States, and Norway. The Ministry of Environment in Ecuador hosted the gathering, in collaboration with Conservation International and IUCN. It was part of the [Blue Carbon Initiative](#) (BCI), the first integrated program with a comprehensive and coordinated global agenda focused on mitigating climate change through the conservation and restoration of coastal marine ecosystems.

The workshop was also partly funded by the [GEF Blue Forest project](#), a four-year project, combining research, policy development, technical advice and practical tools coupled with small-scale interventions (SSIs) to demonstrate how the incorporation of carbon and other ecosystem services values into local and national financial markets and coastal management plans can ensure the long-term protection of "Blue Forest" (coastal) ecosystems.

1. Introduction

Many natural environments contain large stores of carbon laid down by vegetation and other natural processes over centuries. If these ecosystems are degraded or damaged by human activities, their capacity as a carbon sink is lost and significant emissions of carbon dioxide (CO₂) are released into the atmosphere, thus contributing to climate change.

Under the United Nations Framework Convention on Climate Change (UNFCCC), conserving and restoring terrestrial forests in developing countries, and more recently wetland drainage and rewetting in developed countries, has been recognized as an important component of climate change mitigation. Several countries are developing policies and programs in support of sustainable development through initiatives that reduce the carbon footprint associated with the growth of their economies. This includes actions to conserve and sustainably manage natural systems relevant to the UNFCCC, such as Reducing Emissions from Deforestation and Forest Degradation (REDD+)¹ and NAMAs (Nationally Appropriate Mitigation Actions).

These approaches are now being broadened to manage other natural systems 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 change².

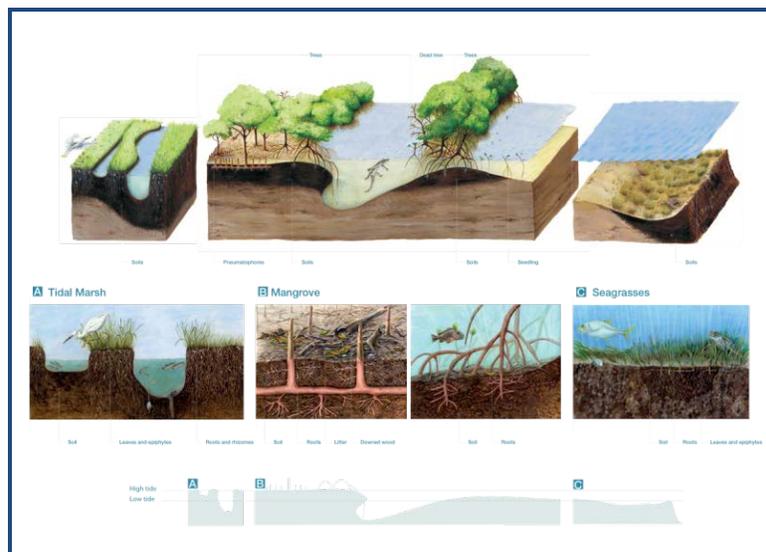


Figure 1 Tidal Marshes, Mangroves and Seagrasses, Source: Blue Carbon Field Manual.

¹ Under the UNFCCC, REDD+ stands for “Reduced Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries”.

² 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.

The development and implementation of activities retaining or restoring blue carbon to achieve coastal conservation, restoration and sustainable use, now, require strategic policy and incentive mechanisms. This workshop functioned as an international platform where participants shared and discuss lessons learned from national and project level implementation efforts on Blue Carbon.

A focus was also given on evaluating the applicability and relevance of existing, and potentially new, financing mechanisms as tools for supporting coastal blue carbon conservation and restoration, including through incentive mechanisms like NAMAs or national initiatives such as Ecuador's Socio Manglar or Debt-for-Nature Swaps.

This workshop was built on the previous efforts of the Blue Carbon Policy Working Group and its efforts to develop a strategic program through the first and second edition³ of the Blue Carbon Policy Framework. Recommendations for UNFCCC Parties and other stakeholders were further updated and detailed at the third workshop⁴ (July 2012), and national recommendations were developed⁵ A workshop in May 2013 further worked on the "socializing aspect of BC" and produced amongst other products a Blue Carbon FAQ document and informed the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) Workshop on technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention held also late 2013.

Members of the Policy Working Group were authors on the IPCC 2013 Supplement to the 2006 Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Supplement), and with its release has finally provided a big technical leap forward for blue carbon ecosystems (see 3.1.2).

This report details the discussion held at the workshop entitled "Blue Carbon and other Coastal Ecosystem Services – Next steps in international and national policy making and implementation" held from 23-25 June 2015 in Guayaquil, Ecuador.

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³ http://thebluecarboninitiative.org/wp-content/uploads/blue_carbon_policy_framework_2_0.pdf

⁴ http://thebluecarboninitiative.org/wp-content/uploads/Blue_carbon_UNFCCC_recommendations_small.pdf

⁵ http://thebluecarboninitiative.org/wp-content/uploads/BCPWG_NationalRecs_small.pdf

2. Workshop Objectives

The workshop had three main objectives:

(1) The UNFCCC is currently deliberating about a final agreement to be signed in Paris at UNFCCC COP 21, Dec 2015. The inclusion of wetlands as part of the land-use and land-use change accounting of countries' INDCs (Intended Nationally Determined Contributions) as well as in the negotiation text is still unclear.

(1a) Provide participants, Small Scale Interventions (as part of the GEF Blue Forest project) and other stakeholders with an overview of current options for including wetlands as part of LULUCF in a final Paris agreement as well as INDCs

(1b) Discuss with participants the potential opportunities that implementation will provide, e.g. for nationwide accounting, carbon offset projects.

(2) Share and discuss lessons learned from national and project level implementation efforts.

(2a) Provide participants with an overview of blue carbon activities around the world, with a focus on SSIs supported by GEF Blue Forest project

(2b) Discuss with participants lessons learned, hurdles and opportunities for blue carbon implementation on national and project level, including mainstreaming, taking projects to scale and communication.

(3) Evaluate the applicability and specific relevance of the range of existing, and potentially new, financing mechanisms as tools for supporting coastal blue carbon conservation and restoration.

(3a) Overview of current financial schemes, including Green Climate Fund

(3b) Challenges and opportunities from the carbon market, and other mechanisms

(3c) Carbon and other ecosystem services, building a more solid bridge

Outcomes

(1) A workshop report

(2) A revision of the *2012 Guidance for national blue carbon activities. Fast-tracking national implementation in developing countries.*

(3) A revision of the *2014 Introductory guide to financing wetland carbon programs and projects* to include the wealth of information presented at this workshop on finance.

(4) The development of a *National Blue Carbon Policy Assessment Framework*, later 2015/early 2016, to assist countries in mapping their regulatory frameworks and incentives schemes for coastal carbon ecosystems.



Figure 2: Workshop participants

3. Workshop details

3.1 Setting the scene: What happened and influenced Blue Carbon policy in the last couple of years

The workshop convened experts in key areas of coastal science, environmental policy and economics, marine conservation, and project implementation from within the climate change, marine and coastal communities (see Annex 1 for a participants list).

The workshop started with an overview of recent work on blue carbon, showcasing the increased level of activities and engagement on integrating science into policy:

3.1.1. Blue Carbon: A transformational tool for marine management and conservation globally

Presentation by Emily Pidgeon, Conservation International

Coastal and Marine Ecosystems (CMEs) – specifically mangroves, tidal marshes, and seagrass meadows – provide numerous benefits (also called ecosystem services) that contribute to people’s ability to mitigate and adapt to the impacts of climate change. Many of these ecosystem services are essential for adaptation along coasts, including protection from storms and sea level rise, prevention of shoreline erosion, regulation of coastal water quality, provision of habitat for numerous commercially important and endangered marine species, and food security for many coastal communities around the world. Along with these important benefits, CMEs have recently been recognized for their efficient natural carbon storage and associated climate change mitigation benefits.

Despite these benefits CMEs are some of the most threatened ecosystems on Earth, with an estimated 340,000 to 980,000 hectares being destroyed each year.² Although the historical extent of CMEs is difficult to determine due to dramatic losses occurring before we could accurately measure these habitats, scientists have estimated that up to 67% of historical global mangrove range has been lost, and at least a 35% and 29% loss of global coverage for tidal marshes and seagrass meadows respectively. If these trends continue at current rates, a further 30–40% of tidal marshes and seagrass meadows and nearly all unprotected mangroves could be lost in the next 100 years.

CMEs mitigate the effects of climate change by sequestering carbon dioxide (CO₂) from the atmosphere and oceans. CMEs also sequester carbon at significantly higher rates, per unit area, than terrestrial forests. The carbon deposits accumulated within the CMEs are stored both above ground in the biomass of plants (tree trunks, stems and leaves), below ground in plant biomass (root systems and rhizomes), and in organic carbon-rich soils.

Unlike most terrestrial ecosystems CMEs sequester a significantly higher proportion of carbon in the soils below ground, where it can remain for very long time periods (up to millennia). In tidal marshes and seagrass meadows about 95% to 99% of total carbon stocks are found in the soil. In mangrove systems, the sediments account for 50% to 90% of the total carbon stock with the remainder stored for long periods of time in the wood.

When CMEs are degraded, lost or converted to other land uses, the large stores of carbon in the soils of these ecosystems are exposed and released as CO₂ into the atmosphere and/or ocean. Current rates of loss of these ecosystems may result in an estimated 0.15–1.02 billion tons of CO₂ released annually. Although the combined global area of the three CMEs equates to only 2–6% of the total area of tropical forest, degradation of CMEs accounts for 3–19% of carbon emissions from global deforestation.¹⁰ (Note that previous estimates of the greenhouse gas impact of CME conversion only accounted for lost

sequestration and not the release of carbon and hence were significant underestimates of the GHG impact of CME loss.) Recent analysis suggests that when the carbon stored in the top meter of soil is accounted for, the mean estimated carbon emissions from loss of all three CMEs (0.45 Pg CO₂ yr⁻¹) is similar to the annual fossil fuel CO₂ emissions of the United Kingdom (the world's 9th ranked country by emissions).

The main causes of habitat conversion and degradation differ around the world but are largely driven by human activities. Common drivers are aquaculture, agriculture, mangrove forest exploitation, and industrial and urban coastal development, including increased pollution. These impacts are expected to continue and be exacerbated by climate change.

The International Blue Carbon Initiative, active since 2009, has through its two working groups, one on policy and one on science, supported the advancement of the Blue Carbon concept in various fora. Many members of the Scientific Working Group have published many peer-reviewed articles on blue carbon and have contributed to the new IPCC wetlands guidance.

In the last couple of years many national analysis like "Considering "Coastal Carbon" in Existing U.S. Federal Statutes and Policies" as well as many field projects from Scotland to Costa Rica and Abu Dhabi emerged.

3.1.2 Finally there: the 2014 IPCC wetlands guidance and other science achievements

Presentation by Steve Crooks PhD, Environmental Science Associates (ESA)

Blue Carbon: The Game Plan

The next steps in international policy making and implementation are to identify policy opportunities for blue carbon, brief national climate change negotiators on these opportunities, engage IPCC and SBSTA and encourage multi-national demonstration projects. To fast track implementation of blue carbon policies at the national level, scientific research programs must be established, wetlands need to be recognized in national accounting, and governments must be made aware of the various funding opportunities. At the local level, landscape level accounting should be carried out for the purpose of establishing local demonstration projects and carbon market opportunities, which allow for synergistic conservation benefits.

2013 IPCC Wetlands Supplement

The 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands was adopted and accepted by the IPCC at its thirty-seventh session. Therein, a chapter on coastal wetlands provides guidelines to provide default data for estimation of C stock changes in mangroves living biomass and dead wood pools for coastal wetlands at Tier 1. It also give new guidance for: (1) CO₂ emissions and removals from soil from organic and mineral soils for the management activities of extraction, drainage, rewetting and revegetation, (2) default data for the estimation of anthropogenic CO₂ emissions and removals for soil in mangrove, tidal marsh and seagrass meadows, (3) N₂O emissions during aquaculture use and (4) CH₄ emissions for rewetting and revegetation of mangroves and tidal marshes.

The supplementary guidance on wetlands will be discussed again at SBSTA 46 (May 2017) to further explore the use of the guidance. To this end, Annex I countries are to submit to the secretariat, by 1 March 2017, information on their experience in the use of the guidance.

Recent Science

A recent publication from the Blue Carbon Initiative titled, “Coastal Blue Carbon: Methods for assessing carbon stocks and emissions factors in mangroves, tidal salt marshes, and seagrass meadows,” provides a manual for measuring, assessing and analyzing coastal blue carbon. The 2014 publication discusses the need for BC stock measurement and methods for field campaign planning, sampling soils and vegetation, estimating emissions, remote sensing and mapping and data management.

BC stock assessments have already begun, including the “Blue” Carbon Monitoring system (i.e. the “Blue” CMS Approach) in North America, which links soil and satellite data to reduce uncertainty in coastal wetland carbon burial, and SWAMP mangrove sites in Costa Rica, El Salvador, Panama, Honduras, Dominican Republic and Abu Dhabi, as part of the Sustainable Wetlands Adaptation and Mitigation Project. According to the U.S. Inventory on GHG Emissions and Sinks Baseline Assessment, the “Blue” CMS Approach has improved the speed and reliability of assessment of Tier 1 emissions and removals.

A recent UNEP technical report titled, “Guiding principles for delivering coastal wetland carbon projects” connects wetland landscape restoration experience with experiences in carbon projects, carbon policy and community engagement. It recommends the scaling up of coastal wetland carbon demonstration projects that link adaptation and mitigation, and the report includes overarching principles to this end.

Emerging Fields of Research and Demonstration

Emerging research is linking BC ecosystems with the process of ocean acidification, exploring methods to reduce methane emissions from coastal impounded waters, determining integrated planning for adaptation and mitigation and incorporating green infrastructure. Still, data needs, such as direct measurements of emissions from land use change and understanding the fate of eroded carbon, must be addressed.

3.1.3 Blue Carbon. A Popular PhD Perspective

Presentation by Terese Göransson, PhD Student in Environmental Science at the Centre for Environmental and Climate Research, Lund University, Sweden

This presentation summarized early results from a PhD project, which examines the climate negotiation mechanisms and follows the emergence and development of new topics, focusing on how scientific results are translated into negotiable items. The aim is to get a better understanding of how new information is taken up by the negotiations specifically and of the interface between science and policy in general.

The main methods include text analysis – quantitative and qualitative, and participatory observations. The material underpinning my presentation in Guayaquil includes around 120 reports and web pages from actors involved in discussions about BC (NGOs, IGOs, public and private), 150 policy documents (mainly UNFCCC), external databases (e.g. NAPAs, NAMAs, REDD-readiness), observations from the negotiations and other relevant events, and interviews with negotiators and other stakeholders. The results presented at the workshop are tentative. Final results will be published in a report (which is to be published pretty soon – happy to share it) and articles.

Examples of recent UNFCCC negotiations and linkages to Blue Carbon:

- Research and Systematic Observation - the 2013-2015 review: The lower the temperature target, the more we need negative emissions. Carbon sequestration in natural environments is thus a key issue in this context potentially increased interest for BC.

- CDM: 7645 registered projects, 55 Afforestation/Reforestation (June 2015). Most prominent BC-example arguably from Senegal⁶
- NAPAs – to inform the NAPs process, which has a more comprehensive and inclusive scope (all developing countries, not only LDCs). Currently NAPAs from 50 countries. Almost half of them mention the role of mangrove ecosystem services. Despite the focus on mitigation, several countries mention mitigation co-benefits. Maybe most relevant here is the connection between BC-ecosystems and mitigation as in e.g. Ethiopia’s NAPA⁷
- Adaptation Fund: USD 100 million 2013, 2014-15 USD 80 million annually. 15 projects (at least) highlight the role of mangroves, 6 seagrass, 3 marshes. 8 projects highlight mitigation benefits (see e.g. Tanzania and Cuba in the context of mangrove-projects). Example of “endorsed concepts”: Belize – highlights the mitigation potential of coastal and marine ecosystems: <https://www.adaptation-fund.org/project/belize-marine-conservation-and-climate-adaptation-project>
- GCF-sector: Increased resilience of ecosystems and ecosystem service (adaptation), reduced emissions from forests and land-use (mitigation)

Adaptation vs mitigation

- Blue Carbon mitigation projects are in the pipeline, e.g. BC-NAMA
- However, most, if not all, BC-projects could be framed as adaptation projects – is it mitigation-based adaptation, or adaptation-based mitigation. It is a question of narratives and of objectives – what is the main message? Is it sustainable management or is it conservation? Is it sequestration or is it resilience? What ecosystem service is emphasized (e.g. coastal defense vs carbon sequestration)?
- Many “BC-adaptation” projects are already funded and implemented

How is BC talked about?

The scientific discourse and the political discourse seem to be out of tune in some respects. While carbon sequestration is often highlighted as the selling point in the BC-literature, the real benefits highlighted by science are to be made from avoided emissions. Hence, while sequestration is often discussed in the literature about BC, conservation is seen as key. This has in the policy debate been lagging behind – the + was added to REDD in Cancun and the focus is still more on sinks than on stocks. This “disconnect” between science and policy could arguably be lessened if soil organic carbon were to be given more attention in the political sphere (more data needed).

⁶ <https://cdm.unfccc.int/Projects/DB/ErnstYoung1316795310.61/view>

⁷ http://unfccc.int/adaptation/workstreams/national_adaptation_programmes_of_action/items/4585.php

3.2 National and project activities – World

The workshop continued with a session on local and national level projects going on around the world. With particular emphasis placed on newly available tools, demonstration projects, lessons learned and best practices.

3.2 1 Blue Carbon Activities and Opportunities in the U.S.

Presentation from Steve Emmett-Mattox, Restore America's Estuaries (RAE)

RAE's blue carbon strategy is to

- A. Introduce Blue Carbon into Carbon Markets
- B. Support Science and Demonstration Projects
- C. Explore Policy and Regulatory Options
- D. Coordinate Blue Carbon Initiatives
- E. Raise Awareness and Build Capacity

Specific priority projects include blue carbon landscape assessments in the Snohomish Estuary, Washington, and Tampa Bay, Florida; convening and coordination of the national Blue Carbon Network; and conducting a series of blue carbon workshops. More information about the blue carbon program is available at www.estuaries.org/bluecarbon.

The draft Tidal Wetland and Seagrass Restoration Methodology for greenhouse gas offsets just received approval from the second validator and is now being reviewed by the Verified Carbon Standard for final approval. It is global in scope, covering a wide range of restoration activities in all tidal wetland and seagrass habitats, and the draft is available at www.v-c-s.org. RAE is also beginning to draft a global Tidal Wetland and Seagrass Conservation Methodology to help stem the loss of blue carbon habitats worldwide.

The US federal government is more and more engaged in advancing blue carbon. The White House "Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources" released in October 2014 identifies blue carbon as an important strategy. The National Oceanic and Atmospheric Administration (NOAA) leads an inter-agency working group and is partnering with RAE to identify and develop carbon projects. NOAA is also leading the U.S. blue carbon GHG inventory project, in conjunction with Dr. Crooks, EPA, USGS, and RAE. The U.S. Fish and Wildlife Service (FWS) is carrying out research in the Nisqually National Wildlife Refuge (Washington) and the Ding Darling NWR (Florida) and works closely with the U.S. Geological Survey Land Carbon program. FWS also partners with RAE on blue carbon workshops and capacity building. The U.S. Environmental Protection Agency is supporting research at several National Estuary Programs in 2015 and plans to increase its support in 2016. Both EPA and NOAA are part of the Commission for Environmental Cooperation North American Blue Carbon project as well.

RAE and our partners consider blue carbon to be a priority for advancing the restoration and protection of our coastal resources. Key next steps include: additional scientific research to increase our knowledge of GHG emissions in degraded coastal landscapes and the fate of drowned organic carbon; identifying potential locations for applying the Restoration Methodology and conducting feasibility studies; and increasing our understanding of the rates/levels of habitat losses, conservation, and restoration – globally and at national scales.

3.2.2 Coastal conservation as part of Indonesia's national development plan

Presentation by Pak Tommy Hermawan, Bappenas, Ministry of National Development Planning, Indonesia

In the midterm development plan 2015-21019, as an archipelagic nation, Indonesia will become a maritime nation. One of the main sectors to be developed is Marine. Several developments are planned, such as the Maritime Toll Road, Maritime Fulcrum (Poros Maritim), and National Fish Logistics System.

In lieu of other coastal infrastructure plans, such as port development, Indonesia will expand the marine conservation area to sustain current and future maritime development. The 2014 marine conservation development target was 15.7 million ha, and was raised to 20 million ha for 2019.

3.2.3 Blue Carbon and the World Bank efforts in Indonesia

Remarks by Sarah Moyer, World Bank

Climate change mitigation and adaptation are a big focus for the World Bank. The focus is currently on forestry but the aim is to expand into blue carbon as part of the "blue economy program". The New Indonesian government is looking to build a strong green economy with the support of the World Bank. On Blue Carbon the focus for the Bank will be on science, readiness, and ability of coastal communities to access finance. Sustainable fisheries and aquaculture is another area of interest. Mangrove science has been well covered by colleagues like CIFOR, so WB is looking to support carbon stock assessment in seagrasses. Based on good C stock knowledge further efforts will go into developing a monetization system for BC ecosystem, which could be through projects at local, national level or through bi-national agreements.

3.2.4 REDD+ in Mozambique

Presentation by Aristides Baptista Muhate, Ministry of Land Environment and Rural Development, Mozambique (remote) - not able to connect,

REDD+ Readiness began in Mozambique in 2008 with the presentation of the Readiness Project Idea Note. The Mozambique-Brazil South-South REDD collaboration then began in 2009 between the Mozambican government, Ministry for Coordination of Environmental Affairs (MICOA), and the Foundation for Sustainable Amazonas (FAS) in Brazil. Overall, the project helped create a road map for the REDD+ Readiness process by establishing and running a multi-stakeholder institution comprising national and international institutions, government and non-government as well as academia. The Brazil-Mozambique initiative concluded in 2012 with the approval of the REDD+ Readiness Preparation Proposal (RPP).

Between 2011 and 2014 the public was consulted via 997 meetings/workshops to inform the development of the National REDD+ Strategy. In 2013 a multi-sectoral group of REDD+ (CTR) was formed and the National REDD+ decree was approved. The first draft of the National REDD+ Strategy was released in June, 2015 which outlined the national REDD+ structure. The draft will be reviewed in a process of public consultations and ultimately approved by the Council of Ministers by October, 2015. The second draft will then be completed in time for presentation at the COP-21 (Paris).

Next Steps

1. Five strategic studies (ongoing): (1) Agents, Drivers and causes of deforestation, (2) Legal and Institutional Frameworks, (3) Strategic Environmental and Social Assessment (SESA), MRV, and Forest Definition.

2. Preparation of Pilot Projects – two landscape programs in Zambezia and Baco Delgado provinces
3. Dissemination of REDD+
4. Creation of REDD+ structure in the two aforementioned provinces
5. Raising funds for landscape programs

Additional Funds (in process)

1. FCPF additional funds
2. FIP (Mozambique may benefit from FIP)
3. Presentation of ER-PIN in Paris encouraged Mozambique to go through Carbon Funds
4. MozBio with additional 3.1 million USD to start pilot projects in the provinces Cabo Delgado (within and around the Quirimbas National Park) and Zambezia (Around the Gile National Reserve)

Mangroves

Mangroves play an important role in the Mozambican economy. The main drivers of deforestation in Mozambican mangroves are anthropogenic: Collection of poles for firewood, production of charcoal, water pollution and changes, water flow, and projects. Having been classified as forests, mangrove has been integrated into the existing REDD+ Framework. A national inventory of mangroves trees is ongoing by the National Directorate of Land and Forests (DNTF), responsible for forest inventory and monitoring of deforestation. To this end, the WWF, EUM, MITADER, Forest Services recently finished a mangrove inventory project in Zambezi Delta. Additionally, SDS currently oversees mangrove reforestation projects in the Zambezia province, Sofala, and Gaza.

Remaining Challenges

The need for mangroves to be included in the REDD+ Framework is clear; however, this should not distract from the special attention needed beyond the REDD+ Framework. Although there ongoing preservation and rehabilitation efforts from government ministries, NGO's, and actors from the private sector, these efforts are not well integrated. Additionally, ministerial responsibilities for the management of mangroves—defined in the Forest and wildlife law, Fisheries law, and Marine law are overlapping.

3.2.5 Insights from a Blue Carbon Project in Madagascar

Presentation by Aude Carro, Blue Ventures

Since 2011, Blue Ventures has been pioneering the implementation of blue carbon projects in Madagascar, with the aim of assessing the feasibility of using blue carbon as a long-term financial mechanism for community-based mangrove management at two demonstration sites: a large scale (26,000 ha of mangroves) VCS project in Ambaro-Ambanja Bays (AAB), located in the Northwest of the island; and a small-scale (1,015 ha of mangroves) Plan Vivo project in the Bay of Assassins (BOA), Southwest of Madagascar.

Our work has focused on three main components. First, developing the technical and organizational capacities of local communities to manage their mangroves sustainably and secure their management rights. Management plans were developed over an area of 10,492 ha of mangroves across sites and the management rights of over 23,000 coastal people secured through the establishment of a Marine Protected Area (MPA) in BOA, and five management transfers (TGRN) in AAB. Over 45 ha of mangroves were also restored through community volunteer reforestation programs. Second, undertaking the research and stakeholder consultations necessary to develop blue carbon projects. In Velondriake, the Project Idea Note (PIN) was registered by the Plan Vivo Foundation in October 2014. In AAB, above and

below ground carbon stock estimates were completed and published in January 2014 in the peer reviewed journal *Forests*, and the project zoning validated in December 2014. Lastly, supporting the development of improved mangrove management policies. This includes ongoing research on mangrove management legal options and participation in the National Integrated Mangrove Management Commission to develop a National Mangrove Conservation Strategy.

The main policy challenges identified through this bottom-up approach are the following: (i) the lack of clarity regarding carbon ownership, as no legal framework defines carbon property in Madagascar; (ii) the difficulty in implementing the two legal options currently available to secure communities' management rights over mangroves (MPA and TGRN), which like many countries are long, costly and often non inclusive; and (iii) a complex legal framework regulating mangrove management, where communities' rights to harvest mangrove timber for domestic use is subject to interpretation by the Forestry Administration.

The next steps of our work will focus on developing alternatives to unsustainable mangrove use (fuelwood plantations, aquaculture, beekeeping and ecotourism), completing the carbon cycle development of BOA and AAB projects, as well as continuing to work with the Government and other partners to improve the legal framework for community-based mangrove management.

3.2.6 Dominican Republic: Blue Carbon NAMA

Presentation by Michael Kunz & Paul Guggenheim, Counterpart International

The presentation outlined what is recognized as the first Blue Carbon NAMA registered by a national government under the UNFCCC's Nationally Appropriate Mitigations Actions (NAMA) mechanism.

NAMA's are a result of the Bali Action Plan concluded at COP 18 in Doha. As a part of the agreed outcome, developing countries agreed to take Nationally Appropriate Mitigation Actions (NAMAs) in the context of sustainable development. NAMAs refer to any action that reduces emissions in developing countries and is prepared under the umbrella of a national governmental initiative. They can be policies directed at transformational change within an economic sector, or actions across sectors for a broader national focus. NAMAs are supported and enabled by technology, financing, and capacity-building and are aimed at achieving a reduction in emissions relative to 'business as usual' emissions in 2020.

The submission of the first Blue Carbon NAMA in the Dominican Republic is a declaration of intent by the government of the Dominican Republic to mitigate greenhouse gas emissions in a manner commensurate with capacity and in line with national development goals. This is a monumental first step in the design of a national mitigation strategy centered on blue carbon. The experience in the Dominican Republic can serve as pilot for the Blue Carbon Policy and Scientific Working Groups. Lessons learned from the Dominican Republic have the potential to facilitate the development of blue carbon programs globally.

Coastal Communities Climate Resiliency Framework in the Dominican Republic

For over a decade, Counterpart has been committed to building capacity in the Dominican Republic in a number of areas, primarily: coral reef protection and restoration, economic livelihoods through fishing and agriculture, the study of the potential for blue carbon in mangroves. Approximately one year ago, Counterpart developed a new strategy to bring local partners and stakeholders together under one strategy: the Coastal Communities Climate Resiliency Framework.

The Coastal Communities Climate Resiliency Framework brings together national and local policy, community engagement, and youth leadership development in order to build the capacity of people,

households, communities, policy makers, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.

In partnership with Boone Kaufman from the University of Oregon, Counterpart International conducted a study of one of the largest Mangrove sites in the Dominican Republic. The objective of the study, which encompassed just over 21,000 hectares, was two-fold: (1) quantify the ecosystem carbon stocks of the largest mangrove ecosystem complex, and (2) identify baseline C stocks. Based study concluded that inclusion in climate-change mitigation strategies is warranted due to high C stocks of mangroves, high emissions from conversion, and the important functions and services provided by mangroves.

Based on these finding and the on-going policy dialogue with government officials from the Dominican Republic, Counterpart was invited by the presidentially appointed National Council for Climate Change and the Mechanism for Clean Development (CNCCMDL) to advise on the development of a Blue Carbon NAMA concept. Over several months, Counterpart engaged with the Council to develop a concept that: (1) integrates mangrove conservation, restoration, and sustainable use practices into existing international policy and financing processes and (2) serves as a transformational tool in effective national natural carbon management.

The concept is based on a capacity building approach in support of public and private sector institutions to implement a number of key actives, including: quantify the carbon sink capacity, develop an inventory of carbon credits, facilitate national dialogue, preserve and reforest mangroves, develop strategies to support economic development, manage finance mechanism for communities with mangroves (public-private partnership), and develop a Blue Carbon tool kit that can be led by other countries in the region and around the world to design and implement Blue Carbon NAMAs.

The NAMA Structure

The NAMA framework was developed in the context of the international negotiations under the UNFCCC. NAMAs are voluntary climate protection measures taken by developing countries and must be embedded within national development plans. The framework combines broad-based climate action with the achievement of sustainable development goals. By moving countries towards a low-carbon development trajectory, NAMAs have the potential to significantly contribute to global efforts to reduce greenhouse gas (GHG) emissions.

The development of a NAMA is comprised of two parts: (1) preparation and readiness and (2) Implementation. Preparation and readiness allows for the design of the NAMA and incudes technical support and capacity building support of the government agency and other key NGO and private sector entities. Implementation of the NAMA includes financial support to meet the goal. To build support for the preparation and readiness stage, Counterpart worked closely with the Climate Council in the development of a Blue Carbon NAMA concept paper. This paper served as the basis for the registration of the Blue Carbon NAMA in the NAMA registry. Currently, Counterpart is working with the Climate Council to finance the preparation and readiness stage. It is estimated that it will take approximately 18 months to design the NAMA. Once designed, the Council will seek financing for implementation from supporting institutions and investors.

The NAMA preparation guidelines list a number of support programs for the NAMA. Organizations listed as supporting preparation and readiness are: UNDP Low Emission Capacity Building Program, UNEP International Partnership on Mitigation and MRV, the International Climate Initiative, GIZ, and the Nordic Partnership Initiative on Up-scaled Mitigation Action. Counterpart is currently discussing preparation support for the DR Blue Carbon Fund with the IDB. Organizations listed as supporting

implementation are: the NAMA Facility, GEF, the Green Climate Fund, CTF, ADB, Japan's ODA, and China's South-South Cooperation Fund.

Lessons Learned During the Registration of the First Blue Carbon NAMA

- NAMA design requires close collaboration with the cognizant government entity from the start. The NAMA dialogue and collaboration is most effective with it builds can build on existing relationships, trust, and a record of accomplishments in the country.
- The NAMA design must fit within existing policy framework and demonstrate support for sustainability in terms of institutional capacity and policies. It is agreed by the Climate Council, Counterpart, and potential donors such as the IDB and GIZ that in addition to the focus on scientific research, community participation, local planning and preparation for entry into carbon markets, the design phase of the NAMA will require emphasis on structure and mutually beneficial interests among stakeholders to ensure a high level of commitment.
- There is no standard approach from potential funders & investors. The NAMA mechanism is new and the emerging supporting institutions each approach support differently. There is an opportunity to build support from these institutions or a larger roll-out of Blue Carbon NAMAs globally.

Opportunities for Collaboration with the Blue Carbon Policy and Scientific Working Groups

The Blue Carbon NAMA in the Dominican Republic can serve as a pilot demonstrating the efficacy of designing and implementing a Blue Carbon Program under the NAMA Framework. Lessons learned in the concept development, design, and implementation phases can be used to develop a standardized approach that can be used by the Working Groups to support Blue Carbon NAMAs in developing countries around the world. Specific opportunities for collaboration with Counterpart include BC Policy and Scientific Work Group Members:

- participate in Dominican Republic Blue Carbon Advisory Committee
- develop & apply the VCS Registry System
- development of a tool kit and best practice field guide for assessing and estimating coastal wetland carbon stock in the DR
- design and delivery a Blue Carbon design workshop to government and stakeholders in target countries/regions
- establish Blue Carbon NAMA Learning Platform
- implement Regional Working Groups through the development of a network of BC NAMA Practitioners

3.2.7 Discussion

The questions to presenters and the discussion focused on several items:

INDCs: At present, most countries do not make explicit reference to coastal systems within the climate mitigation context of their INDCs but it seems that several (Indonesia, UAE) are considering that option.

Reference Emissions Levels/soil carbon: Many REDD countries are working on or have submitted their REL. However none of them include soil carbon because soil is not a priority for terrestrial REDD+ programs. This has been identified as an omission as it does not account for the carbon value of mangroves, which is mostly due to soil carbon.

Forest definition: Whether mangroves are included in REDD+ or not primarily depends on how each country defines “forest”. Some countries base this on canopy cover, others require a certain tree height or diameter. In the case of Madagascar 70% of mangroves are part of the national definition of forest, and include the most soil carbon. Nevertheless there are plans to revise that definition to include all mangroves.

Ecosystem Service Valuation: The ES values for coastal systems have demonstrated the importance of these ecosystems to decision makers and urban planners. New efforts are underway to better utilize these numbers to provide companies with financial compensation.

Ministerial mandates & coordination: Country examples showed that there is a disconnect between national development plans, the maritime sector and the forestry sector. Often mangroves are the only blue carbon ecosystem considered by forestry ministries and mangrove management by those ministries are not necessarily aligned with marine and fisheries affairs. Thus, good coordination is important but it is hard to implement in the field.

Land tenure: Land and tenure rights are a crucial element of any carbon project. In Madagascar the majority of mangrove forests belong to the state. New land tenure maps from the government should help clarify these situations.

Choice of carbon standard: In the case for Madagascar, Plan Vivo was chosen over VCS as an easier start, its community lead and could be adapted to also include soil carbon. Other projects like in Costa Rica are using the Climate, Community and Biodiversity (CCB) Standards which includes methodologies from the VCS.

Blue Carbon NAMA: The Dominican Republic (DR) is currently pursuing a coastal ecosystem based NAMA that is being spearheaded by the DR Climate Council. Whether it will be able to contribute to the DR emission reduction target is currently unclear, but it is certainly the goal. It will be important to include the communities in further development phases of the NAMA, and also make strong linkages between healthy mangroves, healthy fish and sustainable fisheries. The NAMA also includes elements that help identify the diverse drivers and support community engagement and capacity building on the complex issues leading to coastal development. \$1.5 million are envisioned for the NAMA design that will include studies to determine the cost of mangrove restoration and conservation.

3.3 National and project activities – Latin America

The next session began to narrow the focus from the world at large to a more regional perspective. Particular attention was paid to work being done in Ecuador (our host country) and throughout central and South America more broadly.

3.3.1 Honduras en el contexto marine costero y carbón azul

Presentation Amy Lazo, Secretariat for Energy, Natural Resources Environment and Mining, Ministry of Environment, Honduras

The interest of Honduras is to promote the development of a national policy for an integrated marine and coastal management and a legal framework that encompasses ecosystems diversity, species richness, their principle threats and impacts on local communities' livelihood.

3.3.2 Policies & Blue Carbon Strategies Development: Lessons and challenges from Costa Rica's experience

Presentation by Eduardo Rodríguez Herrera, Chrysin Biodiversidad y Bienestar, Costa Rica

The formulation of Blue Carbon policy guidelines in Costa Rica started in 2013 with the support from the Ministry of Environment and Energy, the Vice Ministry of Water and Seas, the Department of Climate Change (DCC), the National System of Conservation Areas (SINAC), the National Forestry Financing Fund (FONAFIFO), and several NGOs.

In 2014 this participatory formulation process had five significant stages of development: (1) the process of policy formulation, (2) the definition of the scope and the minimum development objectives, which should contain the National Blue Carbon Policy to fall under competent authorities, (3) the development of the first version of the National Blue Carbon Policy during a workshop with the participation of relevant authorities (4) the socialization and enrichment of the initial document with key stakeholders and NGOs, and (5) the presentation of the final policy guidelines at the Vice Ministry of waters and seas.

Policy guidelines resulting from the process can be grouped into three components:

1. Blue Carbon ecosystem management
2. Governance, control and surveillance
3. Economic valuation and financing strategy

According to the experience in Costa Rica, the most significant challenges and lessons learned include:

Remaining Challenges

- Incorporate regional and subregional authorities, private enterprise and direct users.
- Link blue carbon policies with the relevant safety and welfare of communities and other users.
- Develop concrete and comprehensive initiatives in specific territories, aimed to improve the conservation of coastal ecosystems and the welfare of direct users.

Lessons Learned

- From the beginning it should be clear who are the competent authorities to lead a process and set the policy.
- You must involve the direct users and address the concerns, interests, and aspirations of these actors.

- Policies should be inclusive rather than sectoral and promote the development of an inter-agency coordination process on specific sites in priority areas.

3.3.3 Servicios de los Sistemas Marino Costeros y el papel del Carbono Azul Panameño en la Mitigación del Cambio Climático

Presentation by Ana Lorena Rodriguez, Ministry of Environment, Panama

Under the Government’s Strategic Plan 2015-2019, the new Ministry of Environment aims to achieve:

1. The modernization of the State’s environmental management model
2. The development of ecotourism in protected areas
3. The reactivation of the forestry sector through the ‘Alianza por el Millón de Hectáreas’ (Alliance for one Million Hectares)
4. To ensure the availability of water resources to achieve goals of the national ‘Plan de Sanidad Básica’ (Basic Health Plan).
5. The adaptation to climate change and economic and social low-carbon development

National REDD+ Strategy

The National REDD+ Strategy calls for state and private investments in both forested and non-forested lands for the purpose of carbon stock enhancement, reducing deforestation and land degradation, aiding in carbon sequestration, and funding the ‘Alliance for one Million Hectares.’ The strategy is implemented through community projects to manage and cultivate and regenerate forestry systems through projects in commercial forest plantations, agroforestry systems and silver pastoral systems, etc.

Recent Developments

The Ministry of Environment has a new National Climate Change Directive and Integrated Management of Coastal Marine Areas.

Current Projects

Reservations Protection Project and Carbon Sinks in Mangroves and Protected Areas of Panama

It is a comprehensive effort to strengthen national capacities for the conservation of mangroves through the integration of approaches to adaptation and mitigation. The aim of the project is financing the national and local management of mangroves and associated ecosystems, protected and unprotected, to increase carbon storage and climate change resilience. The German Federal Ministry of Environment, Nature Conservation, and Nuclear Safety – BMU, fund this project. Other partner includes MEF, PNUD, MIAMBIENTE, ARAP, WI, CI, and municipalities.

Installation of Monitoring Tower

The construction of a monitoring tower 30 meters high is currently underway for the purpose of installing instruments to measure carbon dioxide (CO₂) and climate parameters. The monitoring tower will contribute to the generation of knowledge to quantitatively gauge the services provided by mangrove carbon sequestration.

Urgent Need to Implement Blue Carbon Projects in Panama

1. Inclusion of REDD+ and Blue Carbon in the Paris Agreement
2. With the inclusion of Blue Carbon in the Paris agreement, all developing countries will have better opportunities to access resources to implement their policies, plans, programs and projects.
3. Panama is developing a REDD+ Strategy that includes nationally determined Blue Carbon
4. Panama’s REDD+ Strategy is set to launch at the Paris Conference in December, 2015

3.3.4 Carbon azul: Esfuerzos, obstaculos, necesidades y oportunidades en Colombia

Presentation by Flavia Cardenas, Ministry of Environment and Sustainable Development Colombia

In the Ministry of Environment and Sustainable Development in Colombia there are different directions interested in working on the issue of blue carbon. In the first instance, blue carbon solutions help to address climate change, which has been incorporated in the "Colombian Strategy for Low Carbon Development (ECDBC)" since 2001, a program of development planning in the short, medium and long term. The main objective is to decouple emissions of greenhouse gases (GHGs) for national economic growth. The sectors that are involved in the ECDBC industry include electric power, mining, oil, transportation, housing, and agricultural residues. On the other hand, it is the direction of Marine Affairs, Coastal and Aquatic Resources, which aims to map, evaluate, and manage marine ecosystems and their ecosystem services.

Under blue carbon, there is the potential for these departments to work together, using marine ecosystems as tools to mitigate and adapt to climate change. In 2015, Colombia approved the National Development Plan, wherein 'green growth concept' was one of the major themes. The 'green growth concept' will guide the development of the National Climate Change Policy and the National Policy on Sustainable Development for Oceans and Coasts. Likewise, it was determined that the main needs in the ministry to address the issue of blue carbon more concretely include (1) expansion of knowledge and information in terms of characterization, basis for monitoring, reporting and evaluation of stored carbon, (2) articulation of blue carbon with sectorial objectives and the REDD strategy at national level, (3) communication with different actors of the progress and actions being made at the national, regional and sectorial levels.

3.3.5 Discussion

PES scheme in Mexico: The PES is funded from two sources, 1) from federal resources and 2) from taxes collected on water use. The sites are picked based on historic involvement, RAMSAR areas, high poverty areas or protected areas. The payments vary between \$38 per ha up to \$50 if there is 3rd party funding. The monitoring is through the community itself (self-policing) and through 3rd party monitoring when the funding is available. A strategy for the latter is still under development.

REDD efforts in Honduras: REDD+ was initiated in May of last year, before there was only monitoring but not on wetlands or mangroves. Now there are efforts to include both, and at the same time look at above and below ground carbon.

Voluntary carbon projects: Financing is still the biggest hurdle. The lack of good practices to meaningfully engage communities is also an issue.

Lack of enforcement: Plenty of laws are protecting mangroves around the world but there is a lack of comprehensive enforcement. In many countries mangroves are also considered a national heritage, so local communities have a right to use mangroves and their adjacent products. Any conservation measures need to take into account those circumstances.

3.4 National and project activities – Ecuador

3.4.1 Generando, innovando, promoviendo y transfiriendo conocimiento sobre nuestra biodiversidad

Presentation by Fernando Rodriguez, National Biodiversity Institute, Ecuador

The National Biodiversity Institute (INB) was created by Executive Decree No. 245 of February 24, 2014 under the Ministry of Environment. The mission is to plan, promote, coordinate and implement research processes related to the field of biodiversity, aimed at the conservation and rational use of resources, according to existing environmental policies and applicable legislation. The territorial impact of INB is expected in several strategic areas of the country in order to facilitate and coordinate research initiatives, innovate, and share knowledge in areas of biodiversity (both internally and with public and public-private organizations), specifically knowledge on the territorial characteristics and distribution of biological species in various areas of study.

The processes that accumulate value based on the scope and functions of the National Biodiversity Institute, are responsible for: 1) Scientific research in Biodiversity: generating lines of long-term research, 2) Development of plans, programs and projects for basic scientific research and validation of results to the international scientific community, 3) Technology Transfer Management: Implementing innovative ways scientific knowledge of biodiversity is generated, establish patents, registrations and industrial applications, create methodologies for technology transfer, empower and extend the knowledge generated, 4) Design and Linkage: to disseminate practical applications for the field of biodiversity and genetic heritage, as a result of technological development, create mechanisms for national and international cooperation in scientific research, technological development, scientific conferences, implement standardization and regulatory activities , disseminate research results.

3.4.2 Programa nacional de incentivos “Socio Bosque” Capitulo: Socio Manglar (Mangrove Partners)

Fernando García, Ministry of Environment, Ecuador

The Socio Bosque Program was established in 2008 and is part of the National Governance Policy Natural Heritage Society of Good Living. Mangroves were the included in Socio Bosque Program in July 2014 by Ministerial Agreement # 198, which created a monetary incentive aimed to mangrove concessions, subject to compliance of the management plans of the Sustainable Use of Mangroves and Custody of ancestral communities and user groups.

The objectives set for Mangrove Partner are: To contribute to the consolidation of the concessions policy framework, for their work in mangrove control and monitoring, restoration, improve the living conditions of communities and ancestral groups, and to provide financial support to compliance the management plans. The ultimate goal is to finalize and maintain sustainable use and custody agreements for at least 100,000 hectares of mangrove remnants within four years.

Main streams of financial resources for Socio Mangrove’s participatory Investment Plans are designated for:

- Investment and operating costs associated with monitoring and surveillance;
- Costs associated with administrative management;
- Costs associated with technical assistance for the implementation, monitoring and/or evaluation of management plans;

- Organizational strengthening;
- Total or partial financing of productive and social projects for the benefit of members.

Monitoring

Socio Mangrove's control and monitoring system:

- Vegetation Cover (SGMC) : Satellite images and/or photographed areas, random site visits, Compliance Assessment Management Plan
- Investment Plans (SB): Participatory development compliance; Accountability compliance; Review of supporting documents and/or verification of works, goods and other services.

3.4.3 Descriptive study on the legal and political Ecuadorian regulations on mangrove ecosystems and their relation to blue carbon initiatives

Luis Fernando Jara (PROFAFOR)

Mangroves in Ecuador are understood as the ecosystem that includes all plant community made up of a core area and its transitional zones composed by the union of terrestrial and marine environments and by: trees and shrubs of different families, that have adaptations that allow them to colonize flooded lands subject to flooding and saltwater; and all associated plant species, wildlife and abiotic components.

These plant species have the following characteristics:

- Growing and developing in coastal regions, especially in deltas and estuaries, with the dominant presence of the genera: Rhizophora, Avicennia, Languncularia, Pelliciera y Connocarpus;
- Having a marked tolerance to salt and brackish water
- Having different adaptations to occupy unstable substrates and to exchange gases in anaerobic substrates; and,
- Located within the limits of the highest tides, over the transition zone"

Legal status of mangrove ecosystem

There are around 28 regulations related to mangrove and coastal– marine ecosystems. Main points are related to: sustainable use, protection, conservation, recovery and restoration. Half of the regulations belong to the Ministry of Environment (MAE) as National Environmental Authority based on what the 2008 Constitution of the Republic has established. The TULAS (2004) from MAE is the most representative and relevant act concerning the management, protection, conservation and use of the mangrove ecosystem. Other belongs to different sectors.

In general terms, most of the regulations consider mangrove as a fragile and very damageable ecosystem, belonging to the National State Heritage where it is not allow logging or harvesting activities. Mangroves fall under the 'forest' definition and are considered a "public good", with no commercial value attached, even when located on private property. The sustainable use of mangrove other than wood (crabs, shrimps, molluscs, among other) are allowed for communities that live beside or adjacent to them and depend economically from them, under Sustainable Use Agreements and mangrove custody with the State.

Mangroves in REDD+

Considering the definition of forest from MAE (minimum area 1.0 ha, minimum height 5.0 m and coverage of 30%), mangrove might be included as forest for climate change mitigation purposes under the REDD+ mechanism. Ecuador has adopted the national scheme for REDD implementation (MA 033/13). There is an agreement signed between Ecuador and the German and Norwegian governments for REM initiative that will contribute through results-based payments to the national REDD+ strategy.

3.4.4 Blue Carbon Interventions: Policy Approaches

Presented by Moritz von Unger (Silvestrum)

Despite considerable mangrove losses over the past 50 years, mainly due to the introduction of shrimp farming for export, Ecuador is still home to rich mangrove reservoirs. Early mangrove protection laws go back to the late 1970s and early 1980s. Today, the main protection regimes are the 2008 Constitution, the Forestry Law, and a number of implementing provisions adopted by the Ministry of Environment of Ecuador (MAE) and consolidated in a single statute (TULAS). Mangroves fall under the ‘forest’ definition and are considered a “public good”, with no commercial value attached, even when located on private property. Concessions may not be given out except to ancestral communities on strict terms of sustainable usage and management.

Building new shrimps ponds in mangrove zones has been banned since the 1970s. Operators of illegal shrimp farms, however, could repeatedly ask for regularization, including under a Presidential Decree of 2008, which provides for ex-post concessions, if an applicant’s ponds have been in operation prior to the year 2000 as well as in exchange for reforestation commitments of between 10% and 30% of the area under operation. Notably, the Ministry of Agriculture, not MAE, is responsible for the regularization of shrimp ponds. Regularization is not permitted if the operations are located within the Protected Areas National System (Sistema Nacional de Áreas Protegidas, SNAP), which applies to about 38,000 hectares or between 1/3 and 1/4 of the remaining mangrove area.

Mangrove destruction mostly met with weak enforcement and lack of firm sanction regimes did only evolve in recent years. Today, acts of destruction and intrusion can be sanctioned through fines, the repeal of existing concessions, and are considered criminal offenses.

The government’s key incentive schemes for the protection and sustainable use of mangroves are (i) a cooperation scheme based on sustainable use and custody agreements concluded between MAE and ancestral communities, and (ii) Socio Bosque/Socio Manglar program, which offers subsidies as part of the cooperation scheme.

Ecuador engages in the international policy framework on reducing emissions from deforestation and forest degradation (REDD+) and has been an early supporter of project based climate finance mechanisms (outside the forestry sector), in particular the Clean Development Mechanism (CDM). Other climate finance formats, such as nationally appropriate mitigation actions (NAMAs) are being developed in Ecuador. Adaptation planning – in many countries a key framework for blue carbon activities – appears to be at a preparatory stage only.

The main driver for mangrove destruction remains the shrimp farming industry. Loose enforcement policies, divergent responsibilities (especially for monitoring, regularization, and seizure of illegal shrimp farming activities), under-regulation of shrimp farming, and the absence of meaningful policies to restore abandoned farms aggravate the situation. The existing incentive schemes including the newly adopted Socio Manglar risk being too restrictive in its beneficiaries, rolled out at a too slow pace to

integrate local communities across coastal environments and may fail to target robust restoration of degraded areas.

Voluntary, bottom-up carbon initiatives by individuals, local communities and civil society have not yet spread far. Uncertainty around the ability to build private rights or entitlements in environmental services and the implications of Article 74 of the Ecuador's constitution and recent REDD+ legislation may explain the relative lack of action.

3.4.5 Regional Strategy for Mangrove Ecosystems in the South Eastern Pacific

Presentation by Fernando Félix, CPPS

The Permanent Commission for the Southeast Pacific (CPPS) has developed the Regional Strategy for Mangrove Ecosystems in the South Eastern Pacific to ensure the flow of environmental services, protection, recovery and sustainable use of mangroves and other coastal wetlands in the long term, through regional cooperation among their country members Chile, Colombia, Ecuador, Panama and Peru. The Plan will help countries to strengthen policies and programs for the protection, restoration and sustainable use of mangroves in the region and contribute to improving the quality of life of the communities that depend on natural resources of this ecosystem.

The Plan includes seven components: 1) policy analysis and legal and economic instruments; 2) support research and monitoring; 3) measures for the protection of mangroves; 4) promoting sustainable use and production alternatives; 5) support the recovery and restoration of mangroves; 6) promote education and environmental communication; and 7) financing. Activities of the Plan are linked to other ongoing activities conducted by CPPS such as the SPINCAM project (IOC-UNESCO/Flanders) and the improved mangrove conservation across the Eastern tropical Pacific Seascape (ETPS) through coordinated regional and strategy development and implementation GEF project (CI-UNESCO-CPPS). It is expected that the Plan is endorsed by the COP meeting of the Lima Convention in November 2015 in order to start implementation early 2016.

3.4.6 Discussion

Maintaining sustainability of incentive schemes: Government owned initiatives tend to be changed if a new government is elected. At the moment Socio Manglar belongs to the Ministry of Environment and its budget comes from the government, but efforts are underway to institutionalize the initiative to ensure sustainability and avoid early cancellation of the scheme.

Monitoring change: Socio Manglar at the moment does not have any indicators to measure changes in the wellbeing for people but there are plans to have this in the future.

Abandoned shrimp ponds provide good opportunities to restore mangroves areas in Ecuador, both inside PA and on private lands. A full overview of how much of these former ponds are available however does not exist.

CSR for shrimp farms: projects on corporate social responsibility (CSR) in shrimp ponds date back to 2010 when codes of conduct for the industry emerged. The numbers are however not disclosed and documentation could not be found. However, there seems further room for improvement.

Data availability: The different presentations on Ecuador showed that different numbers (e.g. total area of mangroves, deforestation rate, etc) are available in the literature and that there is no consistency amongst the various sources. Consolidated datasets around mangroves would be beneficial in many ways.

3.5 Understanding and advancing policy incentives for coastal Blue Carbon conservation and management under the UNFCCC

3.5.1 Current State of the UNFCCC: The Road to Paris

Presentation by Donna Lee, Independent

A summary of expectations for COP-21 in Paris later this year was provided. There is anticipated a package of outcomes that include:

1. The **Paris Agreement** will be a much shorter and more concise text than the current 90-page draft text. Some issues may get pushed to separate COP decisions. The Paris text will likely to be high level and not include sector-specific issues. The exception is land use, and there may be specific language to: recognize its special characteristics (preamble) and synergies with adaptation, agree on high-level land sector accounting principles (mitigation), and recall past REDD+ decisions. There is not likely to be reference to coastal ecosystems, but they share the same context as land use.
2. **Intended Nationally Determined Contributions** (INDCs) form an important part of the Paris outcomes. They express a country's commitment to global mitigation in the post-2020 period and therefore communicate national priorities. It is helpful if countries indicate sectoral coverage in their INDCs, including blue carbon. As many countries are now deliberating on their INDCs, it is an opportunity to see if blue carbon can be part of such national discussions.
3. **The Lima-Paris Action Agenda** is aimed at strengthening climate action now (and beyond) and through planned events and the website, the blue carbon community may consider opportunities to create a new initiative and/or to highlight the work and progress being made on coastal ecosystems.

It is also worth remembering that many other options under the UNFCCC continue operating and remain opportunities for BC, including: national GHG reporting (National Communications w/GHG inventories, BURs), NAMAs, NAPAs, Financing (GCF, GEF, Adaptation Fund, CDM), and through REDD+.

3.5.2 Blue Carbon and a new climate agreement

Workshop participants further discussed elements of a new climate agreement that may be helpful for the implementation of blue carbon efforts. It was recognized that there will likely not be an opportunity to mention coastal ecosystems specifically and that CME should share the context with other lands use sectors. But even then the text elements related to land use are likely to be brief. Below are some of the key items discussed. Remarks have been provided by Eduardo Reyes from CfrN as well as Pipa Elias from TNC.

General considerations:

- Text should ensure there are no barriers to treating land use contributions on a basis comparable to other sectors (this has not been the case in past agreements, e.g. the Kyoto Protocol and its mechanisms)
- Text should include references which always cite sources *and sinks*

Preamble

- There is text that recalls special characteristics of land use. It would be beneficial is it also includes biodiversity.

Mitigation

- The text should encourage all Parties to undertake mitigation actions, including policies and measures, in the land use sector; which would include coastal blue carbon ecosystems
- The text should support the inclusion of land sector accounting principles (including use of IPCC wetland guidelines)
- The text should encourage that all countries work towards comprehensive coverage (in accordance with CBDR/RC⁸)

Joint mitigation and adaptation

- Where text appears on this topic, it would be beneficial to support language that speaks to *all ecosystems* (not just forests)

Transparency

- Countries should provide information on whether and how land use is included in nationally determined contributions, in INDCs or through subsequent clarification.
- This should include coverage and accounting (e.g. reference levels/baselines and disturbance provisions)
- Where a category (e.g. wetlands) is excluded, it may be useful to encourage justifications and/or timelines for inclusion

REDD+

- It would probably be helpful if a recognition of past agreements is included, such as the Warsaw Framework and all related COP decisions agreed so far. The Paris agreement could define REDD+ as a package/sum of all decision so far.
- Support for technology and development transfer for REDD monitoring and implementation should be made available

Financial resources

- This item holds divergent views. It will be helpful if the agreement provides a positive signal for markets and as a second choice remains silent.

GCF

- While also a challenging item, some propose a REDD+ window in the GCF to be established.

The point was however made that the INDCs are probably more important for the blue carbon community. These are an expression of countries priorities in how they will respond to climate change. Now is the time to look for opportunities to get BC into INDCs and explore with and support countries to identify the extent to which a BC is a mitigation option and is an opportunity to be included as a priority within a country.

Based on the submitted INDCs, countries should be encouraged to be more specific on which IPCC categories they include (e.g. wetlands) as well as the accounting methods. Countries should also be encouraged to work towards comprehensive coverage, which is in the ability of many countries.

⁸ Common but Differentiated Responsibilities and Respective Capabilities

3.5.3 Discussion

Participants discussed means to highlight blue carbon as part of the COP discussions and outcomes. Suggestions included:

- Development of a BC flyer/technical brief for the COP
- Incorporation of elements of the above list (3.5.2) into the negotiations. It was stressed that it will be important for several countries to speak on these issues and for people attending the workshop to take these messages to their own negotiators.
- Coordination and exchange of events planned on Blue Carbon, within the Blue and Red Zone in Paris. Contact points are Dorothee Herr and Jennifer Howard.
- Exploration of a possible Lima-Paris Action Agenda (LPAA) Initiative. There is an opportunity to advocate for new initiatives, especially in less developed sectors or dimensions. But there is an imperative to create a narrative and actors that commit to that narrative. (E.g. last year there was the New York declaration of forests.)

BC roadmap: It was suggested that the BC community provides another set of gaps and challenges so that barriers can be identified and actions for moving past be provided.

Safeguards: It took a long time to develop safeguards under REDD+ that could be agreeable to all parties, and a discussion needs to be had on if these safeguards are robust enough for the inclusion of mangroves or if they need to be adjusted. However, it seems that safeguards are written in broad terms and therefore applicable to CME, and mangroves in particular. An additional comment highlighted that the existing safeguards are already more than enough for developing countries but what is missing are funds to implement them.

Force majeure: The land sector is affected by *force majeure* and a framework has been developed to accommodate some of these. Is it applicable to BC as well? CMEs are especially vulnerable and countries should not be punished due to force majeure events. The KP has come up with some provisions and it would seem reasonable to keep it flexible so that countries could come up with their own ideas.

Joint Mitigation and Adaptation: A decision on this related to REDD+ is likely to be adopted in Paris. Concerns were raised that it will be difficult to integrate adaptation indicators into a results based system. While JMA is an opportunity for CME, the reality is donors still separate adaptation and mitigation into discrete funding opportunities. There is work to do on how to value the synergistic aspects of CME.

3.6 Financing Blue Carbon (and other ES): where do we stand?

3.6.1 The role of the Green Climate Fund for Blue Carbon

Presentation by Donna Lee, Independent

The Green Climate Fund is becoming operational this year and has pledged of over US\$ 10 billion. The agreed “allocation framework” is that 50% of the fund is for mitigation (including forests and land use) and 50% for adaptation (including ecosystem and ecosystem services). Half of the adaptation funding is for least developed countries, small island developing states and African countries. The GCF will also seek geographic balance, a fair allocation across a broad range of countries, and maximize engagement with the private sector. Resources have also been allocated for readiness and preparatory support.

A challenge that developing countries may face includes accreditation. A national implementing entity must meet certain requirements to receive funds (similar to the GEF); if a country does not have such an entity, it must partner with one to receive GCF funds. REDD+ results-based finance may also face challenges as the GCF has not yet provided guidance nor has procedures in place for ex-post payments for results.

The GCF provides opportunities of funding for blue carbon projects. They must be approved by the national designated authority (NDA) and therefore be a national priority. It is worth remembering, however, that the amount of funding available through the GCF is still lower than the amounts disbursed through bilateral and multilateral ODA.

3.6.2 Opportunities and Hurdles for Blue Carbon - State of the Carbon Markets in 2015

Presentation by Tibor Vegh, Duke University

Over the past two years our understanding of blue carbon ecology, greenhouse gas emissions and resulting economic damaged has greatly improved. At the same time, blue carbon demonstration sites and other projects in various countries have raised further awareness in and outside of the scientific community around the rapid degradation and destruction of these ecosystems. Economic analyses of blue carbon conversion have estimated that its large-scale conservation is feasible at relatively low carbon prices of \$10 per ton of carbon dioxide equivalent.

From a carbon market perspective, the nearing finalization of the Verified Carbon Standard (VCS) Tidal Wetland Restoration protocol is making the entry of blue carbon into voluntary carbon markets a real possibility and a great financing opportunity. Voluntary or compliance carbon markets are only one way to finance blue carbon, however, they offer an upside in terms of financing capacity if the carbon markets that are currently developing and operating independently become linked. These markets include the compliance-driven E.U. and South Korea Emissions Trading Schemes, the California-Quebec market, the Regional Greenhouse Gas Initiative; and the voluntary and Climate Action Reserve, VCS, and others.

Carbon market prices and trading volumes have fluctuated over the past few years, and the most relevant metric for blue carbon, the 2013 global average price for Reducing Emissions from Deforestation and Forest Degradation (REDD+) credits being \$4.20 per ton of carbon dioxide equivalent. Analysts, however, are optimistic about future carbon market developments both in terms of volume and prices. The two biggest hurdles for blue carbon to access carbon markets are (1) the uncertainty of whether policies will be enacted to create carbon markets of global scale and breadth, and (2) whether such markets will accept blue carbon as a credible activity. The former issue may be clarified to an

extent by developments at the COP meeting in Paris; the latter will depend on the development of market-specific methodologies to credibly measure, report, and verify greenhouse gas emissions from these ecosystems

3.6.3 Carbon markets don't work for everyone

Remarks from Sarah Moyer, WB Indonesia

Carbon markets don't work for everyone, it is one tool in the toolbox. It could be said for conservation efforts. A good place to start for BC is to look at REDD+ - despite the importance of reducing deforestation we do not have a thriving market for land use; an important aspect to keep in mind when looking at BC. Providing baseline reference levels is a challenge, which we learned in the past 10-15 years. A unique opportunity for BC is however to pilot project in the voluntary market, especially when linked to other ecosystem services. There is a need to carefully identify and target specific private sector companies, which are really looking for corporate social responsibility and would be interested in a "super credit" – which would go beyond carbon.

3.6.4 Innovative funding for coastal carbon

Presentation by Dominique Benzaken, TNC with support from Andrew Soles, TNC (remote)

Increasing the share public and private investment in wetlands/coastal ecosystems conservation for climate adaptation and mitigation benefits given their cost effectiveness over time make good sense. Market based instruments such as carbon markets have been advocated as a one promising financial mechanism to fund wetland conservation for carbon sequestration and storage. How feasible and competitive would carbon credits generated from wetland conservation be? And what are the requirements to make such transactions economically viable and attractive to private investors?

There are two type of carbon markets, regulated markets such as the those operating in California, Quebec, or more recently South Korea, which so far do not include coastal carbon, and voluntary markets, which is where most of the ecosystem based transactions have taken place to date (for example in Senegal as a part of the collaboration between Danone and The Ramsar Secretariat).

For any market to operate successfully there needs to be sufficient supply and a demand for the product.

On the supply side, nature based carbon markets have been mostly focused on forest ecosystems which represents 30% of C emissions (check figure). Carbon sequestered in coastal ecosystems such as mangroves, sea grasses and salt marshes have yet to demonstrate their value as large enough carbon sinks, although recent analyses have shown that the rate of storage in mangrove soils is far superior to that of forests (check reference). As with any forest project, avoided conversion projects offer a greater up front amount of CO₂ credits than restoration projects, and this will tend to make them more attractive to buyers who likely need the credits sooner.

There is no doubt that coastal ecosystems should be considered in any comprehensive inventory of carbon emissions from the land use sector and ecosystems under the UNFCCC. They can be attractive for those countries with large coastal forests, as a mechanism to increase their ambitions (iNDCs) and to attract funding for wetland conservation.

On the demand side, in the voluntary market the buyers have historically been consumer oriented multinational companies. They want to be able to publicize their "carbon neutrality" or at least be able to point to tangible conservation investments they have made, ideally in the geographic area where

they operate. Other reasons beside strictly carbon emissions motivate these buyers, including biodiversity, local jobs and other community benefits (these are included in a certification scheme called CCBA, which some buyers will require).

To make a transaction successful under existing standards, a project must establish a baseline (how much is converted, at what rate, based on threats), satisfy an “Additionally” test (prove that the carbon financing is critical to the conservation action happening (if it would have been done anyway because of regulatory requirement, etc. it will not qualify)). Projects must also minimize and deduct for unavoidable “leakage” caused by threat relocation; address potential risks of reversal (ie through natural (typhoon) or human (fire) causes; Ensure permanence (50-100 years beyond sale of last credit); and Establish 3rd party certification MRV (monitor, report/register, verify). Additional standards such as the “CCBA Standard” can apply, and some buyers require it. Setting up such projects requires upfront costs as well as on going monitoring and management costs.

The Nature Conservancy has sold around \$20M of forest carbon since 2009. Lessons learnt so far suggests that an ideal transaction size requires more than 100,000 tons of carbon. Smaller transactions are possible and there are buyers that are interested in 10,000 t or less, but the transaction costs to develop a specific project of such amounts are generally too high. TNC has developed an online offset program (\$15/ton) for buyers interested in purchases of these small volumes. TNC’s estimate of current Forest carbon price is \$4-6/ton in voluntary market, whereas the carbon price in California’s regulated market is closer to \$10. Non-forest projects (mostly methane capture) have been able to sell credits for as little as \$0.50/ton, which continues to put downward pressure on the price (e.g. that’s what Google is reportedly buying).

So where carbon does markets fit into the overall climate financing architecture to achieve climate benefits from coastal ecosystems?

A combination of public and private finance instruments is most likely to be the best scenario. Public finance can be used to fund the development of the policy and legislative requirements for a carbon market to operate, the initial investment needed for establishing a project (management framework, MRV upfront costs, monitoring etc) and thus reduce the risk to private investors.

Keeping in mind the complex nature of ecosystems and the range of climate and other benefits they provide, multiple sources of funding can be considered. In some cases climate change adaption will be a co-benefit of climate change mitigation, in other cases, climate mitigation will be a co-benefit of climate change adaption and resilience.

Public sources such as the UNFCCC Green Climate Fund, the World Bank or The Global Environment Facility are obvious places to go. National and regional Trust Funds (eg the Caribbean Biodiversity Trust Fund), combined with market based mechanisms such as environmental taxes (eg Palau green fees) or carbon credits.

Innovative approaches that can complement carbon and bring conservation funding to wetlands are also being piloted. For example, the coastal defense benefits of coastal ecosystems are an attractive proposition for re insurers, which see advantage and cost effectiveness in maintaining and restoring coastal ecosystems and hence pricing environmental degradation in risk premium. Debt swaps for adaptation or mitigation can be set up, such as the one The Seychelles government has been implementing.

Most critically, it is important to remember that a particular mix of instruments will have to be responsive to local circumstances. Not one size fit all.

3.6.5 Blue Forest. Incentives beyond UNEP/GEF project implementation?

Presentation by Steven Lutz, GRID Arendal

The Blue Forests Project is a global initiative aiming to demonstrate how the values of carbon and other ecosystem services values can be harnessed to achieve improved ecosystem management. This may occur through multiple pathways such as payment for carbon credits, incorporation into local and national and coastal management plans or in the fulfilling of international commitments in climate change and biodiversity. One of the main goals of the project is to ensure the long-term protection of 'blue forests' ecosystems (also termed 'blue carbon' ecosystems, e.g., mangroves, seagrasses and salt marches) through such pathways. Other project goals include addressing key Blue forests knowledge gaps, advancing the concept with the international community and providing experience and tools for greater global application.

The project includes national demonstrations and project sites in Indonesia, Madagascar, Mozambique, Ecuador, United Arab Emirates (UAE), Kenya and a location in Central America (to be determined). The project builds on current initiatives such as Mikoko Pamoja, a small scale community-based payments for mangrove carbon project in coastal Kenya and essentially the world's first functioning blue carbon project, and the Abu Dhabi Blue Carbon Demonstration Project, which where the value blue carbon has been incorporated into local management and to help fulfil international climate commitments through assessing national coastal wetlands in order to fulfil the IPCC Wetlands Supplement guidelines. The Blue Forests Project is an initiative of the United Nations Environment Programme (UNEP) and supported by the Global Environment Facility and many project partners. The project was initiated in January 2015, will run over the course of four years and is managed by GRID-Arendal on behalf of UNEP.

Although the project is in its first year, some potential incentives, opportunities and needs for activities beyond the project scope are becoming apparent. These include the following:

The need for additional national demonstrations of the value of blue forests supporting improved ecosystem management in order to evidence to the international community that the blue forests approach is viable;

- The need for socio-economic and socio-cultural analysis to better understand the relationship between blue forests pathways and community well-being;
- The need to explore the role that oceanic blue carbon ecosystems and marine life play in addressing the global climate challenge;
- The need for regional capacity building in blue forests science and policy;
- The need for additional international commitments from developing countries recognizing the value of blue forests (i.e., through Nationally Appropriate Mitigation Actions (NAMAs), use of the IPCC Wetlands Supplement guidelines, etc.).
- The need for country driven support for blue forests initiatives (i.e., an international work plan for blue forests endorsed by heads of state level); and
- The need for pledges for funding from developed countries to support such a work plan.

3.6.6 Linking carbon and other ES payments, and needs from policy

Presentation by Frank Hicks, Forest Trends

Forest Trends' MARES Program is currently focusing its work on the valuation of marine and coastal ecosystems, including Blue Carbon, in Mexico, primarily in the Marismas Nacionales mangrove and

wetland ecosystem in Nayarit and Sinaloa, but also providing input to mangrove restoration and community development efforts in Chiapas and Oaxaca.

While the economic valuation of other ES is typically much greater than that of BC, valuation does not equal willingness to pay by the beneficiaries, and so the current focus on BC can help to raise awareness regarding the importance of the other ES. Demonstrating these linkages in a manner that could lead to potential payments for a combination of BC and other ES is more practical at the local level and is dependent upon site-specific ES valuation. Unfortunately this tends to be lacking, and so valuation typically relies upon extrapolation from elsewhere and benefit transfer analysis, both of which are not very credible, so the valuation of the other ES ends up being on the very conservative end of the range of projected benefits - probably greatly underrating the actual benefits. As a result there is the need for the Marine and Coastal donor, research and NGO communities to support such site-specific studies as a precursor for such future combined (BC & other ES) valuations.

Regarding the combined valuation itself, the key is to make the economic case for protection to avoid the cost of habitat restoration, which also includes the loss of future ES on top of restoration costs, as restored areas tend to provide less services compared to natural habitats (at least for long periods). Naturally, some of the critical benefits can't be monetized, such as spiritual and existence values, but these also need to be included.

Some of the more promising opportunities to promote such linked valuations are via the expansion of existing national PES systems (such as in Mexico, Costa Rica and Ecuador) that already make some such payments in mangrove and other coastal ecosystems, and to encourage other countries to implement such schemes. This can also happen when mangroves are part of national forest definitions under REDD+ and increasingly via marine and coastal NAMAs, which offer more flexibility than REDD+ in determining what activities can be included in results-based emissions reductions payments (and NAPs could also offer such flexibility as these are implemented in the future). However there is a significant opportunity to seek to engage the private sector and to make the case for combined PES via linkages to security of supplies of products, sustainable supply chains and reputational risk/corporate branding and corporate social responsibility. In some cases there could also be good potential to promote the concept of biodiversity offsets, and valuation of combined BC/other ES, as another approach.

In order for combined valuations and PES to occur Policy makers need to include mangroves in the national definition of forests and link these to REDD+ initiatives, include marine and coastal ecosystems in INDCs, support site-specific ES valuation studies, improve coordination between the various government agencies typically responsible for marine and coastal ecosystems and also improve efforts to integrate climate change mitigation and adaptation as these relate to marine and coastal climate change initiatives.

3.6.7 Discussion

While the GCF is seen as a welcome additional funding stream, it was made clear that 1) the GCF is not the only place to look for funds and that other sources have more means than the GCF. 2) The GCF has the tendency to replicate elements of the GEF, which is not without critics regarding the access and management of funds.

While the GCF, as many other funds, divides between adaptation and mitigation, a project that has both adaptation and mitigation benefit, and would therefore "tick multiple boxes" is seen as advantageous.

Markets: There are new emerging markets in South Korea and South Africa, which could provide an opportunity for BC. The case of Abu Dhabi showed that you do not need a classic market approach but that a hybrid approach with compensation can also work.

Carbon Markets: Currently the carbon market is inundated with more credits than there is demand. For blue carbon and REDD+ to work effectively their needs to be a plan developed for driving demand for carbon credits and a strong price signal to re-active and grow the market.

CDM: Some believe that the CDM as an opportunity for BC should not be dismissed despite the fate of CDM funding is yet to be seen. As long as there is no new mechanism developed, there is potential. Despite the value of carbon credits produced under the CDM mechanism is currently rather low, there is ongoing interest from the international community. The enthusiasm exhibited during COPs and SBs where this is discussed is continuously high.

Upstream management: The restoration or conservation of coastal ecosystems is often closely linked with upstream management practices. Issues of water scarcity or changes in hydrology can affect the success of a project greatly. Linkages with payments for ES inclusive of upstream activities need to be further explored.

Fishery improvement: Mangrove restorations positive effect on local fisheries is well documented and could be used to make a case for mangrove restoration and increase funding opportunities that have been traditionally only used for fisheries improvement projects. Climate smart agriculture is a main driver for private sector engagement, thus it is not a far leap to extend that idea to look into climate smart fisheries and aquaculture.

4 Summing it all up

4.1 Why Blue Carbon?

At the start of the discussion session, participants were asked to provide answers to the following questions:

1. **Why Blue Carbon?**
2. **What are two main barriers/gaps to implementing blue carbon?**
3. **What are two main “elements” needed to make blue carbon implementable?**
4. **What are 2-3 priorities that could significantly progress blue carbon efforts?**

The below paragraphs summarize those responses.

When asked, “Why blue carbon?” participants agreed that BC ecosystems provide abundant carbon stocks and serve as an important source of carbon sequestration; thereby BC ecosystems should be included in climate change mitigation schemes. Further, they support the economies of coastal populations and act as natural barriers against flooding from rising sea levels and powerful storms. Additionally, they provide habitats to a large number of richly diverse plant and animal species under threat of extinction.

What are the main components of a successful BC agenda? Participants responded first and foremost: knowledge, interest, and political will—all of which are codependent. Stakeholders must first be made aware of the sustainable, economic opportunities associated with coastal ecosystem conservation. To this end, several participants expressed **the need for valuation of BC ecosystems by country and pilot projects to demonstrate both the feasibility and benefits of sustainable BC ecosystem management**. This would include greater exchange of knowledge between practitioners, methodological guidelines for conducting valuations, an up-to-date survey of BC project financing options, and investment in pilot projects such as the carbon demonstration projects in Ecuador, Mozambique, Indonesia, Madagascar and the United Arab Emirates as part of the GEF Blue Forests Project. Moreover, participants said projects must discuss practical/feasible opportunities for all stakeholders and be propagated in such a way to motivate private sector implementation of new projects. According to participants, **the inability to easily identify and quantify benefits from BC ecosystems and the general lack of knowledge regarding location and types of BC ecosystems on the national level is a major gap in the BC agenda, as is the lack of practical examples to provide policy and technical best practices**. Furthermore, research, plans of action, and legal policy advice should be formulated with each country’s national strategy in mind (e.g. development strategy, environment strategy, etc.) so that they may be well received and easily incorporated into the national framework. It is also worthwhile to link strategies to sector objectives.

Several participants also stressed **the need for community-level buy-in**, as coastal communities will often be leading actors in the management of BC ecosystems. Additionally, locally designed and managed conservation and restoration projects help to safeguard the welfare and livelihood of effected communities. Ongoing demonstration projects show that local communities are highly interested in ensuring sustainable development and usage of ecosystem services, but are often ill-equipped to do so as a result of inexperience and insufficient resources to monitor protected areas. Creating and maintaining provincial funds for compensation of aquaculture maintenance and mangrove conservation programs is therefore imperative, such as the ability to trade BC offsets in existing carbon markets. Several participants called for the integration of BC into the UNFCCC framework via incorporation with REDD+

forestry and land use projects. A few participants, however, disagreed, stating that the forest sector within the UNFCCC and KP has been a failure, citing low carbon prices which are accordingly unable to fully compensate the benefits of BC systems. Rather, they suggest that efforts should be focused on the development of new private sector finance mechanisms. All participants agree, however, that a diversification of funding is needed; furthermore, that relevant stakeholders in developing countries be made aware of these opportunities. To foster greater demand for BC projects, venues for discussion of BC ecosystem service must be sought at all levels of governance and organization. At the international level, one such venue includes the UNFCCC COP-21 in Paris.

In summary, the key is to increase both demand and supply of BC finance for sufficient capacity building, foster a high level of commitment by all relevant stakeholders, and aid local planning and preparation for entry into carbon markets—all of which will require discussion motivated by comprehensive scientific research and focused on mutual benefits of BC ecosystem management. Participants listed several opportunities for a successful BC agenda. First, a **global evaluation of countries' blue carbon potential** should be carried out, along with country-specific studies of BC ecosystem services. Until such a report is completed, known measures should be published in a preliminary report to inform stakeholders of the *real* potential in BC and to motivate additional studies. Second, **commissioning studies on the impacts of aquaculture and other industries on BC ecosystems will shed light on degrading practices** and provide relevant actors with sustainable solutions. Informing and engaging all stakeholders, especially community members, can emphasize mutually beneficial strategies for coastal management. Additionally, **transfer of knowledge, tools, and lessons learned** between existing demonstration projects will enhance the capacity of these projects and ultimately improve documentation of best practices to motivate/inform future projects. Furthermore, national governments should be informed of **possibilities to include BC into LCDS, NAMA, INDC, REDD+, etc.** and thereby increase access to funding. **Private sector finance mechanisms should also be simultaneously developed to diversify funding streams.**

4.2 Making BC a reality

The presentations during the workshop showed that there are unique and innovative ways of making blue carbon a reality. Different mitigation tools like REDD+, NAMAs or carbon offset projects are available, but the national, subnational and even local context will determine which approach will be successful. Participants also made a point that these mitigation tools are one element to be used as part of a broader tool box of coastal management and conservation tools. Realistic options for BC implementation included bundling of ecosystem services in such a way to appeal to Corporate Social Responsibility. Other country examples, like from Abu Dhabi, showed that it is possible to link payments for ES with the private sector, in this case the tourism industry. Building off of the experiences of the REDD+ community will allow BC to come on line faster and more efficiently, specifically looking to REDD+ to inform on price control to give buyers and sellers insurance in their investment. China, for example, is using price control to avoid price collapse.

“Ecosystems appreciate, not depreciate, over time, hence making them worthwhile for investment for multiple reasons.”

UNFCCC

The future for BC will be the INDCs. Although it is likely that these will be re-evaluated over time, now is the opportune moment for countries to include BC/CME into their INDCs before the Paris COP. However, given that it is currently unclear how the INDCs will be financed, or more specifically, how much international finance is available for INDC implementation in developing countries, many countries are reluctant to include coastal carbon into their INDCs. This underlines again the need to connect between developing and donor countries on blue carbon directly.

While not discussed in great detail during the workshop, the UNFCCC will re-visit the CDM agenda in 2016 and wetlands related project activities should be documented and highlighted in this discussion.

REDD+

It was re-enforced that, while REDD+ offers an opportunity for mangrove conservation, the inclusion of mangroves into REDD also bears some risks. Countries are only requested to report on significant carbon pools, which in the case of tropical forest, does not include soil carbon. If a country is not elaborating their MRV systems to also include soil carbon measurements, the full carbon value of mangroves could be omitted. However, a country, rather than including soil carbon measurement for all forest types, it could opt just to do so for mangroves.

IPCC & SBSTA

The SBSTA at its 39th session (Nov 2013) welcomed the timely completion of the IPCC 2013 Supplement to the 2006 Guidelines for National Greenhouse Gas Inventories: Wetlands. It will continue the discussion as part of the agenda item on Methodological issues under the Convention, Revision of the UNFCCC reporting guidelines on annual inventories for Parties included in Annex I to the Convention. It further invited Parties to comment on their experiences using the methodology including recommendations for improvement by March 2017.

Technical Blue Carbon workshops

RAE is conducting a series of technical workshop on Blue Carbon: A Management Tool for the Conservation and Restoration of Coastal Wetlands. Workshop goals include:

- Learn about blue carbon applications and its potential to increase the value of wetland conservation and restoration
- Build capacity to incorporate greenhouse gas functions into management plans
- Assess opportunities & constraints for implementing projects

The next workshop is planned July 28, 2015 | 8:30AM - 4:30PM, Apalachicola National Estuarine Research Reserve, 108 Island Drive, Eastpoint, FL 32328.

Other workshops are forthcoming. For more information please contact: Stefanie Simpson, Blue Carbon Program Coordinator ssimpson@estuaries.org or Steve Emmett-Mattox, Senior Director for Strategic Planning and Strategic Programs, Restore America's Estuaries sem@estuaries.org.

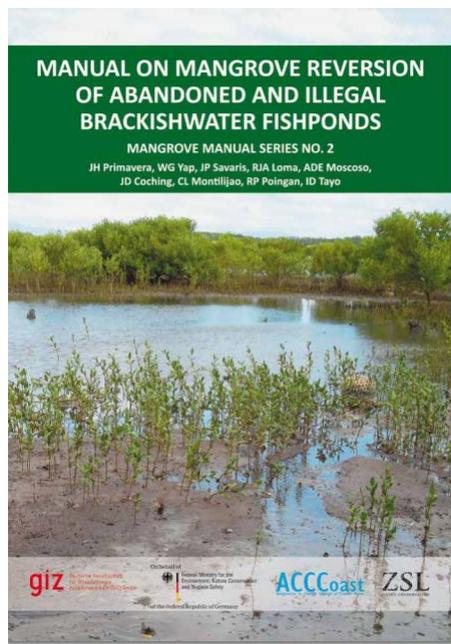
Carbon project methodologies

Carbon offset methodologies are still seen as too cumbersome and detailed to apply in many developing countries. A request was made to develop (or merge) methodologies to be more at par with the data availability in many countries.

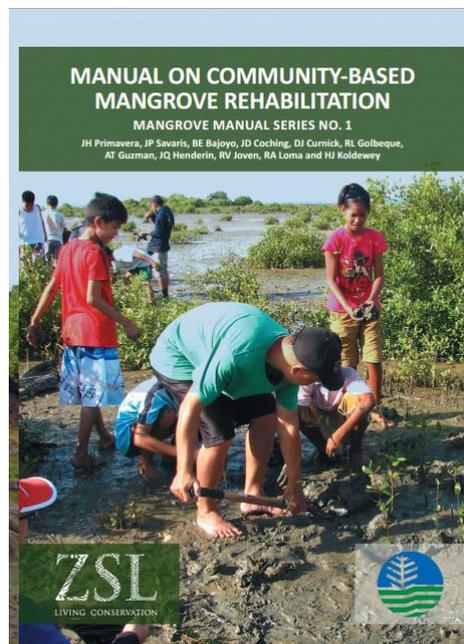
With the IPCC wetlands supplement Tier 1 level default values have now been created.

Mangrove restoration

Examples highlighted during the workshop showed that mangrove restoration is not always done correctly but there are many tools and guidance documents that can help to ensure success. The following resources are recommended for wide use and sharing:



JH Primavera, WG Yap, JP Savaris, RJA Loma, ADE Moscoso, JD Coching, CL Montilijao, RP Poingan, ID Tayo (2013). Manual on Mangrove Reversion of Abandoned and Illegal Brackishwater Fishponds – Mangrove Manual Series No. 2. London, UK: ZSL. xii + 108 p.



Primavera JH, Savaris JD, Bajoyo B, Coching JD, Curnick DJ, Golbeque R, Guzman AT, Henderin JQ, Joven RV, Loma RA & Koldewey HJ (2012). Manual on community-based mangrove rehabilitation – Mangrove Manual Series No. 1. London, UK: ZSL. viii + 240 p.

Ongoing need for demonstration projects

While blue carbon efforts – from projects to policy – are being seen in greater numbers around the world, strategically coordinated demonstration projects that work together to tell a compelling story are still needed. Additionally, more work is needed to assess drivers of mangrove deforestation, and blue ecosystems at large, emissions related to degraded and restored ecosystems, and guidance on evaluating where blue carbon is a viable mitigation option and if not why.

Connection with upstream management important

The restoration or conservation of coastal ecosystems is often closely linked with terrestrial management practices. Issues of water scarcity or changes in hydrology can affect the success of a project greatly. Linkages with payments for ES inclusive of all management activities need to be further explored.

Broadening blue carbon towards a regional approach

Efforts have so far focused on project or country level activity, but have not yet been applied on a regional level. For example, in Latin American several regional efforts exist (i.e.,CPPS⁹.) where blue carbon could be integrated at scale.

Engagement with the private sector

The role of the private sector for advancing blue carbon efforts was discussed in the final session. It was determined that the private sector has a commitment to reduce GHG and/or conserve coastal ecosystems. However, there is a need to better identify how blue carbon can be better integrated into those efforts including possible opportunities to build private sector coalitions around coastal carbon/ecosystem conservation/restoration efforts. The private sector also has a role to play in identifying the impacts of various business practices (i.e. clearing mangroves for shrimp pond development, or dredging for coastal construction) on coastal ecosystems and the services they provide and determine ways in which those impacts can be reduced while maintaining (or improving) efficiency. For example, the forest conservation sector has benefited from supply chain impact studies which informed procurement policies for sustainable products. Such a study was commissioned by the European Commission and put pressure on countries with high deforestation rates by threatening import bans for certain products. Another suggestion was made to ensure that certification schemes or sustainability criteria for aquaculture include a reference to CO₂ emissions.

Limitations to Blue Carbon?

One participant made the observation that while the concept of blue carbon puts the focus on carbon, it also addresses the other ES. This could be its weakness, as overall coastal marine ecosystems are being included in too many conservation initiatives, all under a different banner, including adaptation.

4.3 Follow-ups

Based on the workshop discussion, other outcomes documents will be made available:

- A revision of the *2012 Guidance for national blue carbon activities. Fast-tracking national implementation in developing countries*. Contact Dorothee Herr
- A revision of the *2014 Introductory guide to financing wetland carbon programs and projects* to include the wealth of information presented at this workshop on finance. Contact Tibor Vegh
- The development of a *National Blue Carbon Policy Assessment Framework*, later 2015/early 2016, to assist countries in mapping their regulatory frameworks and incentives schemes for coastal carbon ecosystems. Contact Dorothee Herr

⁹ <http://cpps-int.org/>

Annex 1 Workshop participants list

Workshop participants

Banks, Stuart – Independent consultant

Benzaken, Dominique – International Marine Policy Senior Advisor, TNC

Cardenas, Flavia Carolina – Dirección de Asuntos Marinos, Costeros y Recursos Acuáticos, Ministerio del Ambiente, Colombia

Carro, Aude – Blue Forests Coordinator in Ambanja, Blue Ventures

Carvajal, Raúl – Coastal Management Specialist, CI-Ecuador

Chalen, Xavier – Marine Conservation Manager, CI-Ecuador

Cobo, Emilio – Project Officer, IUCN SUR

Coello, Segundo – General Manager, Ecobiotec del Ecuador

Cotacachi Velasquez, Nestor David – División de Género y Diversidad, Inter-American Development Bank

Crooks, Steve – Climate Change Program Manager, ESA

Ellis, Jorge – Sector Ciencias Naturales, UNESCO

Félix, Fernando – Coordinador Técnico Regional. Plan de Acción para la Protección del Medio Marino y Áreas Costeras del Pacífico Sudeste. Comisión Permanente del Pacífico Sur CPPS

García, Cristina – Dirección Nacional de Mitigación en Cambio Climático, Ministerio del Ambiente del Ecuador

Garcia, Fernando – Socio Bosque Program, Ministry of Environment Ecuador

Göransson, Terese – PhD Candidate, Centre for Environmental and Climate Research, Lund University, Sweden

Hermawan, Tommy – Associate planner, Directorate Marine and Fisheries Bappenas, Ministry of National Development Planning, Indonesia

Hicks, Frank – Manager, Africa, Katoomba Group - Incubator

Idrus, Rijal M. – REDD+ Consultant at UNDP Indonesia, Faculty Member at Marine Science Department

Jara, Luis Fernando – General Manager, PROFAFOR Latin America

Kunz, Michael – Senior Director of Programs, Counterpart International

Kurvits, Tiina – Project Manager, Ecosystem Management, GRID-Arendal

Lazo, Amy – Technical responsible MRV/FRELS , Secretariat for Energy, Natural Resources Environment and Mining, Ministry of Environment, Honduras

Lee, Donna – Independent consultant

Lutz, Steven – Programme Leader Blue Carbon, GRID-Arendal

Montenegro, Ricardo G. – Gerente Economía y enlace con el sector privado. Programa del Paisaje Marino del Pacífico Oriental Tropical. Conservación Internacional Panamá

Montes de Oca L., Julio – Chief of office, Wetlands Latin America and the Caribbean

Ovalle, Katherine – Dirección de Cambio Climático, Ministerio del Ambiente, Colombia

Peralta, Jose Eduardo – Proyecto Marino Costero, Ministry of Environment, Honduras

Pinto, Isis – Project Coordinator UNDP Panama

Reyes, Eduardo – CfRN

Rodríguez Herrera, Eduardo – CATIE-Chrysin Biodiversidad y Bienestar, Costa Rica

Rodriguez, Ana Lorena – Directorate of Protected Areas and Wildlife, Ministry of Environment, Panama

Rodriguez, Fernando – National Biodiversity Institute, Ecuador

Solis, Pilar – Directora de Políticas y Normativas, Subsecretaría de Gestión Marina Costera. Ministerio del Ambiente Ecuador

Suárez, Luis – Vice President CI Ecuador

Vegh, Tibor – Policy Associate, Environmental Economics Program, Nicholas Institute for Environmental Policy Solutions, Duke University

von Unger, Moritz – Senior counsel and attorney public international law and international ecosystem transactions, Silvestrum

Call ins for specific sessions:

Elias, Pipa – Senior Policy Advisor, TNC

Emmett-Mattox, Steve – Senior Director for Strategic Planning and Strategic Programs, Restore America's Estuaries

Funk, Jason – Senior climate scientist, UCS

Glavan, Jane – Partnership Project Manager, AGEDI, Environment Agency, Abu Dhabi, UAE

Guggenheim, Paul – Country Representative, Dominican Republic, Counterpart International

Landrum, Jason – Regional Science and Technology Advisor, Natural Resources Officer, AAAS Overseas Fellow, USAID/El Salvador Mission

Moyer, Sarah – Carbon Finance Specialist, World Bank

Muhate, Aristides Baptista – Ministry of Land Environment and Rural Development, UT-REDD+ Mozambique

Ramos, Luis Antonio – Project Management Specialist (Environment), USAID/Central America Regional Office

Saldaña Herrera, Joaquin David – CONAFOR, Mexico

Soles, Andrew – TNC

Sutton-Grier, Ariana – Ecosystem Science Adviser for the National Ocean Service at the National Oceanic and Atmospheric Administration (NOAA)

Landis, Emily– TNC

Organizers:

Alban, Montserrat – Ecosystem Service Manager, Conservation International, Ecuador

Herr, Dorothee – Marine Programme Officer, IUCN

Howard, Jennifer – Marine Climate Change Director, Conservation International

Pidgeon, Emily – Senior Director of Strategic Marine Initiatives, Conservation International

Annex 2 Workshop agenda

DAY 1 - Tuesday 23 June 2015

No translation available.

16:00	<p>Meeting opening</p> <p><i>Abogado Douglas Zavala, Undersecretary of Marine and Coastal Resources, Ministry of Environment Ecuador</i></p> <p><i>Luis Suárez, Vicepresident CI-Ecuador</i></p>
	<p>Overview meeting goal & outcomes</p> <ul style="list-style-type: none">- Workshop objectives- Workshop products <p><i>Dorothee Herr, IUCN</i></p> <p>Short participant introductions</p>
	<p>Setting the scene: What happened and influenced Blue Carbon policy in the last 2 years– 10-15 min each and short Q&A</p> <p>Facilitator: Jennifer Howard, CI</p> <p>Blue Carbon: A transformational tool for marine management and conservation globally</p> <p><i>Emily Pidgeon, CI</i></p> <p>Finally there: the 2014 IPCC wetlands guidance and other science achievements</p> <p><i>Steve Crooks, ESA</i></p> <p>Blue Carbon - a popular PhD perspective</p> <p><i>Terese Göransson, Lund University</i></p> <p>Blue Carbon Activities and Opportunities in the U.S.</p> <p><i>Steve Emmett-Mattox, RAE (remote)</i></p>
18:30	<p>Dinner</p>

DAY 2 - Wednesday 24 June 2015

Translation available

8:30	<p>Good morning</p> <p>Brief recap of workshop objectives and outcomes</p> <p><i>Dorothee Herr, IUCN</i></p>
8:40	<p>National implementation: Sharing lessons, overcoming hurdles, creating opportunities (I)</p> <p>Short presentations (10 min each plus) Q&A</p> <p>Discussion</p> <p>Facilitator: Dorothee Herr, IUCN</p> <p><i>Note: We are starting with these countries and not Ecuador, our host, due to call ins from Indonesia and Abu Dhabi.</i></p> <p>Maritime and Marine Medium-term National Development Plan 2015-2019</p> <p><i>Pak Tommy Hermawan, Bappenas, Ministry of National Development Planning, Indonesia</i></p> <p>- REDD+: What next for mangroves in Indonesia</p> <p><i>Pak Rijal M. Idrus, UNDP Indonesia</i></p> <p>- National level policy making around Blue Carbon in Indonesia</p> <p><i>Remarks from Sarah Moyer, World Bank (remote)</i></p> <p>Blue Carbon and other Coastal Ecosystem Services -Next steps in International and National policy making and implementation</p> <p><i>Jane Glavan, AGEDI, Abu Dhabi, UAE (remote)</i></p> <p>REDD+ in Mozambique</p> <p><i>Aristides Baptista Muhate, Ministry of Land Environment and Rural Development, Mozambique (remote) – was not able to connect</i></p> <p>Blue Carbon project implementation in Madagascar Empowering communities to sustainably manage their mangroves</p> <p><i>Aude Carro, Blue Ventures</i></p>

	<p>Dominican Republic: Blue Carbon NAMA <i>Michael Kunz & Paul Guggenheim, Counterpart International</i></p> <p>Expected outcomes:</p> <p>Identification of key points to draft (a) briefing paper(s) on</p> <p>(1) Existing hurdles for blue carbon implementation, country specific and across countries</p> <p>(2) Opportunities for blue carbon implementation on the national and project level, including on mainstreaming, up scaling and communication</p> <p>!Include in discussion the linkages and need in national policy making and implementation between carbon and other ecosystem services!</p>
10:45	Coffee break
11:00	<p>National implementation: Sharing lessons, overcoming hurdles, creating opportunities (II)</p> <p>Short presentations (10 min each plus) Q&A</p> <p>Facilitator: Julio Montes de Oca</p> <p>Pago por Servicios Ambientales en ecosistemas de Manglares <i>Joaquin David Saldaña Herrera, CONAFOR, Mexico (remote)</i></p> <p>Honduras en el contexto marine costero y carbón azul <i>Amy Lazo, Secretariat for Energy, Natural Resources Environment and Mining, Ministry of Environment, Honduras</i></p> <p>Policies & Blue Carbon Strategies Development: Lessons and challenges from Costa Rica’s experience <i>Eduardo Rodríguez Herrera</i></p> <p>Servicios de los Sistemas Marino Costeros y el papel del Carbono Azul Panameño en la Mitigación del Cambio Climático <i>Ana Lorena Rodriguez, Ministry of Environment, Panama</i></p> <p>Carbon azul: Esfuerzos, obstaculos, necesidades y oportunidades en Colombia <i>Flavia Cardenas, Ministry of Environment and Sustainable Development Colombia</i></p>

12:30	Lunch
13:30	<p>National implementation: Sharing lessons, overcoming hurdles, creating opportunities (III)</p> <p>Short presentations (10 -15 min each plus) Q&A</p> <p>Facilitator: Montse Alban, CI</p> <p>Generando, innovando, promoviendo y transfiriendo conocimiento sobre nuestra biodiversidad...</p> <p><i>Fernando Rodriguez – National Biodiversity Institute, Ecuador</i></p> <p>Programa nacional de incentivos “Socio Bosque” Capitulo: Socio Manglar</p> <p><i>Fernando García, Ministry of Environment, Ecuador</i></p> <p>Descriptive study on the legal and political Ecuadorian regulations on mangrove ecosystems and their relation to blue carbon initiatives</p> <p><i>Luis Fernando Jara (PROFAFOR)</i></p> <p>Blue Carbon Interventions: Policy Approaches</p> <p><i>Moritz von Unger (Silvestrum)</i></p> <p>Regional Strategy for mangrove ecosystems in the South Easter Pacific</p> <p><i>Fernando Felix CPPS</i></p>
15:00	Coffee break

<p>15:15</p>	<p>(1) Understanding and advancing policy incentives for coastal Blue Carbon conservation and management under the UNFCCC</p> <p>Introductory presentations</p> <p>Discussion and brainstorming</p> <p>Facilitator: Dominique Benzaken, TNC</p> <p>Current State of the UNFCCC: The Road to Paris</p> <p><i>Donna Lee, Independent</i></p> <p><i>Remarks from Pipa Elias, TNC & Eduardo Reyes, CfrN</i></p> <p>(2) Coordination towards COP 21, Paris</p> <p>Facilitators: Dorothee Herr, IUCN and Dominique Benzaken, TNC</p> <ul style="list-style-type: none"> - Climate Platform and other planned events/opportunities - Events and awareness raising - Publications/products <p>Expected outcomes:</p> <p>(1) Identification of key points to draft a briefing paper on the ongoing UNFCCC negotiations and possible ramifications, needs and opportunities for wetland projects and policy implementation in countries</p> <p>(2) Identification of opportunities and synergies of wetlands and blue carbon efforts (e.g. side events) for COP 21 in Paris</p>
<p>17:00</p>	<p>End of workshop day</p>

DAY 3 – Thursday 25 June 2015

Translation available

<p>8:00, with coffee break</p>	<p>Financing Blue Carbon (and other ES): where do we stand?</p> <p>Short presentations (10 min each plus) Q&A</p> <p>Discussion and brainstorming</p> <p>Facilitator: Steve Crooks, ESA-PWA</p> <p>Financing BlueCarbon throughthe GreenClimate Fund <i>Donna Lee, Independent</i></p> <p>Opportunities and Hurdles for Blue Carbon. State of the Carbon Markets in 2015 <i>Tibor Vegh, Duke University</i> <i>Remarks from Sarah Moyer, World Bank (remote)</i></p> <p>Innovative funding for coastal carbon <i>Dominique Benzaken, TNC with support from Andrew Soles, TNC (remote)</i></p> <p>Blue Forests and Beyond Incentives beyond UNEP/GEF project implementation? <i>Steven Lutz, GRID Arendal</i></p> <p>Linking Blue Carbon and Other Ecosystem Services <i>Frank Hicks, Forest Trends</i></p> <p>Expected outcome:</p> <p>(1) Identification of key points to draft a briefing paper on existing knowledge gaps with regard to blue carbon and coastal ES policy development and implementation, including needs for targeted economic analysis and other research areas.</p>
<p>10:15</p>	<p>Coffee break</p>

<p>10:30</p>	<p>National implementation: Sharing lessons, overcoming hurdles, creating opportunities (IV)</p> <p>Discussion and further brainstorming in smaller groups</p> <p>Based on sessions from Day 2</p> <p>Facilitators: Dorothee Herr, IUCN and Emily Pidgeon, CI</p> <p>Expected outcomes:</p> <p>Clarification and expansion of key points to draft (a) briefing paper(s) on</p> <p>(1) Existing hurdles for to blue carbon implementation, country specific and across countries</p> <p>(2) Opportunities for blue carbon implementation on the national and project level, including on mainstreaming, up scaling and communication</p>
	<p>Final session</p> <p>Wrap up and next steps</p>
<p>13:00</p>	<p>End of workshop & lunch</p>
<p>14:00</p>	<p>First shuttle to the airport</p>

Annex 3 – Presentation summary abstracts in Spanish

3.3 National and project activities – Latin America

3.3.1 Honduras en el contexto marine costero y carbón azul

Presentation Amy Lazo, Secretariat for Energy, Natural Resources Environment and Mining, Ministry of Environment, Honduras

El interés de Honduras es impulsar el desarrollo de una política nacional para el manejo integrado de los recursos marinos costeros que contemple de manera estratégica la diversidad ecosistémica, la riqueza de especies y sus principales amenazas y los medios de vida de las comunidades locales, bajo un marco legal apropiado.

Agradecemos de antemano todo tu apoyo y estaremos en contacto para seguir trabajando de manera conjunta esta iniciativa. Saludos cordiales.

3.3.2 Policies & Blue Carbon Strategies Development: Lessons and challenges from Costa Rica's experience

Presentation by Eduardo Rodríguez Herrera, Chrysin Biodiversidad y Bienestar, Costa Rica

Formulación de Políticas y estrategias carbono azul: Lecciones y retos de la experiencia en Costa Rica

Miguel Cifuentes, Eduardo Rodríguez, Marcello Hernández

El proceso de formulación de los lineamientos de política de Carbono Azul en Costa Rica inicia en el año 2013 a partir de la sensibilización de las autoridades del Ministerio de Ambiente y Energía, entre ellas el Vice Ministerio de Aguas y Mares, la Dirección de Cambio Climático (DCC), el Sistema Nacional de Áreas de Conservación (SINAC), el Fondo Nacional de Financiamiento Forestal (FONAFIFO), y organizaciones no gubernamentales.

En el año 2014 se inicia el proceso de formulación participativa que incluye cinco etapas significativas de formulación, a saber: 1. Gestión política del proceso de formulación; 2. Definición de los alcances y objetivos mínimos que debe contener la Política Nacional de Carbono Azul (¿qué NO debe faltar en la política?) con las autoridades competentes; 3. Taller de formulación de la primera versión de la Política Nacional de Carbono Azul con la participación de las autoridades 4. Taller de socialización y enriquecimiento del documento inicial con ONG's y actores clave y 5. Se le presenta el resultado final al Viceministerio de Aguas y Mares.

Los lineamientos de política resultantes del proceso se pueden agrupar en tres componentes:

- a. Gestión de ecosistemas de carbono azul
- b. Gobernanza, gobernabilidad, control y vigilancia
- c. Valoración económica y financiamiento

De acuerdo a la experiencia en Costa Rica, los retos y aprendizajes más relevantes son:

Restos



- Incorporar a las autoridades regionales y subregionales, a la empresa privada y a los usuarios directos.
- Vincular las políticas de carbono azul con procesos relevantes para la seguridad y el bienestar de las comunidades y otros usuarios directos
- Desarrollar iniciativas concretas e integrales, en territorios específicos, orientadas a resultados que mejoren la conservación de los ecosistemas costeros y el bienestar de los usuarios directos.

Aprendizajes



- Establecer desde el inicio cuáles son las autoridades competentes para liderar el proceso y dictar la política.
- Debe contar con la participación de los usuarios directos y contemplar las preocupaciones, intereses y aspiraciones propias de estos actores
- Las políticas deben ser integradoras y no tanto sectoriales y promover el desarrollo de procesos de coordinación interinstitucional en torno a sitios concretos en territorios prioritarios

3.3.3 Servicios de los Sistemas Marino Costeros y el papel del Carbono Azul Panameño en la Mitigación del Cambio Climático

Presentation by Ana Lorena Rodriguez, Ministry of Environment, Panama

En el marco del Plan Estratégico del Gobierno 2015-2019, el nuevo Ministerio de Ambiente impulsa:

- 1.La modernización del modelo de gestión ambiental del Estado
- 2.El desarrollo del ecoturismo en áreas protegidas
- 3.La reactivación del sector forestal por medio de la Alianza por el Millón de Hectáreas
- 4.Velar por la disponibilidad del recurso agua para lograr las metas del el Plan de Sanidad Básica.
- 5.La adaptación al cambio climático y el desarrollo económico y social bajo en emisiones de carbono

El Ministerio de Ambiente tiene una Nueva Dirección Nacional de Cambio Climático y de Gestión Integrada de Zonas Marino Costeras

Estrategia Nacional REDD+: Realizar inversión estatal y privada en tierras con y sin bosque. La primera en reserva de carbono, disminución de la deforestación y degradación, mientras que la segunda en secuestro de carbono y la alianza con el millón.

En las tierras con bosque en proyectos comunitarios (manejo forestal, cultivos de bosque, sistemas forestales, etc). En las tierras sin bosque, en proyectos (plantaciones forestales comerciales y de conservación, sistemas agroforestales y silvopastoriles, etc).

En datos no oficiales (en revisión) del mapa nacional de cobertura y uso de tierra, el 60% del territorio está cubierto por bosque, del cual 2.27% pertenece a manglares, que representan 177293.16

Proyectos actuales: Proyecto de Protección de Reservas y Sumideros de Carbono en Manglares y Áreas Protegidas de Panamá: Es un esfuerzo integral para fortalecer las capacidades nacionales para la conservación de manglares a través de la integración de los enfoques de adaptación y mitigación. El objetivo del proyecto es el financiamiento de la gestión nacional y local de los manglares y ecosistemas asociados, protegidos y no protegidos, para aumentar el almacenamiento de carbono y la resiliencia al cambio climático. Este proyecto es financiado por el Ministerio Federal Alemán del Ambiente,

Conservación de la Naturaleza y Seguridad Nuclear-BMU. Los socios involucrados son MEF, PNUD, MIAMBIENTE, ARAP, WI, CI, Municipios involucrados.

Instalación de torre de monitoreo: Construcción de una torre de monitoreo de 30 metros de altura para instalar instrumentos de medición de carbono (CO₂) y parámetros climáticos. Contribuirá a la generación de conocimiento para dimensionar cuantitativamente los servicios que presta el mangle en la captura de carbono.

Necesidad inmediata para implementar proyectos de carbono azul en Panamá

Inclusión de REDD+ y Carbono Azul en el Acuerdo de París

- Con la Inclusión del Carbono Azul en el acuerdo de París, todos los países en desarrollo tendrán mejores oportunidades para acceder a recursos para ejecutar sus políticas, planes, programas y proyectos.
- Panamá está desarrollando una estrategia REDD+ nacionalmente determinada que incluye Carbono Azul.
- Panamá lanzará Estrategia REDD+ en la Conferencia de París en diciembre de 2015

3.3.4 Carbon azul: Esfuerzos, obstáculos, necesidades y oportunidades en Colombia

Presentation by Flavia Cardenas, Ministry of Environment and Sustainable Development Colombia

En el ministerio de ambiente y desarrollo sostenible de Colombia existen diferentes direcciones interesadas en trabajar el tema de Carbón azul. En primera instancia esta la dirección de Cambio climático, que ha estado trabajando desde el año 2011 en la “Estrategia Colombiana de Desarrollo Bajo en Carbono (ECDBC)” un programa de planeación del desarrollo a corto, mediano y largo plazo, cuyo objetivo principal es desligar las emisiones de gases efecto invernadero (GEI) del crecimiento económico nacional (Los sectores que participan en la ECDBC son industria, energía eléctrica, minería, hidrocarburos, transporte, vivienda, residuos y agropecuario). Por otro lado, está la dirección de Asuntos Marinos, Costeros y Recursos Acuáticos, que tiene como objetivo mapear, conocer, y evaluar los ecosistemas marinos y sus servicios ecosistémicos.

En el marco del Carbón azul, estas direcciones han visto el potencial de trabajo en conjunto, utilizando los ecosistemas marinos como herramientas de mitigación y adaptación al cambio climático. En el año 2015, se aprobó en Colombia el Plan Nacional de Desarrollo, donde uno de sus principales ejes es el Crecimiento verde, concepto sobre el cual se está formulando la Política Nacional de Cambio Climático y la Política Nacional de desarrollo sostenible para mares y costas. Así mismo, fue posible determinar que las principales necesidades que existen en el ministerio para poder abordar el tema de Carbón Azul de una manera más concreta implican principalmente ampliar el conocimiento e información en términos de caracterización y líneas bases para monitoreo, reporte y evaluación (seguimiento a captura de C); articular el tema con los objetivos sectoriales y la estrategia REDD que se desarrolla a nivel nacional; socializar con diferentes actores los avances que se están teniendo en el momento a nivel nacional, territorial y sectorial.

3.4 National and project activities – Ecuador

3.4.1 Generando, innovando, promoviendo y transfiriendo conocimiento sobre nuestra biodiversidad...

Presentation by Fernando Rodriguez, National Biodiversity Institute, Ecuador

El Instituto Nacional de Biodiversidad (INB) fue creado por el Decreto Ejecutivo N°245 del 24 de febrero de 2014; adscrito al Ministerio del Ambiente.

La Misión es planificar, promover, coordinar y ejecutar procesos de investigación relacionados al campo de la biodiversidad, orientados a la conservación y aprovechamiento racional de este recurso y sector estratégico, de acuerdo a las políticas ambientales existentes y la normativa legal aplicable. El impacto territorial del INB está previsto en varias zonas estratégicas del país, con la finalidad de facilitar y articular iniciativas de investigación, innovación y transferencia de conocimientos en aspectos de biodiversidad, tanto a nivel interno como con otras organizaciones públicas y públicas-privadas, de acuerdo a las características territoriales y de distribución de las especies biológicas en variadas zonas de estudio.

Los procesos sustantivos agregadores de valor con base a las competencias y atribuciones del Instituto Nacional de Biodiversidad, se encargan de: 1) Investigación científica en Biodiversidad: generar líneas de investigación a largo plazo, 2) Desarrollar planes, programas y proyectos de investigación científica básica y aplicada: generar resultados y validarlos frente a la comunidad científica internacional, 3) Gestión de Transferencia de Tecnologías: Implementar de manera innovadora los conocimientos científicos generados sobre biodiversidad, establecer patentes, registros y aplicaciones industriales, crear metodologías de transferencia tecnológica, empoderamiento y extensión del conocimiento generado, 4) Proyección y Vinculación: difundir aplicaciones prácticas para el sector de biodiversidad y patrimonio genético, producto del desarrollo tecnológico, generar mecanismos de cooperación nacional e internacional en investigación científica, desarrollo tecnológico, congresos científicos, ejecutar actividades de normalización y regulación, difusión de los resultados de investigación.

3.4.2 Programa nacional de incentivos “Socio Bosque” Capítulo: Socio Manglar

Fernando García, Ministry of Environment, Ecuador

El Programa Socio Bosque nace en el año 2008 y se inserta dentro de la Política Nacional de Gobernanza del Patrimonio Natural para la Sociedad del Buen Vivir.

Socio Manglar fue creado en Julio de 2014 mediante acuerdo ministerial # 198 Es un **incentivo monetario** destinado a los concesionarios de manglares; **condicionado** al cumplimiento de los planes de manejo por los cuales el MAE otorga Acuerdos de Uso Sustentable y Custodia de los Manglares a comunidades y grupos ancestrales de usuarios.

Los objetivos planteados por Socio Manglar son: Contribuir a la consolidación de la política de concesiones del manglar, Compensar los esfuerzos de control y vigilancia, Articular esfuerzos para su restauración, Mejorar las condiciones de vida de las comunidades y grupos ancestrales de usuarios, Apoyar financieramente para el cumplimiento de los planes de manejo. La meta final es la incorporación y permanencia en los acuerdos de uso sustentable y custodia de al menos 100.000 hectáreas, de los remanentes de manglares en el plazo de cuatro años.

Socio Manglar elabora Planes de Inversión participativos sus principales líneas de inversión son

- a. Inversiones y costos operativos asociados a control y vigilancia.
- b. Gastos asociados a gestión administrativa
- c. Gastos asociados a asistencia técnica para la implementación, seguimiento y/o evaluación de los planes de manejo.
- d. Fortalecimiento organizacional.
- e. Financiamiento total o parcial de proyectos productivos o sociales en beneficio de los asociados.

Monitoreo

Socio Manglar cuenta con un sistema de control y vigilancia:

Cobertura vegetal (SGMC): Imágenes satelitales y/o fotografía área, Visita aleatoria in situ, Evaluación cumplimiento Plan de Manejo

Planes de Inversión (SB): Cumplimiento elaboración participativa, Cumplimiento rendición de cuentas, Revisión de documentos de respaldo y/o verificación de obras, bienes u otros.

Annex 4 Key References and Background Reading

FAQs

Coastal Ecosystems. Why sound management of these key natural carbon sinks matter for greenhouse gas emissions and climate change

http://thebluecarboninitiative.org/wp-content/uploads/BC_FAQ_UNFCCC-2.pdf

National guidance on Blue Carbon

Guidance for national blue carbon activities. Fast-tracking national implementation in developing countries (2012)

http://thebluecarboninitiative.org/wp-content/uploads/BCPWG_NationalRecs_small.pdf

UNFCCC and current negotiations, land use

Land use in a future climate agreement, Donna Lee, Jim Penman, Charlotte Streck

<http://www.climatefocus.com/>

Positioning the land-use sector to contribute to post-2020 climate mitigation. Pipa Elias, Jason Funk and Nora Greenglass

http://cmsdata.iucn.org/downloads/land_use_white_paper.pdf

Project focused documents

Guiding Principles for Delivering Coastal Wetland Carbon Projects

Longer document and technical brief.

<http://www.cifor.org/library/5205/guiding-principles-for-delivering-coastal-wetland-carbon-projects/>

Science and technical advice

Coastal Blue Carbon: methods for assessing carbon stocks and emissions factors in mangroves, tidal salt marshes, and seagrass meadows".

<http://thebluecarboninitiative.org/manual/>

IPCC Wetlands Supplement

<http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html>

Further background

Herr, D. Pidgeon, E. and Laffoley, D. (eds.) (2012). Blue Carbon Policy Framework 2.0: Based on the discussion of the International Blue Carbon Policy Working Group. Gland, Switzerland: IUCN and Arlington, USA: CI. vi+39pp.

http://thebluecarboninitiative.org/wp-content/uploads/blue_carbon_policy_framework_2_0.pdf