IUCN

National Blue Carbon Policy Assessment Framework

Towards effective management of coastal carbon ecosystems

Dorothée Herr, Amber Himes-Cornell and Dan Laffoley

About IUCN

IUCN is a membership Union composed of both government and civil society organisations. It harnesses the experience, resources and reach of its 1,300 Member organisations and the input of some 15,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it. www.iucn.org

About UBO/AMURE/IUEM

The team of the International Chair in Marine Ecosystem Services is based at Center for Marine Law and Economics (AMURE) at the European Institute for International Studies (IUEM) and the University of West Brittany (UBO). The team includes researchers from Europe and North America and is led by Dr. Linwood Pendleton who is funded by the "Laboratoire d'Excellence" LabexMER (ANR-10-LABX-19) and co-funded by a grant from the French government under the program "Investissements d'Avenir", and by a grant from the Regional Council of Brittany.

About GRID-Arendal

GRID-Arendal is a Norwegian foundation and a centre collaborating with the United Nations Environment Programme (UNEP), supporting informed decision making and awarenessraising. www.grida.no

About Prince Albert II of Monaco Foundation

The Prince Albert II of Monaco Foundation is dedicated to the protection of the environment and the promotion of sustainable development on a global scale. The Foundation supports initiatives of public and private organizations, in the fields of research and studies, technological innovation and socially-aware practices. The Foundation supports projects in three main geographical zones and focuses its efforts focus on three main areas. http://www.fpa2.org/

About The Blue Carbon Initiative

The Blue Carbon Initiative is 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 Initiative currently focuses on mangroves, tidal marshes and seagrasses. The Blue Carbon Initiative brings together governments, research institutions, non-governmental organizations and communities from around the world. http://thebluecarboninitiative.org

About UNEP/GEF Blue Forests Project

The UNEP/GEF Blue Forests Project is a global initiative focused on harnessing the values associated with coastal marine carbon and ecosystem services to achieve improved ecosystem management. The project is implemented by the United Nations Environment Programme (UNEP) with partners worldwide and addresses key 'blue forests' knowledge gaps, as well as providing experience and tools to help ensure greater global application in the future. http://www.gefblueforests.org/

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Contents

Acknowledgements

Glossary

GEF	Global Environment Facility
ICZM	Integrated Coastal Zone Management
MSP	Marine Spatial Planning
NAMA	National Appropriate Mitigation Action
NBCPAF	National Blue Carbon Policy Assessment Framework
NBSAP	National Biodiversity Strategies and Action Plans
NDC	Nationally Determined Contributions
NPA	National Policy Assessment
PES	Payment for Ecosystem Services
REDD	Reducing Emissions from Deforestation and Forest Degradation
ROAM	Restoration Opportunities Assessment Methodology
SDG	Sustainable Development Goal
UAE	United Arab Emirates
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

Summary.
A five-step assessment framework

The value and role of mangroves, saltmarshes and seagrasses for climate change mitigation was established back in 2009 by reports by IUCN and UNEP to focus attention on addressing a critical gap in national carbon accounting and management. Despite the acknowledgement of the importance of these ecosystems in stemming climate change, many countries have yet to prepare for and implement targeted climate and carbon policies for coastal carbon ecosystems alongside other coastal priorities, challenges and demands.

This National Blue Carbon Policy Assessment Framework is helping to do just that.

Using a detailed Assessment Tool, coupled with field-testing in five countries, the National Blue Carbon Policy Assessment Framework provides countries with a straightforward, structured and easy-to-apply five-step assessment framework.

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

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

1

Background

Mangroves, saltmarshes and seagrasses are among the most productive ecosystems along our world's coastline. At the same time, they are the most threatened and vulnerable, with an estimated 340,000 to 980,000 hectares being destroyed each year.

Although the historical extent of these coastal ecosystems is difficult to determine, given dramatic losses occurred before researchers started accurately monitoring these ecosystems, 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.[1]

Mangroves, saltmarshes and seagrasses store carbon and provide numerous co-benefits including providing fish habitat, shoreline protection, biodiversity, and other ecological and socio-economic functions. These systems are affected by a number of human uses and policy actions that may directly or indirectly affect the carbon and ecosystem service functions they provide. The management of these coastal ecosystems is often absent or piecemeal as they are often the focus of a number of different kinds of separate sectoral policies (e.g. environment, conservation, biodiversity and marine resource use policies and initiatives), frequently implemented in policy isolation. The creation of new climate change related policies and initiatives (adaptation and mitigation) often has a terrestrial focus and either do not specify the management of coastal ecosystems, or, where they do, they do not adequately embrace existing coastal and marine policies.

Despite these inadequacies, within national policy frameworks opportunities exist to halt or reverse the degradation of these ecosystems and invest in their better restoration and overall conservation and sustainable management. This prompts the following questions:

- What do these opportunities look like at the national policy level?
- Where should countries, organisations, and individuals interested in aligning, reforming and strengthening their coastal management practices begin?

Here, we present the National Blue Carbon Policy Assessment Framework (hereafter referred to as the Framework) to help nations take steps to form their views and accordingly create the capacity needed to help respond to these questions.

Blue Carbon, Coastal Carbon, Blue Forests?

"Blue Carbon" is synonym for the various discussions around the role of coastal and marine ecosystems for climate mitigation. The coastal blue carbon aspects focus on mangroves, saltmarshes and seagrasses. The need to manage natural coastal carbon sinks and overcome critical gaps in GHG accounting and management practices was highlighted in 2009 [2].

The UNEP/GEF Blue Forests Project was designed to help overcome this "carbon gap" while building a bridge to value and align carbon policy and management practices with the many other ecosystem services mangroves, saltmarshes and seagrasses provide. This document uses "coastal carbon ecosystems" to refer specifically to mangroves, saltmarshes and seagrasses.

The Framework can, however, also be used as a tool to analyse the legal, policy, market and institutional conditions for the management of other coastal ecosystems.

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1   Pendleton, L., et al. (2012): Estimating Global "Blue Carbon" Emissions from Conversion and Degradation of Vegetated Coastal Ecosystems. PLoS ONE 7(9): e43542.

2   Laffoley, D. & Grimsditch, G. (eds) (2009). The management of natural coastal carbon sinks. IUCN, Gland, Switzerland. 53 pp; Nellemann, C., et al. (eds) (2009) Blue Carbon. A Rapid Response Assessment. United Nations Environment Programme, GRID-Arendal.

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1.1 Defining Policy Option, Policy Pathway and Priority Policy Pathway

The following three terms are frequently used in this document and are therefore described here in more detail.

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

- the introduction of specifically defined coastal carbon interventions in Nationally Appropriate Mitigation Actions (NAMAs) or Nationally Determined Contributions (NDCs) as cooperative actions between Parties to the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement;
- the incorporation of carbon and co-benefits into Marine Spatial Planning, Integrated Coastal Zone or Ocean Management Plans and regulatory instruments;
- market mechanisms for offsets and Payments for Ecosystem Services (PES) related to carbon and other benefits;
- incentives for improved management, payments for carbon offsets, payments for non-carbon ecosystem services; and,
- the design of local ecosystem conservation and restoration efforts, including Marine Protected Areas with a focus on carbon and improved benefits to coastal communities.

The policy options can be different in scope/level:

- National laws or strategies (e.g. Environment Code, National Biodiversity Strategy)
- Mechanisms & programmes (e.g. REDD+[3], PES, carbon offsets)
- Planning instruments (e.g. Marine Spatial Planning (MSP))

The policy options can support a variety of international, regional or national commitments, including e.g. UNFCCC, Convention on Biological Diversity (CBD) Aichi Targets and National Biodiversity Strategies and Action Plans (NBSAPS) and Sustainable Development Goals (SDGs).

It depends on the goals and existing conditions in each country whether and how different policy options can or should be nested.

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3   Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

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

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

The policy pathways can aim to:

- create or develop a new legislation, policy or mechanism;
- strengthen and revise, existing legislation, a policy or mechanism to unfold its full strength, and / or needs a revised scope; and/or
- implement and enforce, because legislation, a policy or mechanism is there, but does not have any impact because it is not properly implemented and/or enforced.

The policy pathways can describe steps to achieve a:

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

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

2

The Framework

2.1 Goals of the assessment

The National Blue Carbon Policy Assessment Framework provides guidance to countries seeking to move forward with developing synergized conservation and restoration programmes and strategies through existing or new national laws, policies and initiatives.

Successful management of coastal carbon ecosystems aims, but is not limited, to:

- Reducing the pressure on coastal carbon ecosystems and create incentives for restoration practices;
- Incentivizing sustainable management of coastal and marine natural resources through, for example, the use of rewards or payments schemes;
- Eliminating contradictory or incoherent laws, policies and institutional structures;
- Involving a broad and comprehensive planning horizon (e.g. using approaches like Integrated Coastal Zone Management (ICZM) or MSP) for the coastal zone; and/or
- Including and respecting local coastal communities in relevant planning and implementation efforts.

Goal of the assessment

Helping countries and agencies analyse the current situation with regard to coastal blue carbon, to identify **policy options** and **priority policy pathways**, leading to policy and management measures to safeguard and adequately manage critical carbon-rich coastal ecosystems.

The Framework provides a flexible and affordable framework approach for countries to rapidly identify and analyse their potential for more streamlined sustainable coastal ecosystem management at the national policy level. It will help to understand how the management of mangroves, saltmarshes and seagrasses can be incentivised through existing coastal management efforts, while aligning with or creating new climate and carbon related policies and mechanisms. It is frequently the case that climate and carbon related policies and mechanisms have not been applied properly, or to their fullest extent, to coastal carbon ecosystems. Applying the Framework enables a fuller potential for action to be realised.

The Framework helps to identify policy options for using the carbon value in these ecosystems appropriately, and to support resource managers prioritize action and identify the social, political, and scientific needs required to implement these policies. Knowledge acquired through this assessment will also help interested nations meet existing related international commitments for example under the CBD and UNFCCC, or to help meet obligations under the United Nation's SDGs.

By applying the Framework's step-wise approach, decision-makers can undertake a first order analysis of the challenges and opportunities associated with adopting a more comprehensive, and integrated approach to coastal management. The structuring of the Framework guides the user on how to analyse the application of existing legal and financial incentive schemes. This will include encouraging the use of available carbon and climate policies and financing schemes, often still ignored in national coastal management practices. Experience shows that the Framework is most effectively applied in combination with stakeholder consultation processes, as well as other steps outlined in the IUCN and the World Resources Institute's Restoration Opportunities Assessment Methodology (ROAM).[4]

Given the diversity of options available to countries, the Framework encourages countries to focus their actions. Not all possible policy options towards sustainable management of coastal carbon ecosystems can, or should, be pursued. The Framework therefore aims to help users identify one or several priority policy options that fit best within a country's ecological, market, policy, social, and institutional conditions and which are likely to have the biggest positive impact and success.

Examination of case studies from around the world in the development of the Framework shows that sustainable management of coastal carbon ecosystems is more likely to succeed if several conditions are in place. So what does success look like? Building on the experience gained through the ROAM process, this includes motivated and inspired decision-makers, coastal managers and/or citizens to catalyse processes that in turn lead to better coastal

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4   IUCN and WRI (2014). A guide to the Restoration Opportunities Assessment Methodology (ROAM): Assessing forest landscape restoration opportunities at the national or sub-national level. Working Paper (Road-test edition). Gland, Switzerland: IUCN. 125pp.
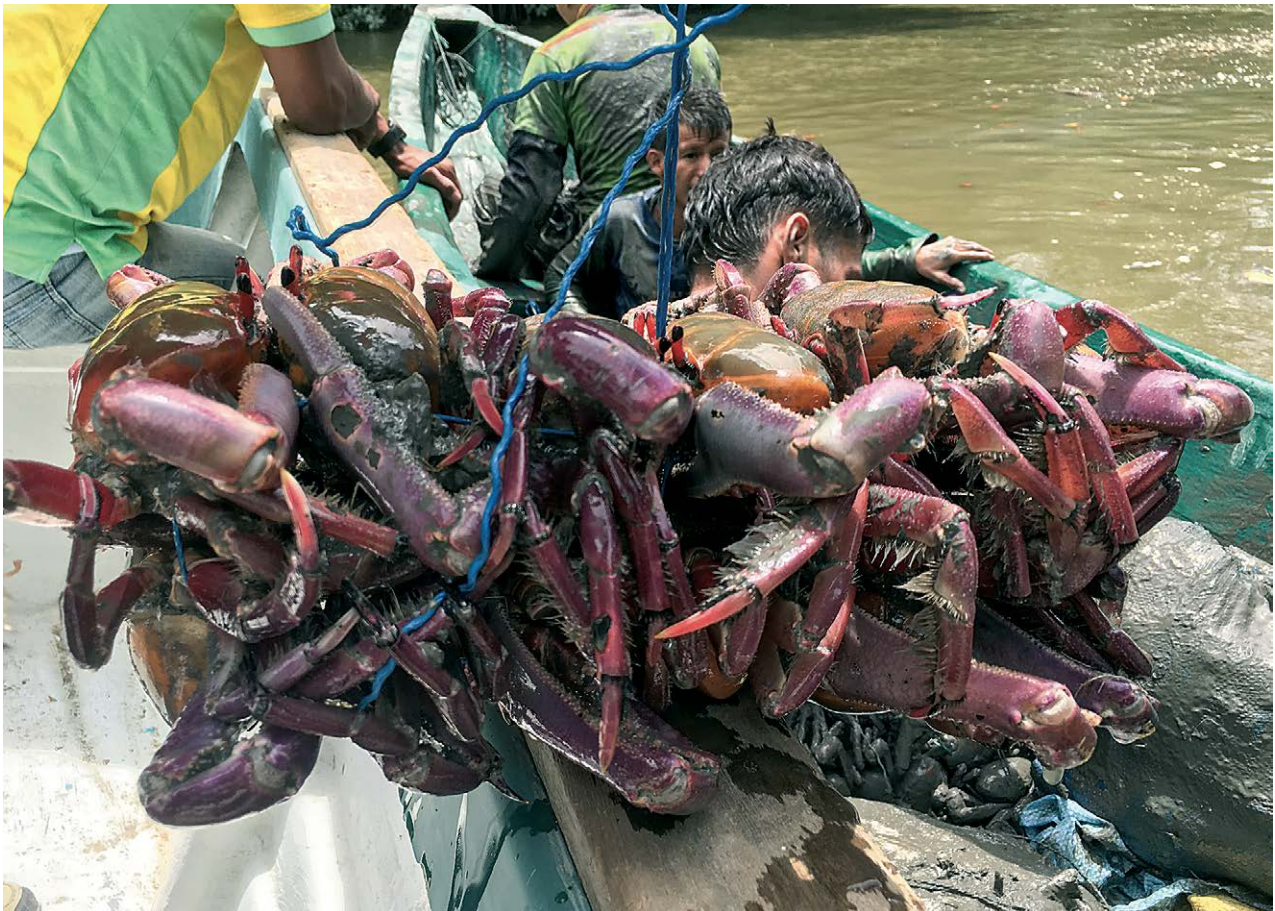
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management. Success also builds on the right ecological, market, policy, social and institutional conditions. Lastly, capacity and resources need to be in place in order to implement activities on a sustained basis on the ground. The Framework focuses specifically on the assessment of the legal, policy, market and institutional enabling conditions.

By implementing the Framework, decision-makers and stakeholders can expect to:

- receive better information for improved coastal management decision-making;
- develop fundamental knowledge to input into national strategies aimed at REDD+, climate change adaptation, biodiversity and aquaculture, among others, and for mutually reinforcing convergence between such strategies;
- gain high-level political support for more sustainable coastal management and engagement of, and collaboration among key policy-makers and decision makers from different sectors, as well as other stakeholders with interests in how coastal ecosystems are managed; and
- find a solution-oriented approach including different sectors with a shared understanding of threats and drivers of coastal carbon ecosystem loss and degradation.

The Framework can be undertaken by a small core assessment team through collaborative engagement with other experts and stakeholders. Ideally, the process, especially the priority setting as well as the strategy development part, is accompanied by stakeholder consultations.

2.2 Assessment Tool

The Framework is accompanied by an Assessment Tool, available as an Excel spreadsheet available here. The Assessment Tool provides a means to store and keep track of all the information collected and is meant to help the analysis and priority setting. Users might find this an additional support; however, the analysis and the steps described in detail below can also be undertaken without the Tool.

The Assessment Tool spreadsheet distinguishes between the following "category boxes" to manage and keep an overview of the likely large amount of information that can be expected to be gathered during an assessment process.

The Assessment Tool also provides additional guidance on what information to include in the different boxes, as well as some examples of strategies to address gap(s) in the key success factors.

Enabling conditions describe conditions which can create a favourable (or unfavourable) context for sustainable management of coastal carbon ecosystems and enable likely success. The Framework focuses on **legal, policy, market and institutional conditions** that facilitate each policy pathway (see Step 2 of the Framework):

Each enabling condition is then further detailed by its **features**. For example, features of the legal conditions are countries' Constitution or Forestry and Fisheries laws. These will then be assessed upon their status as key success factors.

The **key success factor** describes the condition that, when present, may increase the likelihood that sustainable management of coastal carbon ecosystems will successfully be initiated. For example, for the legal conditions and their features (i.e. various relevant laws), clear obligations and/or restrictions on clearing coastal ecosystems and/or restoration constitute a key success factor.

The **Comment** gives further context or clarification to the key success factor, for example, the language of a specific law with respect to restrictions on clearing coastal ecosystems

Question: The question users answer to determine whether the coastal ecosystems of one given country have the key success factor in place.

The **Response** box is the answer to the question. Candidate answers are "yes," "no," and "partly." "Partly" can refer to a key success factor's geographic coverage or degree of realization. Users merely check which response appropriately answers the question. Although it might fail to capture nuance and complexity, having just three answer options is intended to push for clarity in the diagnosis of the status of each key success factor.

The **Notes Response** box can include information that gives context or clarification whether this might be a priority policy pathway overall, and what challenges, issues or conflicts currently exists.

The **Strategies to address gaps** box explains the next steps that need to be undertaken in order to overcome any critical gap in a key success factor. For example, establishing laws that restrict cutting or clearing of remaining coastal ecosystems or enhance restoration activities.

2.3 Development and application of the Framework

The development of the Framework and the Assessment Tool has been informed by established methodologies as well as through case studies from the National Policy Assessments (NPAs). The latter also form part of the UNEP/GEF Blue Forests Project. The NPAs were conducted in five countries (Ecuador, Indonesia, Madagascar, Mozambique and United Arab Emirates (UAE)) ensuring that valuable lessons were extracted from situations with different social and political situations and development outlooks, and as well as through extensive discussions with scientists, policy makers, thought leaders and practitioners.

The NPAs not only support and inform policy development in those countries, but they also provide an opportunity for these countries to learn from each other about what has worked or not, why or why not, and which strategies were chosen to overcome existing challenges. As more countries apply the Framework and follow a similar approach, further lessons-learned and experience sharing efforts can be developed.

The Framework builds on, and is using elements, of the ROAM. The ROAM applies a much broader and detailed set of activities (i.e. mapping, economic modelling and valuation, finance and resourcing analysis), whereas the Framework focuses on the legal, policy, market and institutional analysis only. The Framework steps and questions (see section 3) build on questions and key success factors identified in "The Restoration Diagnostic. A Method for Developing Forest Landscape Restoration Strategies by Rapidly Assessing the Status of Key Success Factors".[5]

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5   WRI (2015). The Restoration Diagnostic. A Method for Developing Forest Landscape Restoration Strategies by Rapidly Assessing the Status of Key Success Factors. Washington, DC.

3

The assessment step-by-step

The Framework is a 5-step process

1 • Collect relevant background information on coastal carbon ecosystems.

2 • Identify the features of the enabling conditions

3 • Identify the status of the features, using the assessment tool

4 • Determine your policy priority option(s)

5 • Develop your policy priority pathway(s)
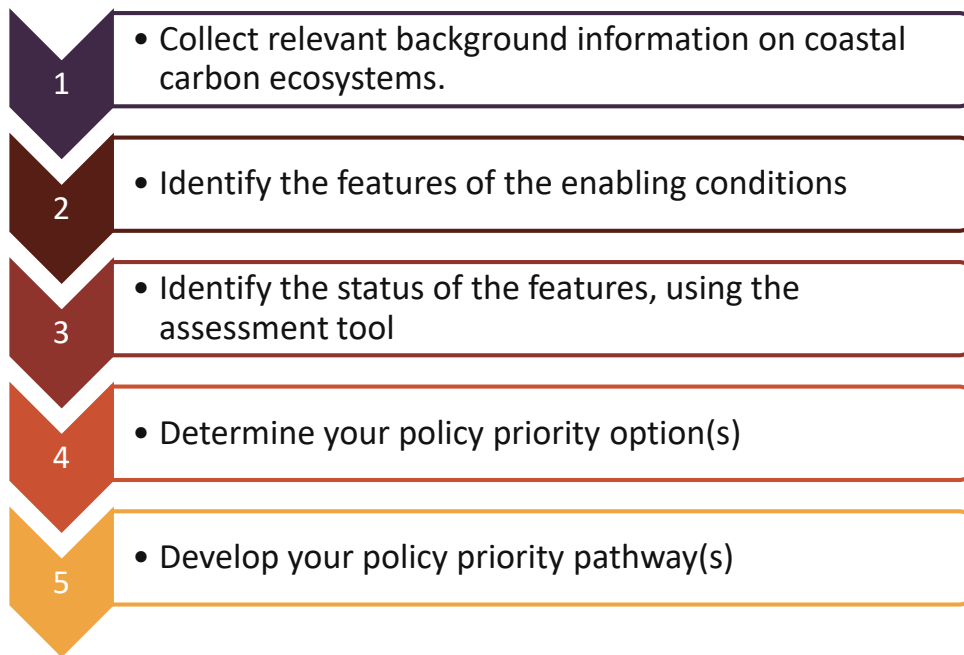
Step 1. Collect relevant background information on coastal carbon ecosystems

The Framework should start by providing basic information regarding the coastal carbon ecosystems in question, namely mangroves, seagrasses and saltmarshes. **This information is vital to identify priority policy pathways and related strategies to overcome existing challenges, issues and conflicts.**

Each assessment should include, as far as possible and as far as data is available:

- **Coastal carbon ecosystems found in the country;**
- **Geographical extent**: Location and size of coastal carbon ecosystems areas (map(s) if available);
- **Information on human activities in those areas and causes (drivers) of deforestation, ecosystem loss and degradation**. This includes direct drivers (or pressures) e.g. fuel or timber harvest, clearing for aquaculture or rice or indirect drivers such as population growth, shifts in global market, for example:

  - Trends (rates) of blue carbon ecosystem loss and degradation, if available info from past 10 to 20 years;
  - Current causes of ecosystem loss and degradation;
  - Future threats (projections) of ecosystems and degradation; and
  - Alternatives to current drivers of ecosystems and degradation;

- **Information on restoration activities conducted in coastal carbon ecosystems** (ongoing and planned), as well as overall potential for new restoration activities in the future (if available), and **information on potential available land viable for restoration[6] (if available);**
- **Information on already available carbon assessments (available data on sequestration and storage rates, as well as quantified or predicted carbon emissions).** This will help clarify whether specific carbon policies and climate change mitigation financing mechanisms (like REDD+ or carbon offset projects) are a viable option; and
- **Information on other ecosystem services** (if any specifics for the country) these ecosystems perform. This will help clarify whether specific policies and financing mechanisms (PES in tourism or from protected areas) are viable option.

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6   Restoration opportunities mapping, if not available, can be a separate but linked activity. For further guidance see for example IUCN and WRI (2014), pages 68-82.

How much, or how little, data is needed?

The background data as well as the information about the relevant legal, policy, market and institutional features are the cornerstone for a successful and meaningful assessment.

However, the background data is often lacking detail, is sometimes contradictory (e.g. exact areal extent) or even completely absent. The goal should be to use the best available scientific and technical information, and where relevant, to integrate the traditional, scientific, technical, and technological knowledge of indigenous and local communities.

In some cases there are regional or global data sets which can help inform national assessments like this, for example spatial data sets and online tools from UNEP–WCMC or from platforms such as the Global Biodiversity Information Facility http://www.gbif.org/. National reports (e.g. to the CBD and UNFCCC) or global assessments (e.g. Global Biodiversity Outlook) mostly contain the most recent and available information, for example, on areal sizes, restoration goals or information on ecosystem services.

In generalized terms, data collection steps include[7]:

- Review of peer-reviewed, grey literature and government available data sources;
- Collection of (additional) data from experts and stakeholders through workshops or other means;
- Commissioning, if possible, of new information-gathering exercises (e.g. surveys, satellite imagery and calculations to fill specific data gaps, verify existing data or update old data);
- Incomplete or unavailable data(sets) should however not be used as a reason not to conduct such an assessment. The assessment overall should be seen as an evolving process that should be continued to allow for improvements and reforming as improved scientific and technical information becomes available, or new mechanisms and incentives are being created.
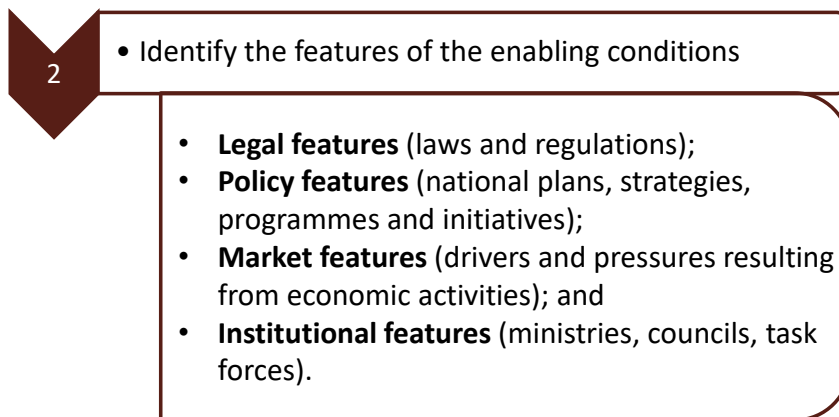

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7   IUCN and WRI (2014).

Step 2. Identify the features of the enabling conditions

The goal of this step is to provide an overview on the features of the four enabling conditions with relevance and application to the sustainable management of coastal carbon ecosystems:

> **2** • Identify the features of the enabling conditions
>
> - **Legal features** (laws and regulations);
> - **Policy features** (national plans, strategies, programmes and initiatives);
> - **Market features** (drivers and pressures resulting from economic activities); and
> - **Institutional features** (ministries, councils, task forces).

Legal features

> Does the government have laws requiring coastal landowners or managers to sustainably manage their coastal carbon ecosystems? If so, what are they?

Identify and list all relevant laws and regulations.

Relevant national laws govern, for example, forestry practices, fisheries, protected areas, and environmental impacts.

Policy features

> Does the government have policies that are relevant to coastal landowners or managers to sustainably manage their coastal areas? If so, what are they?

Identify and list relevant national policies, plans, strategies and programmes.

Relevant elements of coastal management can either be addressed in separate (standalone) policies, such as a Mangrove Management Action Plan, or be part of larger national policies, such as those on environment, conservation, biodiversity, climate change mitigation and adaptation and natural resources (fisheries, aquaculture).

Ensure that this includes one feature about land tenure/use rights.

Market features

> Are there competing demands for coastal resources as well as coastal carbon ecosystems for other uses? If so, what are they?

Identify and list all relevant competing demands for coastal resources (fisheries, aquaculture) as well as demands for coastal carbon ecosystems for other uses (e.g. port development, hotels, channelling and dredging).

Institutional features

> Does the government have institutions responsible for the sustainable management of coastal ecosystems? If so, what are they?

Identify and list relevant institutions.

Step 3. Identify the status of the features, using the Assessment Tool

The goal of this step is to create an overview of the status of the different features from the four enabling conditions. If of help, use the Assessment Tool.

3
• Identify the status of the features, using the assessment tool

- **Legal features**: - obligations or restrictions?
  - understood by audiences?
- **Policy features** - land tenure rights
  - change triggered by policies?
  - streamlined policies?
- **Market features** - demand for coastal products?
  - sustainable value chains in place?
- **Institutional features** – roles and responsibilities clear and understood?
  - coordination?

The Assessment Tool spreadsheet distinguishes between the following "category boxes" to manage and keep an overview of the likely large amount of information.

✓ Insert information/detail about the specific terms and conditions of the feature in the Comment box as needed to give further context or clarification.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail about issues, challenges or conflicts which currently exist for this feature.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

The Assessment Tool spreadsheet provides examples for each of the boxes.

Legal features

> Do the laws detail management obligations (e.g. restoration) or restrictions (e.g. restricting the clearing or cutting of remaining natural coastal ecosystems)?
>
> If "no", then what are the shortcomings?

Review all relevant laws and regulations regarding their management obligations. For each law and regulation:

✓ Insert information/detail about the specific terms and conditions of the obligation in the Comment box as needed to give further context or clarification.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail about issues or conflicts which currently exists with this law or regulation.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

The management of coastal areas has specific regulations, obligations and limitations. Restrictions on clearing remaining natural coastal areas can prevent further expansion of degraded or cleared areas, thereby enabling net

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coastal area gain. These restrictions also create an incentive to restore the productivity of already cleared areas since access to the coastal frontier is reduced. These restrictions can take the form of a specific share of coastal area that must remain under specific ecosystem cover, an extensive network of national parks and protected areas, an extensive network of coastal indigenous territories, communal lands having coastal protection rules, and more.

> Are the laws applicable to the sustainable management of coastal ecosystems broadly understood by relevant actors and enforced in a visible, credible, and fair manner?
>
> If "no", then what is the nature of the shortcoming?

Review all relevant laws and regulations as to whether they are broadly understood by relevant actors and regarding their enforcement. For each law and regulation:

- ✓ Insert information/detail about the level of understanding or enforcement in the Comment box as needed to give further context or clarification.
- ✓ Use the Response box to provide an overall assessment (green, yellow, red).
- ✓ Use the Notes on Response box for any information/detail about why the laws and regulations are not understood and/or enforced.
- ✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

It is not sufficient that a law requiring restoration merely exists; the law needs to be understood by affected entities and enforced by authorities if it is to motivate sustainable coastal management. It is not sufficient that regulations restricting clearing of remaining coastal ecosystems merely exist; the restrictions need to be enforced by relevant authorities. Particularly in remote areas, enforcement is in part a function of the capacity of law enforcement organisations and incentives for them to do their jobs.

Policy features

> Do those who manage the coastal areas have clear and secure rights to the benefits that would accrue from sustainable management of coastal ecosystems?
>
> If "no", then what rights are missing, and for whom?

Review existing land tenure right(s). For each type of land/user right:

✓ Insert information/detail about the land/user rights in the Comment box as needed to give further context or clarification.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail about the reasons for success or failure/challenges.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

Lack of (or insecure) land tenure and natural resource rights can discourage sustainable coastal management that involves human intervention. People will not invest in planting trees or sustainably manage the natural resources if it is not clear that they have secure rights to the benefit from these activities. Tenure and natural resource rights can be in the form of private land ownership, communal lands, user-right certificates, etc. Resource managers should also be sure that the tenure that is in place does not infringe on customary rights.

> Have all available policies been explored/used to trigger sustainable management of coastal carbon ecosystems?
>
> If "no", why not, and which are missing?

Review all relevant national policies, strategies, plans and programmes as to whether they have triggered positive changes for the sustainable management of coastal carbon ecosystems, their managers and local communities. For each policy, strategy, plan and programme:

✓ Insert information/detail about the specific impacts the policy has already had (e.g. establishment of new institutions, programmes or projects) in the Comment box as needed to give further context or clarification.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail about the reasons for failure/challenges and/or which policies might be missing.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

Relevant elements of coastal management can either be addressed in separate (standalone) policies, such as a Mangrove Management Action Plan, or be part of larger national policies, such as those on environment, conservation, biodiversity, climate change mitigation and adaptation and natural resources (fisheries, aquaculture). Government policies or initiatives with a focus on sustainable coastal management can trigger new institutions, programmes or projects being developed.

> Are policies that affect coastal management aligned and streamlined?
>
> If "no", then which policies are not aligned or streamlined?

Review all relevant national policies, strategies, plans and programmes whether they are aligned and streamlined. For each policy, strategy, plan and programme:

✓ Insert information/detail in the Comment box as needed to give further context or clarification.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail whether they are aligned or not, and any rational behind the non-alignment.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

Market features

> Is demand for converting coastal ecosystems and overuse/unsustainable use of products from coastal ecosystems declining?
>
> If "no", why?

Identify for each market feature whether demand for converting coastal ecosystems and overuse/unsustainable use of products from coastal ecosystems is declining. For each market feature:

- ✓ Insert information/detail in the Comment box as needed to give further context or clarification of the market feature and why it is declining.
- ✓ Use the Response box to provide an overall assessment (green, yellow, red).
- ✓ Use the Notes on Response box for any information/detail why the demand is not declining, or even increasing.
- ✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

Declining demand for coastal resources and areas is arguably one of the most important key success factors in light of increasing global demand for areas to generate food, real estate/coastal development and income.

> Are value chains in place allowing products from sustainably managed coastal areas to reach end consumers?
>
> If "no", then where is the value chain gap?

Identify for each market feature whether value chains in place allow for products from sustainably managed coastal areas to reach end consumers. For each market feature:

- ✓ Insert information/detail in the Comment box as needed to give further context or clarification on the value chains.
- ✓ Use the Response box to provide an overall assessment (green, yellow, red).
- ✓ Use the Notes on Response box for any information/detail why this might not be the case.
- ✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

This key success factor does not apply in cases where there is no intention to harvest or collect any marketable coastal or marine products. This key success factor refers to both market access and market demand for products and services derived from sustainably managed coastal areas.

For this step, "value chain" includes steps such as harvesting, collecting, processing, transporting, and distributing coastal and marine products. Markets include those for non-consumptive coastal ecosystems benefits, too, such as recreation, tourism, and watershed protection.

Institutional features

> Are the roles and responsibilities for sustainable coastal management clearly defined, understood among relevant actors, and coupled with authority?
>
> If "no", then what is missing in terms of clarity of roles and responsibilities?

Review and assess the roles and responsibilities for coastal management among relevant actors (e.g., government, civil society, private sector), and coupled with authority. For each actor:

- ✓ Insert information/detail about the specific roles and responsibilities in the Comment box as needed to give further context or clarification.
- ✓ Use the Response box to provide an overall assessment (green, yellow, red).
- ✓ Use the Notes on Response box for any information/detail about the reasons for failure/challenges.
- ✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

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In the absence of such clarity and coordination, inaction may occur due to important roles not being filled or due to institutions claiming overlapping responsibility. To adequately answer this question, users may need to map out the roles and responsibilities of actors. Be sure to recognize both vertical and horizontal relationships between entities.

> **Are relevant actors from government, civil society, and/or the private sector sufficiently coordinated to design, implement, and monitor sustainable coastal management of coastal carbon ecosystems?**
>
> **If "no", then what is missing in terms of coordination?**

Review whether relevant actors from government, civil society, and/or the private sector are sufficiently coordinated to design, implement, and monitor coastal ecosystems and their management. For each actor:

✓ Insert information/detail about the coordination efforts in the Comment box as needed to give further context or clarification, and why the coordination efforts are successful.
✓ Use the Response box to provide an overall assessment (green, yellow, red).
✓ Use the Notes on Response box for any information/detail about the reasons for failure/challenges.
✓ Use the Policy Priority box to include information which gives context or clarification whether this might be a priority policy pathway.

Coordination might need to be facilitated between government agencies (e.g. ministries such as agriculture, environment, forestry, and development); between national, state, and municipal governments; or between governments, nongovernmental organisations, and companies, to name a few.

Step 4. Determine your policy priority option(s)

The combined landscape of laws, regulations and policies applicable to coastal ecosystem management, including a variety of sectors such as environment, marine resources use (fisheries and aquaculture), biodiversity or climate change adaptation and mitigation is complex and comparatively comprehensive.

It is important to identify a priority policy option, or a selected number of priority policy options (or a combination thereof), to channel motivation, efforts and resources aimed at sustainable management of coastal carbon ecosystems. Not all policy options are feasible to implement given differences in social, political, economic, and scientific capacity and conditions within a site area or a particular country. Therefore, it is important to identify which policy option makes the most sense for a particular country.

Priority policy option(s) will help focus time and energy on developing strategies to address challenges and shortcomings in areas deemed to have the most prospect and be the most effective in the respective country.

> Which key legal, policy, market or institutional feature(s) and any combination thereof, need to be changed or strengthened to successfully implement sustainable management of coastal carbon ecosystems?

Assess, based on the complete (or as complete as possible) picture of the legal, policy, market and institutional conditions of your country summarized in the Assessment Tool, which policy pathways seem the most likely to be successful. Consider the following:

- Laws and regulations are favourable, or only need modest modification and/or enforcement
- Policies, strategies, programs or plans are already in place, aligned and streamlined, and need specific (but modest) efforts (e.g. more accurate data, funding, capacity) to be properly implemented
- New policies, strategies, programs or plans should be developed because their absence marks a missed opportunity (e.g. carbon finance or engagement of businesses and industries)
- New ways of engagement with the private sector are needed and indispensable in light of increasing global demand for areas to generate food, real estate/coastal development and income
- ✓ Use the Policy Priority box in the Assessment Tool to indicate your final choice(s)

For example, while REDD+ may seem a good option on paper to improve the status of mangroves, applying the Framework described above, it might show that either not enough data are available to fully incorporate the carbon value

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of mangroves, or that not enough accurate data of the extent of mangroves is available. Applying the Framework can also reveal that REDD+ is not (yet) enshrined in national legislation, creating uncertainty regarding project implementation and investment, or that REDD+ is (still) too cumbersome for local communities to benefit from such a scheme.

Or, for example, in country X, a NAMA developed in conjunction with the shrimp farm industry might be a great opportunity for more sustainable coastal management harnessing the carbon value of coastal ecosystems. In country Y however, a more community-based compensation scheme holds most promises.

Based on the "lay of the land" of the legal, policy, market and institutional conditions of a given country, this Framework gives a first indication of which policy options are most likely to improve the management of coastal carbon ecosystems and support local communities.

For specific decision-making tools see for example:

Pendleton et al. (2015). A triage approach to improve the relevance of marine ecosystem services assessments. *Mar Ecol Prog Ser*. Vol. 530: 183–193.

Step 5. Develop your policy priority pathway(s)

The goal of this step is to develop an implementable end-point-focussed delivery strategy or strategies to the policy priority option(s) in order to overcome existing challenges, issues and conflicts.

The successful implementation of policy options might require different activities, from newly established laws, to the revision of existing policies as well as different types of science, data, and methods. The policy pathways will outline the necessary strategies and elements needed to "get there".

> How do the key legal, policy, market or institutional feature(s) and any combination thereof, need to be changed or strengthened to successfully implement sustainable management of coastal carbon ecosystems?

Develop, based on the assessment, strategies to overcome challenges, issues and conflicts for your policy priority pathway(s).

✓ Insert ideas into the Strategy to address gaps box of the Assessment Tool.

The challenges, issues and conflicts should have been outlined during the assessment process itself – in the Notes on Response box of the Assessment Tool.

Given differences in social, political, economic, and scientific capacity and conditions within a site area or a particular country, the strategies can vary greatly, but could include, for example:

- Establish government law (or industry policy) that requires coastal managers to allow ecosystem recovery or limits/halts ecosystems loss.
- Establish laws that restrict cutting or clearing of remaining coastal ecosystems or enhance restoration activities.
- Conduct a communication campaign to make relevant actors aware of sustainable coastal management requirements.
- Take enforcement action (e.g., fines, denial of credit access, jail) against violations of restoration requirements.
- Ensure human and financial resources for enforcement are adequate.
- Reform policies to ensure that coastal managers have clear and secure rights to land and the natural resources (e.g. trees) on their land.

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- Develop new policies which incentivise sustainable management of coastal ecosystems, and ensure they are aligned and coordinated with other existing efforts.
- Recommend policy reforms to achieve positive implementation of existing policies.
- Pursue technical and financial measures to increase the productivity (yields per hectare) of existing aquaculture or other productive coastal areas to reduce pressures on conservation and restoration areas.
- Pursue technical and financial measures to increase the supply of coastal and marine natural resources from sustainably managed coastal areas.
- Encourage growth of markets (both supply and demand) for coastal products sustainably derived from restored and/or sustainably managed areas.
- Provide low-interest financing for businesses directly involved in the "restoration value chain".
- Create a national, state, or watershed Coastal Zone Management Plan that articulates roles and responsibilities among government, civil society, academic, and private sector entities.
- Within government, create an inter-ministerial Coastal Zone Task Force charged with coordinating government (national, state, municipal) activities for coastal management.

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- Create a multi-sector stakeholder coastal management initiative that sets the vision and coordinates activities across the area.

For example, if REDD+ is the country's policy priority option, the policy pathway should elaborate on the changes, if any, needed as part of the:

- Legal features (laws and regulations): e.g. new law of mangrove clearing ban, a new implementing law, or law enforcement.
- Policy features (national plans, strategies, programmes and initiatives); e.g. a revised national climate change strategy including mangroves into REDD+, while protecting their role for coastal adaptation; alignment of mitigation and adaptation targets; clear targets on restoration activities, etc.
- Market features (drivers and pressures resulting from economic activities); e.g. development of an agreement/ incentive mechanism/reward programme with the aquaculture industry incentivising more sustainable practices, which can help reduce emissions and improve carbon sequestration.
- Institutional features (ministries, councils, task forces); e.g. include mangrove relevant expertise in REDD+ task forces; clarify mandates over mangrove areas.

Not all features have to have strategies in any given pathway.

Further, the policy pathway would also elaborate which science, data or methods are needed to support successful implementation of policy option(s).

For example, in order to properly include the emissions from clearing of coastal carbon ecosystems, or the removals by coastal carbon ecosystem sinks into a REDD+ scheme, accurate GHG numbers need to be available. This is however often hampered by diverging data on areal extent.

Some guidance documents, such as the *Guidance for national blue carbon activities. Fast-tracking national implementation in developing countries* (September 2015) already provide some assistance.

4

Stakeholder engagement

Stakeholder engagement is key to not only receive relevant data and information, but above also to receive the buy-in, whether it is on the local community and natural resource user level or the highest policy level, for actual implementation.

This Framework refers back to the ROAM (IUCN & WRI 2014) which provides guidance on how to set-up and engage with different stakeholder groups in an assessment process, as well as how to organize, for example, inception workshops. While specific for forest landscape restoration, the essence of the guidance is also applicable to assessment work done for coastal carbon ecosystem management.

Blue Carbon is still a rather new topic for some stakeholders, including policy makers. It could be that some additional, preliminary awareness and communication activities about what Blue Carbon is, or how climate change mitigation policies can be beneficial for coastal area management are, or may be needed. Depending on the specific work, and the assessment team, key government agencies may actually be represented in the team itself. Sometimes hampered by budgetary constraints, these stakeholders will need to be consulted at major decision-making points, and/or invited to review results. While there are some general communication information and tools available on Blue Carbon[8], the best form of communication has to be decided and personalised, if needed, case-by-case.

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8   See for example http://thebluecarboninitiative.org/ or www.gefblueforest.org

5

Further guidance
on policy pathways

The goal of the Framework is to guide the user in its efforts to identify opportunities and priorities as well as means to overcome challenges in existing national laws, policies and initiatives for sustainable management of coastal carbon ecosystems. Once the priority policy options (see Step 4) are identified for a specific country or context, specific strategies need to be developed to overcome existing gaps and challenges (Step 5).

Further guidance on how to develop strategies for different policy pathways in order to achieve or realise a specific policy option will be developed following the publication of this Framework. This guidance will be based on the field projects in five countries and resulting NPA reports (as part of the UNEP/GEF Blue Forests Project).

These additional guidance documents (i.e. toolkits) will provide support on issues such as:

• existing legal constraints and/or requirements (e.g. forest definition);
• implications on or interference (positive or negative) with other existing policies, incentive schemes or programmes on mangroves (e.g. existing protected areas);
• necessary science and data (e.g. knowledge about areal extent, soil carbon stock or value of other ecosystem services); and/or
• communications materials necessary for successful policy dialogue.

These guidance documents will show, for example, available methodologies and approaches for carbon assessments as well as assessments of coastal ecosystem services tailored towards the needs to successfully "walk" a specific policy pathway. **Such guidance and tool kit(s) will be made available towards the end of the UNEP/GEF Blue Forests Project in 2018.**

Please consult the UNEP/GEF Blue Forests Project website (www.gefblueforests.org) or email the Project Coordination Unit (gefbf-pcu@grida.no) to receive further information.

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