# Protecting Seagrass Through Payments for Ecosystem Services:

A Community Guide





Association for Coastal Ecosystem Services Edinburgh Napier UNIVERSITY



#### **Edinburgh Napier University**

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#### Front Cover

Sea turtle resting on a seagrass bed. © Ewout Knoester

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Squids floating on seagrass beds © Ewout Knoester

#### Inside Images

We would like to express our thanks and appreciation to *Dr Amrit Dencer-Brown* for creating the illustrations within this document.

Degraded seagrass beds due to overgrazing by sea urchins. © *Ewout Knoester, Kenya* 

Seagrass meadows occuring adjacent to mangroves. © Gabriel Akoko, Kenya

Seagrass monitoring. © by Gabriel Akoko, Kenya.

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# **Protecting Seagrass Through Payments for Ecosystem Services:**

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## Objectives of this document

Seagrasses are an important part of many coastal ecosystems worldwide. They are flowering plants, or *angiosperms*, and grow as 'meadows' in subtidal and intertidal zones in tropical, subtropical and temperate seas. They provide many ecosystem services – the benefits to people provided by ecosystems – to those who live close to them and to people further afield. For example, they act as a nursery habitat for fish and shellfish, many of which are caught by fishers, and so help to boost the populations of marine species which provide food and income. They act as a coastal buffer, protecting the shore from erosion by waves and storms. They also trap large quantities of carbon, helping to mitigate climate change.

Seagrass meadows can be damaged and lost as a result of various human activities. These threats can be direct, involving the physical damage or removal of seagrass meadows (for example by fishing gears), or indirect, including smothering by sediment from land erosion upstream. Globally, the combined threats to seagrass have caused the loss of 29% of seagrass coverage worldwide in the last 100 years.

Seagrass is currently under-recognised by many governments and inter-governmental agreements. This is in part due to lack of recognition of the benefits that it provides to people, and its perceived lack of charisma by the public in comparison to other marine ecosystems such as coral reefs and mangroves, which receive more public attention. Even when appropriate legislation is in place, implementation is often lacking; the funds and expertise may not be available and seagrass is easily forgotten when competing with more obvious priorities.

Community-based conservation provides an opportunity to fill this gap in seagrass protection. Community-based conservation allows community groups to manage natural resources through an inclusive and structured approach that can be tailored to the needs and resources of the community. The primary beneficiaries and managers of a community-based seagrass conservation project will be the communities who live adjacent to seagrass meadows and depend on the seagrass for sustenance and/or income. Through a community-based approach, communities are empowered to manage the natural resources upon which they depend, delivering positive outcomes for both ecosystems and people.

One means of facilitating and funding communitybased conservation is by Payments for Ecosystem Services, or PES. Through PES, stewards of natural resources can receive funds for environmental protection, paid for by individuals or organisations who will benefit either directly or indirectly from their protection. PES transactions are usually regulated by third parties and are based on measurable outcomes – for example biodiversity conserved or carbon sequestered. To date, no Payments for Ecosystem Services projects are focused exclusively on seagrass conservation. However, there are examples of community groups using PES to facilitate coastal and 'Blue Carbon' conservation projects (examples of these are included here as case studies).

This document will explore the ways in which community groups could use PES to run a seagrass conservation project. It will outline the requirements of running a project and include bestpractice guidance on governing and operating a community-based conservation project.

### Scope of this document

This document does not provide step-by-step instructions on running a community-based seagrass conservation project; it does however provide guidance and best-practice advice on how to do so and acts as a 'signposting' guide to resources elsewhere. The scope of the document is intended to be global and so details of countryspecific legislation, cultural context or other factors that will be key considerations in running a community-based seagrass conservation project cannot be covered. It is intended for use by community groups and project developers with an interest in establishing a community-based seagrass conservation project. It provides general guidance for doing so as well as supplementary information on setting up a Payments for Ecosystem Services (PES) project. Here, we have a particular focus on carbon-based PES. This is because carbon trading provides the only existing global market that is relevant to seagrass, it is one of the best financed and most securely developed and the authors have most experience of dealing with it. However, this is not intended to imply that carbon will be the best or only option for seagrass-based PES in many situations; our intention is to describe features of PES that will be relevant in developing projects providing a range of services, but which generally use examples from the carbon market.

## Structure of this document

Sections 1 and 2 provide context for the document, describing the importance and conservation status of seagrass, the issue of climate change and how, in the context of climate change, seagrass conservation can capture and store carbon.

Section 3 outlines the benefits of communitybased conservation in contrast to traditional, 'top-down' governance.

Section 4 briefly outlines the factors to be taken into consideration when first planning a communitybased conservation project. These are expanded on in section 5, where the requirements are described in more detail. Section 6 encourages the building of professional networks to implement a community-based conservation project, with a case study from the Mikoko Pamoja project in Gazi Bay, Kenya.

Section 7 introduces Payments for Ecosystem Services (PES), with a focus on carbon-based PES. It outlines the principles of PES and how a carbon-based PES project is implemented. It describes the marketing and trading requirements of a carbon-based PES project, as well as the income that can be expected from a project. It outlines an anticipated timeline for establishing a project.

Contact details are given at the end of the document for organisations wishing to seek advice or support in establishing a community-based seagrass PES project.

## Table of Contents

Objectives of this documentii			
Scope of this documentiv			
Structure of this documentv			
Glossary of terms vii			
1.	Seagrass importance, threats and conservation status1		
2.	Climate change2		
3.	Benefits of community-based management/conservation3		
4.	. Planning a project4		
5.	Requirements of a community-based seagrass conservation project5		
	5.1	Financial	5
	5.2	Scientific & technical expertise/skills	6
	5.3	Governance	6
	5.4	Community engagement	7
	5.5	Benefits sharing	8
	5.6	Legal rights to govern	9
6.	Netwo	orks: value and how to engage	9
7.	Payments for Ecosystem Services11		
	7.1	What is PES?	11
	7.2	Principles of carbon PES	11
		7.2.1 Permanence	11
		7.2.2 Leakage	12
		7.2.3 Additionality	12
	7.3	Onerating a carbon-based seagrass PFS project	12

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