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Towards a Regional Mangrove Vision and Action Plan for the Western Indian Ocean:

Synthesis of Information, Policy, Practices and Recommendations

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Towards a Regional Mangrove Vision and Action Plan for the Western Indian Ocean Region: Synthesis of Information, Policy, Practices and Recommendations

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Cover Photo: Mangroves of Gazi bay (Photo credit@Lilian Mwihaki)

About Western Indian Ocean Mangrove Network

The Western Indian Ocean Mangrove Network (WIOMN) is a forum for scientists, managers and policy makers from government and NGOs interested in mangrove conservation in the Western Indian Ocean region. The network was established in 2011 to contribute to solutions for addressing challenges in mangrove management and conservation at local, national and regional levels.

About Save Our Mangroves Now! Initiative

Save our Mangroves Now! (SOMN!) is a joint commitment of the German Ministry for Economic Cooperation and Development (BMZ), Worldwide Fund for Nature (WWF), International Union for Conservation of Nature (IUCN), and Wetlands International to intensify efforts in mangrove conservation around the world. The goal of SOMN! is to raise political ambition and create partnerships to halt the decrease of mangroves globally; with specific priority to the WIO region. SOMN supports the target of the Global Mangrove Alliance (GMA) to increase the global area of mangrove habitat by 20% over its current extent by 2030. The initiative thus contributes to the achievement of international agreements and processes (mainly 2030 Sustainable Development Goals, UNFCCC and CBD, UN Decade of Ecosystem Restoration, IUCN WCC Resolution)

ACKNOWLEDGMENT

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ACRONYMS

BMZ	German Federal Ministry for Economic Cooperation and Development
CBD	Convention on Biological Diversity
COP	Conference Of the Parties
CP	Contracting Parties
IUCN	International Union for Conservation of Nature
KMFRI	Kenya Marine and Fisheries Research Institute
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NMCi	Northern Mozambique Channel Initiative
RAG	Regional Advisory Group
RMVAP	Regional Mangrove Vision and Action Plan
SDGs	Sustainable Development Goals
SOMN	Save our Mangroves Now
TOR	Terms of reference
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WIO	Western Indian Ocean
WIOMN	Western Indian Ocean Mangrove Network
WWF	World Wide Fund for Nature

1.0 BACKGROUND INFORMATION

The discussion paper on regional mangrove vision prepared under the initiative of Save Our Mangroves Now (SOMN) was presented at the Nairobi Convention's Regional Science to Policy meeting in March 2021[1]. The paper called Nairobi Convention Secretariat, Parties and Partners to:

- Develop a Regional Mangrove Vision and Action Plan
- Facilitate the mainstreaming of mangroves into national development planning (e.g. Nationally Determined Contributions etc.);
- Establish the relevant institutional structures such as a Regional Advisory Group (RAG) for supporting synergies between mangrove-related initiatives, crafting elements of the Regional Mangrove Vision and Action Plan (RMVAP), and supporting regional policy dialogues on mangroves.
- Create a strong case for the RMVAP through regional and global dialogues to enhance mangrove conservation goals, commitments and priority needs at regional and international level. This will help in elevating the profile of the WIO region as a "mangrove champion' globally.

Similar sentiments were presented as a white paper on 'mangrove regional dialogues' released by SOMN in July 2021[2]. In the white paper, the values of mangroves to climate, community and biodiversity conservation were re-emphasized. The paper also noted the similar challenges and opportunities facing mangroves in the WIO region. Common vision and legislative frameworks are, therefore, desirable to manage and govern WIO mangrove resources in a coordinated and effective manner.

Nairobi Convention held its 10th Conference of Parties (COP 10) from 23rd -25th November 2021, where member states agreed to maintain a healthy and prosperous WIO regional sea. Hosted by Madagascar, COP 10 brought together the ten signatories to Nairobi Convention - Comoros, Kenya, France, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, and Tanzania – to decide on major priorities and strategies for working together to protect, develop, and manage the WIO region over the next two years. Under Decision CP. 10/12 (d).... *Contracting Parties urged the Secretariat to develop and implement a regional mangrove action plan through the Western Indian Ocean Regional Mangrove Network*. Such an action plan could outline priority needs for mangrove restoration, channel investments into restoration, and mainstream mangroves into national development planning.

1.1 Why a Regional Mangrove Vision and Action Plan for WIO?

Mangrove forests are extraordinary ecosystems, providing a wide range of benefits to humans, including exceptional carbon sequestration and protection against climate change impacts. Despite occupying only 0.7% of the tropical forest area[3], mangroves account for about 3 - 4% of global carbon sequestration by forests[4] [5] and 10 –15% of total carbon sequestration in the coastal ocean[6]. This is in

[1] Ralison, H., Wamae, T., Sberna, T., Puk, L., and Neuhaus., 'Discussion Paper: Towards a Regional Mangrove Vision.', 2021.
[2] Ralison, H, .'.White Paper for Underpinning the Mangrove Regional Policy Dialogues', 2021.
[3] Giri, C., Ochieng, E., Tieszen, L., Zhu, Z., Singh, A., Loveland, T., ... & Duke, 'Status and Distribution of Mangrove Forests of the World Using Earth Observation Satellite Data', *Global Ecology and Biogeography*, 20.1 (2011), 154–59.
[4] Bhomia, R. K., Kauffman, J. B., & McFadden, T. N. 'Ecosystem Carbon Stocks of Mangrove Forests along the Pacific and Caribbean Coasts of Honduras. Wetlands Ecology and Management, 24(2), 187-201.', 2016.
[5] Alongi, D. M. 'Carbon Balance in Salt Marsh and Mangrove Ecosystems: A Global Synthesis. JOURNAL OF MARINE SCIENCE AND ENGINEERING, 8(10). Https://Doi.Org/10.3390/Jmse8100767', 2020.
[6] Alongi, D. M. 'Carbon Cycling and Storage in Mangrove Forests. Annual Review of Marine Science, 6, 195-219.', 2014.

addition to the support value of mangrove to coastal fisheries[7], shoreline protection[8] [9] and the provision of harvestable wood and non-wood resources to coastal communities[10] [11] [12]. Unfortunately, over the last century, 67% of mangrove forests worldwide have been lost due to human and natural drivers[13]. When mangroves are lost or their areas are converted for other land uses, their co-benefits to human society are greatly diminished along with the ecosystems' capacity to sequester carbon[14].

The Western Indian Ocean (WIO) region is composed of five mainland states: Somalia, Kenya, Tanzania, Mozambique, and South Africa, and five Island states: Mauritius, Comoros, Seychelles, Madagascar, and Reunion (France) (Fig.1). Within this region, the total area occupied by mangrove forests is estimated at 1.0 million hectares, representing some 5% of global mangrove coverage. At least 99% of mangroves in WIO occur in only four countries - Kenya, Tanzania, Mozambique, and Madagascar. It is on this basis that priority SOMN initiatives in WIO are in the four countries. Nine mangrove species have been described in the WIO region with the dominant species being *Rhizophora mucronata, Ceriops tagal, Avicennia marina, Bruguiera gymnorrhiza* and *Sonneratia alba* that occur in either mixed or pure stands[15].

2.0 SCOPE OF WORK AND METHODOLOGY

The overall objective of this study is to facilitate making the WIO region a global champion of successful mangrove conservation, and to help countries of the region agree on *a joint mangrove vision and action plan*. More specifically the objective was to synthesize mangrove information from identified important documents by pulling out key take-aways, recommendations and synergies to support the first short-term objective of the Regional Policy Dialogue, which was;

'Key actors have aligned understanding of mangroves' context and stakes (at policy, institutional, ecological, socio-economic (etc.) levels) in the WIO, and have identified the key opportunities to forge ahead sustainable mangrove use (alongside associated coastal ecosystems)'.

The work involved desktop reviews of key documents on mangroves in WIO. Additional information was through findings and recommendations from the First Regional Policy Dialogue meeting held on 19th January 2022; as well as Decision CP. 10/12 (d) adopted by Contracting Parties of the Nairobi Convention.

[7] Barbier, E., Hacker, S., Kennedy, C., Koch, E., Stier, A., & Silliman, 'The Value of Estuarine and Coastal Ecosystem Services', *Ecological Monographs*, 81.2 (2011), 169–93.
[8] Alongi, D. M. 'Carbon Sequestration in Mangrove Forests. Carbon Management, 3(3), 313-322.', 2012.
[9] Alongi, 'Carbon Cycling and Storage in Mangrove Forests. Annual Review of Marine Science, 6, 195-219.'
[10] Siikamäki J, Sanchirico J, 'Global Economic Potential for Reducing Carbon Dioxide Emissions from Mangrove Loss. Proceedings of the National Academy of Sciences of the United States of America', 2012.
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[13] Spalding, M., & Leal, 'The State of the World's Mangroves 2021. Global Mangrove Alliance', 2021.
[14] Pendleton L., D.C. Donato, B.C. Murray, S. Crooks, W.A. Jenkins, 'Estimating Global "Blue Carbon" Emissions from Conversion and Degradation of Vegetated Coastal Ecosystems. 7(9): E43542. Doi:10.1371/Journal.Pone.0043542', *PLoS ONE*, 2012.
[15] Bosire J., Mangora M., Bandeira S., Rajkaran A., Ratsimbazafy R., Appadoo C. Kairo J. (eds.), 'Mangroves of the Western Indian Ocean: Status and Management. WIOMSA, Zanzibar Town', 2015.

Figure 1: Mangroves in WIO (Source: http:// data.unep-wcmc.org).

3.0 SUMMARIES OF KEY FINDINGS

3.1 Mangrove status, conditions, and restoration potentials in WIO

According to reports by Global Mangrove Alliance (GMA), the world mangrove cover in 2016 was estimated at 13.6 million ha, having declined over the last 20 years at a net loss of 4.3%; though the rate of loss has declined from 0.26%/yr. (1996-2010) to 0.11% /yr. (2010-2016). The data is based on Global Mangrove Watch (GMW), an online platform that provides synthesized remote sensing data and tools, built to catalyze the action needed to protect and restore mangroves worldwide (https://www.globalmangrovewatch.org). GMW gives universal access to real-time data on where and what changes there are to mangroves around the world, and highlights why they are valuable in multiple contexts. Currently, the GMW v2.0 [16] is the most up to date mangrove extent at the highest spatial resolution available.

Over the 1996-2016 period, mangrove cover in WIO region declined by 3.99%[16] (Table 1).This is a slight improvement from the 8% decline reported between 1975 and 2000[17] [18]. Highest losses have been recorded in Mozambique and Kenya. Total restoration potential of mangroves in WIO is estimated at 40,900ha (Table 1). Guidelines on ecological mangrove restoration in WIO region that could be used to recover the lost mangrove forests and transform degraded systems into uniform stands of higher productivity, already exist[19]. These guidelines recommend appropriate and iterative engagement of local stakeholders to ascertain and safeguard their interests and expectations while making the most practical, useful and acceptable restoration interventions.

Table 1: Extent of mangroves (ha) in priority WIO Countries (1996-2016)

Country	Extend 2020 (ha)	Average Annual Loss % (1996-2016) ha	Loss trend % (1996-2016)	Restorable potential(ha)
Kenya	52,783	0.23	4.58	3,351
Tanzania	114,417	0.12	2.43	3,611
Mozambique	338,027	0.32	6.32	25,899
Madagascar	270,955	0.09	1.71	8,039
Total	**776,182**	**0.20**	**3.99**	**40,900**

(Source: Spalding & Leal 2021; Mapping ocean wealth: Global Mangrove Alliance)

3.2 Socio-economic characteristic of mangroves in the WIO

Coastal areas in the WIO region are inhabited by up to 60% of a country's population (Table 2). These are the people that directly interact with coastal and marine resources including mangroves. For example, in Kenya and Madagascar, over 500,000 people are estimated to directly depend on mangrove goods and services for their livelihood. Mangroves provide harvestable wood and non-

[16] Bunting,M, Rosenqvist P. Lucas, A.; Rebelo, L; Hilarides, M,Thomas, L, Hardy, N; Itoh, A. Shimada, T; Finlayson, M 'Global Mangrove Watch (1996–2016) Version 2.0; Zenodo: Genève, Switzerland, 2019. [CrossRef]'.
[17] FAO, 'The World's Mangroves 1980-2005. A Thematic Study Prepared in the Framework of the Global Forest Resources Assessment, United Nations, Rome', 2007.
[18] UNEP/Nairobi Convention Secretariat, 'Transboundary Diagnostic Analysis of Land-Based Sources and Activities Affecting the Western Indian Ocean Coastal and Marine Environment', 2009, 1–291.
[19] UNEP 2020. UNEP-Nairobi Convention/USAID/WIOMSA (2020). Guidelines on Mangrove Ecosystem Restoration for the Western Indian Ocean Region. UNEP, Nairobi, 71 pp.

wood products such as fuel wood, poles, timber, honey and traditional medicine. Fishing, aquaculture, salt extraction and ecotourism are economic activities developed in the mangrove areas across the region. Mangroves, *Rhizophora mucronata* and *Ceriops tagal*, constitute some 70% of the mangrove formations in Kenya and Tanzania; and are exploited to meet wood requirements for the local communities. In Mozambique, the dominant formation is *Avicennia marina* which is harvested for fuelwood and furniture.

Mangroves serve as habitat and nursery grounds for fish and other wildlife[20] and protect the shoreline from erosion. The forest provides nesting and resting grounds for migratory and sea birds and other wildlife. In the context of climate change, mangroves capture and store 3-5 times more carbon per unit area when compared to their terrestrial counterparts[21] Stable and resilient mangrove ecosystems support the associated ecosystems such as seagrass beds and coral reefs thus maintaining ecosystem health, functioning and integrity of coastal areas[22]. Total economic value of mangroves has been estimated at US$ 33,000-57,000/ha/yr.[23] [24]. Contributions of mangroves to the people of Mozambique has been estimated at US$7.8 billion/yr., followed by Tanzania (2.1 billion/yr.), Madagascar (530.4million/yr.) and Kenya (85.8 million/yr.)- Table 2. Economic valuations of mangroves are challenged by the unavailability of genuine market chain values due to restrictions surrounding their exploitation.

Table 2: Socio-economic characteristics of mangroves in priority WIO countries.

	KENYA	TANZANIA	MOZAMBIQUE	MADAGASCAR
Country population (millions	53.7	59.7	31.2	27.7
% Population living in coastal areas (within 10km)	8.4	25	60	8
Mangrove extent (ha)-(GMA)	52,783	114,417	338,027	270,955
Annual mangrove loss (%)	0.23	0.12	0.32	0.09
Value of mangroves (US$)	85.8 million / yr.	2.1 billion/ yr.	7.8billion/ yr.	530.4million/yr.
Key direct uses	Poles, fuelwood, fisheries, ecotourism, honey production	Fuelwood, poles, timber, honey, medicine, fisheries, ecotourism	Poles, fuelwood, food, fisheries	Fuel wood, poles, fisheries, aquaculture, lime production, wild silkworm breeding
Threats	Overharvesting, pollution, sedimentation, diversion of fresh water	Encroachment, overharvesting, unsustainable fishing practices	Overharvesting, encroachment, conversion, sedimentation, pollution, coastal erosion	Sedimentation, overharvesting, coastal, conversion, erosion, climate change

Source: (World Bank 2020; Mangrove extent: Global mangrove Alliance; Roots of Hope 2021; Macamo et al., 2021; Rabemananjara et al., 2021; Manzi and Kirui 2021; Mangora et al., 2021)

[20] Huxham, M., Kimani, E., & Augley J, '(2004). Mangrove Fish: A Comparison of Community Structure between Forested and Cleared Habitats. Estuarine, Coastal and Shelf Science, 60(4), 637-647.', 2004.
[21] Donato, D. C., Kauffman, J. B., Murdiyarso, D., Kurnianto, S., Stidham, M., & Kanninen,M 'Mangroves among the Most Carbon-Rich Forests in the Tropics. Nature Geoscience, 4(5), 293-297.', 2011.
[22] Lee, S. Y., Primavera, J. H., Dahdouh-Guebas, F., McKee, K., Bosire, J. O., Cannicci, S., ... & Record,S 'Ecological Role and Services of Tropical Mangrove Ecosystems: A Reassessment. Global Ecology and Biogeography, 23(7), 726-743.', 2014.
[23] Sathirathai, S. & Barbier, 'Valuing Mangrove Conservation in Southern Thailand', *Contemp. Econ. Policy*, 19.109–122 (2001).
[24] UNEP-WCMC, *The Importance of Mangroves to People: A Call to Action*, *United Nations Environment Programme World Conservation Monitoring Centre.*, 2014 <https://doi.org/ISBN: 978-92-807-3397-6>.

3.3 Drivers of mangrove change in WIO

Around the world, mangroves are threatened by a combination of human and natural factors. The major cause of mangrove loss in the WIO region is non-productive conversion of their habitat (Table 3). This entails conversion of mangroves to unused land as a result of human influences (e.g., over-utilization of mangrove wood products, conversion of mangrove areas to other land uses, or human-driven hydrologic disturbance). Human induced mangrove drivers are responsible for over 60% of mangrove loss. Natural drivers make up the remainder, including erosion, sea level rise, and storms, many of which are being exacerbated by climate change[25].

Table 3: Drivers of mangrove loss in priority WIO countries.

	Erosion	Commodities	Settlement	Non-productive conversion	Extreme weather events
WIO region	24%	7%	1%	36%	32%
Kenya	25%	0%	6%	63%	7%
Tanzania	13%	17%	6%	29%	35%
Mozambique	45%	1%	2%	28%	25%
Madagascar	14%	10%	0%	40%	36%

The underlying root causes of loss and degradation of mangroves in WIO have been identified as population pressure, poverty and inequality, poor governance, economic pressure, and climate change.

3.4 Mangrove governance Framework in mangrove conservation in WIO

The report by IUCN Environmental Law Center explored different policies, legal and institutional frameworks governing mangrove conservation across the WIO countries[26]. Governing structures of mangroves in the region are fragmented and complex. This is because mangroves are covered by legislations from several different sectors including forestry, marine, fisheries, water and wetlands and climate change with explicit prohibitions on activities in the mangroves occurring in forest, wildlife, wetland or environmental legislation. Table 4 summarizes the governance and management structures of mangroves in priority WIO countries with nearly 99% of mangroves coverage in the region.

Table 3: Management frameworks of mangroves in WIO Countries (Source: Slodian and Badoz, 2019)

Country	Land tenure & user rights	Management
Kenya	● Mangrove forests in Kenya are gazetted as **government forest reserves** ● User rights for mangrove resources are provided for in **forestry, fisheries and environmental** legislations	● **Kenya Forest Service** (KFS) is the legal entity mandated to manage all forest reserves in Kenya, including mangroves; that are co-managed with the **Kenya Wildlife Service** when they occur within Marine Protected Areas ● **Community participation** in the management of mangrove forests is enshrined in the Forest Conservation and Management Act. ● There exist a **national mangrove management plan for Kenya (2017-2027)**

[25] Bosire J., Mangora M., Bandeira S., Rajkaran A., Ratsimbazafy R., Appadoo C. Kairo J. (eds.)
[26] Slobodian, L. N., Badoz, L., 'Tangled Roots and Changing Tides: Mangrove Governance for Conservation and Sustainable Use. WWF Germany, Berlin, Germany and IUCN, Gland, Switzerland. Xii+280pp', 2019.

Tanzania	● Mangrove forests are state forest reserves. ● There is a developed **benefit sharing modalities, tenure and user rights though with challenges in implementation**	● In Tanzania mainland, **Tanzania Forest Service (TFS),** an agency under the Ministry of Natural Resources and Tourism (MNRT) oversees management of forest resources, including mangrove forest. ● Community participation in the management of mangroves is through **Joint Forest Management** (JFM) enshrined in Tanzania Forest Act of 2002 and National Forest Policy of 1998). ● The National mangrove management plan for mainland Tanzania (1989 to 1991) needs revision. The Plan was insufficiently implemented because of a lack of funding, inadequate technical resources, and the absence of an enabling and coordinated institutional framework ● In Zanzibar, the forest sector is under the Department of Forest Development in the Ministry of Agriculture and Natural Resources (MANR), but with the establishment of the new Ministry of Blue Economy and Fisheries, the institutional placement and mandate of mangroves need to be discussed and/or effective coordination developed.
Mozambique	● Mangroves are legally protected by the state ● There is **no commercial licencing for timber extraction** ● there is some degree of tolerance for **subsistence mangrove** harvesting by communities	● Mangrove management falls under the Ministry of Land, Forest and Rural Development (MITADER) through the National Directorate of Environment (DNAB), the National Directorate of Forest (DNF) and the National Agency for the Quality control of the Environment (AQUA) ● C**ommunity-based natural resource management** is one of the elements enshrined in the Constitution
Madagascar	● Mangroves are within the public domain of the state ● Non-timber products collection is authorized subject to legal authorization. ● **Commercial logging is illegal**	● The management of mangroves is the responsibility of the Water and Forests Directorate (DGEF) of the Ministry of Environment and Sustainable Development. ● Natural forests (including mangroves) are managed under 3 models: **Community Based Natural Resources Management (CBNRM), Protected Areas (PA) and State management**.

SOMN has developed a set of guiding principles on sustainable mangrove ecosystem management. The nine Mangrove Principles are rooted in global conservation efforts by mangrove community around the world and provide guidance for national policy decision makers responsible for conservation, restoration, and sustainable mangrove ecosystem management. These principles are categorized into five action areas:

1. **Promote good governance** – Policy and legal frameworks
2. **Ensure a strong and just society** – People's participation and empowerment
3. **Use sound science and knowledge** – Maximized knowledge base for science-based arguments and capacity building
4. **Achieve a socially sustainable economy within environmental limits** – Sustainable use of natural resources
5. *Ensure sustainable conservation financing* – Innovative approaches and benefit sharing

In the WIO region, mangrove principles have officially been endorsed by Madagascar while Tanzania is in the final process of endorsing them.

3.5 Role of WIO Mangrove in achievements of national, regional and Global Targets

Conservation of mangrove ecosystem is recognized in multiple international conventions and agreements including the Ramsar Convention on Wetlands, the Sendai Framework for Disaster Risk Reduction (DRR), the Convention on Biological Diversity (CBD), the UN Framework Convention on Climate Change (UNFCCC), and the Sustainable Development Goals (SDGs) for which most of the WIO countries are signatory to. Countries in WIO have progressively incorporated mangroves in key global processes as shown in Table 5.

Table 4: Mainstreaming of WIO mangroves into key global processes

Countries	Nationally Determined Contribution (NDC)	National Biodiversity Action Plan (under Convention on Biological Diversity)	Voluntary Commitments on Ocean Action
Mozambique	Mangroves are included in the adaptation sections of the updated NDCs	It identifies mangroves as a critical ecosystem and sets a target to reduce the area of critical ecosystems in degradation and fragmentation by at least 20%, developing and implementing specific ecosystem management plans and creating incentive mechanisms.	Commits to restoring at least 5,000 ha of mangroves through the implementation of a Strategic and Action Plan for Mangroves by 2022.
Madagascar	Commits to restore 55,000 ha of forests and mangroves by 2030.	Stresses the important role of mangroves for the ecosystem services they provide and sets a goal of protecting and restoring mangrove ecosystems.	Madagascar is committed to developing spatial planning tools for the development of the blue economy.
Kenya	The updated NDCs directly mentions mangroves and the implementation of the National Mangrove Management Plan.	Highlights major problems impacting mangroves in the country	Does not specifically mention or analyze mangroves state.
Tanzania	The updated NDC does not specifically mention mangroves, but commits under adaptation measures to strengthen management of coastal and marine resources	Promote conservation and sustainable use of mangroves….. Strengthen implementation of programmes for protection and restoration of mangroves	Dialogues on national marine spatial planning are underway. A specific proposition for development of national mangrove strategy is to benefit from such initiatives.

3.5.1 Mangroves and NDCs in WIO countries

Conservation and restoration of mangroves and associated blue carbon ecosystems offer opportunities for countries to contribute to their emissions reduction targets[27]. At least four countries in WIO have included commitments for coastal and marine resources in their Nationally Determined Contribution (NDCs). Most of the countries made specific reference to mangroves in mitigation and

[27] Herr, E., & Landis, D 'Coastal Blue Carbon Ecosystems. Opportunities for Nationally Determined Contributions. Policy Brief.', *2016.*

adaptation actions of their NDCs (Table 5; Figure 3). **There are clear opportunities for inclusion of mangroves and associated ecosystems into the NDCs, and for WIO countries to account for coastal wetlands in their national greenhouse inventories.**

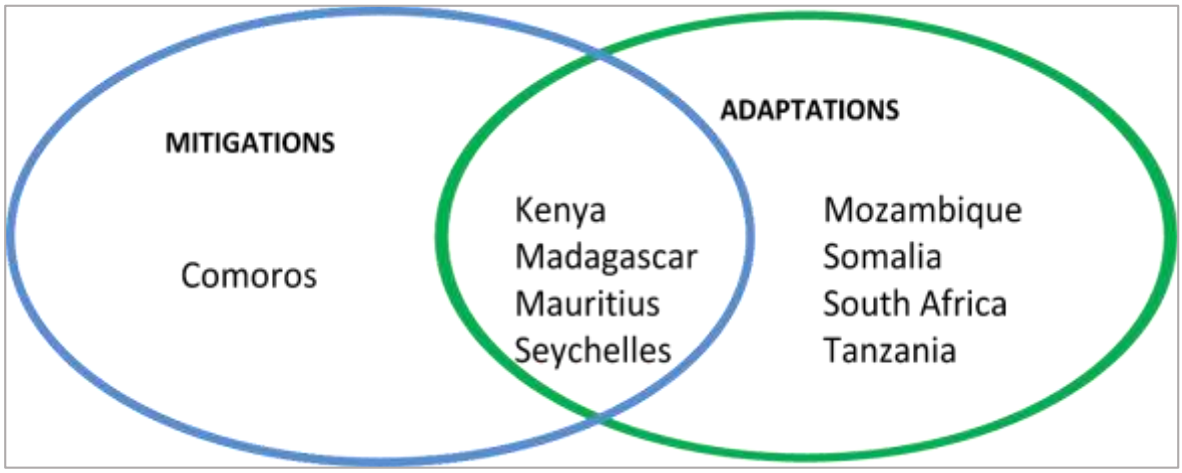

Figure 2: Incorporating mangroves in the NDCs of WIO countries (Source: Lecerf et al., 2021; UNFCCC NDC Registry)

3.5.2 Mangrove in post 2020 Global Biodiversity Framework

Mangrove provides habitats for over 3000 fish species and other wildlife, thus providing livelihoods to more than 120 million people, generating income and food security[28]. Conservation, restoration, and sustainable management of mangrove forests offers an important opportunity to capitalize on the extensive co-benefits to biodiversity, climate, and human well-being thus aligning the post-2020 biodiversity framework (GBF) with both the UNFCCC and the SDGs.

IUCN has developed 'guidance on mangrove indicators in the post - 2020 GBF[29]. The guidance illustrates contributions of mangrove ecosystems towards the achievement of multiple goals, targets and associated indicators towards the achievement of the Post-2020 Global Biodiversity Framework's vision of a world of **"Living in harmony with nature".**

The guidance provides scientifically robust data and resources for consideration by countries in national monitoring and reporting on mangroves. It identifies opportunities to effectively capture the contributions of mangroves in the monitoring of progress towards achievement of the 2050 vision for biodiversity. **It is essential that WIO countries adopt use of this science-based tool in monitoring and reporting in order to accelerate their national commitments on mangroves**.

3.5.3 Sustainable Development Goals:

The climate, community and biodiversity benefits of mangroves have been identified as a key contributor to achieving global sustainable goals (SDGs); particularly SDG 14 (ocean action) and SDG 13 (climate action). So far, a total of 116 voluntary commitments related to the management, protection and restoration of mangroves and related ecosystems have been made by the UN's Community of Ocean Action for Mangroves. Over 60% of these mangroves voluntary commitments have been submitted by NGOs and government ministries. Only 7% of the commitments have been submitted from the WIO region[30] (Fig. 4). **There is certainly an opportunity for WIO countries to increase their voluntary commitments on mangroves across all sectors.**

[28] https://www.mangrovealliance.org/wp-content/uploads/2021/11/SOMN-White-Paper-4Nov21.pdf
[29] (https://www.iucn.org/sites/dev/files/guidance_on_mangrove_indicators_in_post-2020gbf_v.1_aug_2021.pdf.
[30]IUCN & Ramsar COA Interim Assessment: 22784Mangrove_COA_interim_assessment.pdf (un.org)

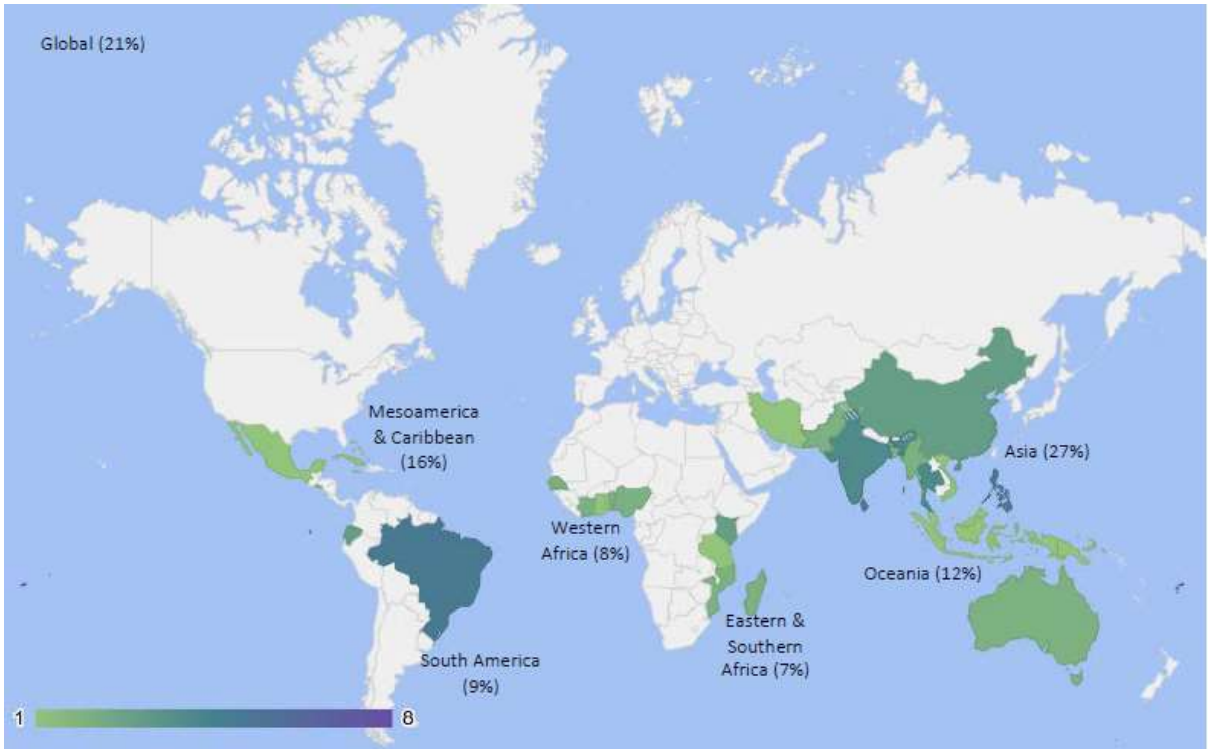

Figure 3: Mangrove voluntary commitments by region (colour range, 1-8, represents the number of VCs) (Source: IUCN & Ramsar COA)

4.0 REGIONAL POLICY DIALOGUE

The Western Indian Ocean Mangrove Network with support from Save Our Mangroves Now! Convened the first Regional Policy Dialogue (RPD) on mangroves. This was in response to Decision CP. 10/12 (d) adopted by Contracting Parties of the Nairobi Convention. The main purpose of the first RPD was to build consensus on the development of the regional mangrove vision and action plan. More specifically, the objectives of the meeting were:

- To review existing products and knowledge to align understanding of stakes and value of mangroves in the region
- To start regional exchange on synergies between mangrove-related initiatives, issues and opportunities
- To generate stakeholders' consensus and commitment to continue participating in the upcoming Regional Policy Dialogues towards development of the Regional Mangrove Vision and Action Plan
- To explore modalities for instituting National Policy Dialogues that will feed into the Regional Policy Dialogues

The meeting proceeded virtually in plenary and group sessions. Total participation of the meeting was 50; representing all WIO countries. Key highlights of the first RPD are given in Box 1.

BOX 1. Key highlights of the 1st Regional Policy Dialogue on Mangrove Vision and Action Plan (*source:* WIOMN/SOMN 2022)

- There is a **high subsistence dependence** on mangrove resources in WIO countries. These have over the years increased pressure on the resource across the region
- **Losses and degradation** of mangrove is negatively impacting on fisheries, shoreline stability and resources sustainability across the region
- There is **increased commitments** by governments, private sector, civil society, and communities to restore and conserve mangroves in the region
- There is need to enhance robust and standardized knowledge and **information sharing** to improve monitoring and national reporting on mangroves. This would require WIO countries to provide mechanisms for up to date information on mangrove status, trends and conditions through, i) **accurate/high resolution mapping** to compliment with Global Mangrove Watch ii) **standardized methods** for inventory and validation and iii) **regional mangrove repository**
- There is need to undertake analysis of existing policies and legal frameworks to facilitate **harmonized and common strategies** for mainstreaming of mangrove conservation into national development plans
- WIO countries need to increase their **voluntary commitments** related to the management, protection and restoration of mangroves and related ecosystems
- Adoption of **mangrove principles, regional mangrove restoration guidelines** as well as **guidance on mangrove indicators** among different actors would promote marine conservation in the region.
- There is **consensus for the development of a regional** mangrove vision and action plan for the WIO region.
- The development of WIO mangrove vision and action plan could draw lessons from **existing regional mangrove action plans** for Western Africa and Red Sea and Gulf of Aden **r**egional seas programs
- **Healthy and productive partnerships** existing between WIOMN and key mangrove actors in the region could be pursued to support the development process of a common vision and action plan for mangroves in WIO
- **Build on existing** opportunities offered by the East African Community (EAC), and Common Market for Eastern & Southern Africa (COMESA).

5.0 WAY FORWARD FOR A REGIONAL MANGROVE VISION AND ACTION PLAN

The first regional policy dialogue made several propositions to speed up the development and subsequent endorsement of the WIO mangrove vision and action plan; including:

- Dissemination of synthesis report on information, policy, and practices relevant for development of a regional mangrove vision and action plan in WIO to key mangrove actors , including policy makers;
- Endorsement of a road map for the development of regional mangrove vision and action plan at country level; and nomination of country representatives to the Regional Advisory Group (RAG),
- Operationalization of RAG as a subsidiary body of WIOMN. This would act as a vehicle to fast-track the development and implementation of regional mangrove vision and action plan
- Development of a draft regional mangrove vision/action plan under the coordination of RAG,
- Validation of the draft mangrove vision/action plan by WIOMN.
- Presentation of the regional mangrove vision/action plan at COP 11 of Nairobi Convention for endorsement by Contracting Parties.

Timelines for development of regional mangrove vision/action plan are provided in Table 5:

Table 5: Timeline for development of the Western Indian Ocean RMVAP

	Action	**Expected output**	**Timelines**	**Responsibility**	**Possible Funding**
1	**National consultations** regarding regional vision and action plan on mangroves, including developing mechanisms for robust and harmonized knowledge generation and information sharing	Nominations of national representative RAG. Robust and harmonized knowledge and information sharing system developed	April 2022	WIOMN working closely with national chapters	SOMN
2	**Regional consultation**s regarding establishment of Regional Advisory Group (RAG)	RAG and ToR developed	May 2022	WIOMN	SOMN/GMA WIOMSA NC Strategic partners
3	**Side event –** *Showcasing WIO mangrove vision and action plan* at the Ocean Conference (2022) - *Portugal*	Enhanced understanding on WIO mangrove vision/action plan	June 2022	RAG/WIOMN	SOMN/GMA WIOMSA NC Strategic partners
4	**WIOMSA mini Symposium**: Restoration and management of mangroves in WIO - ***South Africa***	Improved mangrove management in WIO	October 2022	RAG, WIOMN,	SOMN/GMA WIOMSA NC Strategic partners
5	**Side event -** Africa Blue Carbon at COP 27 of UNFCCC**, Egypt**	Updated information on blue carbon in Africa	November 2022	WIOMN	SOMN/GMA WIOMSA NC Strategic partners