

Mangrove Ecosystem Conservation Manual

A focus on Kenya



FSPI Mikoko Conservation and resilience of Kenyan mangrove forest - 2021















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Kenya's Mangrove Participatory Knowledge Platform

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3.1 Introduction

Traditional "top down" approaches are unlikely to achieve the necessary changes for a sustainable mangrove ecosystem management and conservation. Instead, using a participatory knowledge platform, involving frontline stakeholders, will play a key role in ensuring acceptance of change and in creating the conditions for foresters and community based organizations to make effective contributions to their environment management.

In this perspective, a mangrove participatory knowledge platform was developed via a "social network" approach in the framework of *Mikoko* project, to facilitate sharing of knowledge and information among all stakeholders involved in mangrove conservation. In addition, it allows every stakeholder to contribute and build a database on mangrove ecosystem.

3.2 The process of building the participatory knowledge platform

To build a participatory knowledge platform it was necessary to communicate with the main *Mikoko* project stakeholders, (KFS, NMK, KMFRI, KEFRI, ICCA, CGL and local community) consulted and deliberated on the objectives, contents, structure and main functionalities of the platform. Two working groups were therefore, created to support the platform development:

 Working group 1: devoted to the platform content, data collection and curation on the various studies done on the Kenyan mangroves. This group comprised representatives from KFS, NMK, KMFRI, KEFRI, ICCA, CGL and local community. 2. Working group 2: devoted to technology development. This group comprised of representatives from KFS and NMK, supported by experts from French Institute of Pondicherry and Strand Company in India recognized for their expertise in the field of information technology for biodiversity assessment. The platform is generic and extensible to other ecosystems. The program code is open source.

3.3 Participatory knowledge platform description

The participatory knowledge platform will gather and exchange relevant data and knowledge on mangrove socio-ecosystem, providing a reliable and sustainable mangrove management tool in Kenya. It is composed of 3 interconnected modules:



The Mangrove ecosystem module is a key module covering the biodiversity of mangrove with pages describing plants and animals occurring in the Kenya Coast. The structure of the species pages gather information on varied subjects as taxonomy, synonyms and common names in other languages, a detailed descriptions related to major aspects of the species biology, ecology, distribution, uses and

a list of accessible bibliographical references used as sources on mangrove species descriptions. A set of pictures illustrating various aspects of species is also available.

This module also hosts a graphical tool to help identify plant species of mangrove ecosystems.



The Livelihoods module is devoted to diversity of socio-economic activities. The structure of this module has the flexibility to receive various information from bibliographic sources, from scientific partners involved in the management of mangrove resources and enriched with knowledge from local users. This module also covers the extent or the importance of certain uses and their possible methods of harvests as well as their markets and demands.



The **Monitoring Module** is essentially based on the compilation and analysis of maps offering a visual spatial and temporal representation, observations (photos), field data on different thematic categories including (mangrove forest, mangrove plantation, degraded mangrove, villages, infrastructures, aquaculture...).

What is interesting to monitor? Land occupation,

evolution of tree planted, destructive activities, rehabilitation methods and techniques used in Kenya (and in other regions of the world). Best practices and challenges are highlighted to learn from experiences of different initiatives on protection and restoration of mangroves for continual improvement.

3.4 Stakeholders of the Participatory Knowledge Platform

The platform to be implemented are anchored under the National Mangrove Ecosystem Management Plan 2017 - 2027 of Kenya whose implementation spearheaded by **Kenya Forest Service** (KFS), along with other key actors such as State Department of Fisheries and Blue Economy, **Coastal County Governments,** Kenya Wildlife Service, research institutions, and local Communities along the coast.

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The contribution of main stakeholders to the platform are identified as follows:

The policy and legislative frameworks that guide the implementation processes are led by the following government agencies including; the **National Environment Management Authority**



of Kenya (NEMA), KFS, KWS, SDF&BE, Coastal County Governments. The Ministry of Lands, Physical Planning, Housing, Urban Development, Infrastructure and Energy are involved in providing planning, ICT expertise



and data.

Local communities who are involved in the participatory management framework of the mangrove resources are the first and the ultimate stakeholders of the *Mikoko* participatory platform. The community may be organized in groups with different interests, knowledge and practices. This plays a key role in knowledge exchange, use and promotion of

the participatory platform on the mangrove ecosystem.

The research institutions contribute scientific knowledge to this platform. The institutions include: Kenya Marine and Fisheries Research Institute (KMFRI) provides scientific data and information for sustainable exploitation, management and conservation of Kenya's marine resources.



Kenya Wildlife Service (KWS) contribute in assessment of wildlife biodiversity in marine ecosystem.

The **Kenya Forestry Research Institute** (KEFRI) with the Coast Eco-Region Research Programme (CERRP) is mandated to conduct research and provide information and technologies for sustainable development and management of forestry, which includes mangroves and other terrestrial forests.

National Museums of Kenya (NMK) contribute with biodiversity and bioinformatics data and reconstruction of the past changes in mangrove.

Institute of Climate Change Adaptation (ICCA-University of Nairobi) and **South-eastern Kenyan University** (SEKU), provide data on climate change issues, policy conservation, community participation and biophysical and ecological aspects.

CIRAD & IRD provide financial, scientific and technical capacity to the platform. In addition, they provide mentorship and training to reinforce local capacities.

3.5 Be part of this initiative!

https://portal.mikoko.co.ke/?lang=en

The platform facilitates communication processes among the stakeholders, enables community engagement, serves as an instrument to cooperate, stay up to date and promote positive changes.

Stakeholder engagement and participation is essential for effective conservation and management of mangrove ecosystem.

Sharing compiled data, such as indicators, changes in forest cover, vulnerabilities, socio-economic priorities, among others, could be very useful for governance and participatory management decisions.

The platform counts on your participation and contribution for its sustainability!

Participatory knowledge platform diagram



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