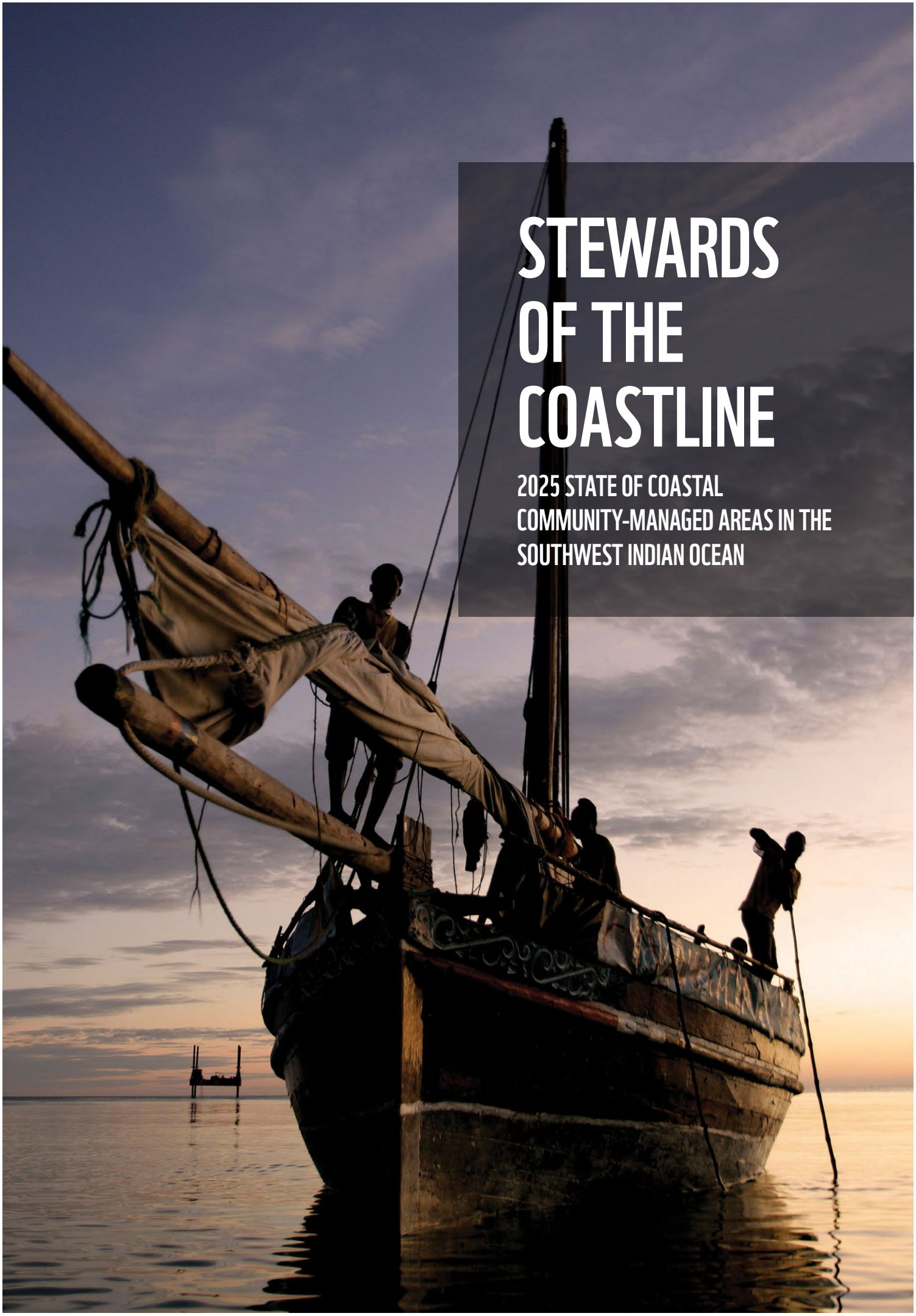

STEWARDS OF THE COASTLINE

2025 STATE OF COASTAL COMMUNITY-MANAGED AREAS IN THE SOUTHWEST INDIAN OCEAN

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FOREWORD

The Western Indian Ocean (WIO) is at a turning point. This region—one of the world's great marine biodiversity hotspots—is home to over 60 million people whose livelihoods, cultures, and well-being are deeply tied to the health of its coastal and ocean ecosystems. Yet the importance of these ecosystems translates into mounting pressure. Climate change, overexploitation, and coastal and offshore development are accelerating ecosystem degradation, increasing risks for both nature and people.

The consensus is increasingly clear among scientists, communities, and other knowledge holders: without decisive action, the WIO's coral reefs, mangroves, seagrasses, and fisheries face an uncertain future. But there is also cause for hope. Across the region, community-led conservation demonstrates that when power is returned to local people, and they are supported to manage their marine resources, they can drive positive change. Community-managed areas (CMAs) have become a vital part of the region's response to growing environmental threats, providing a pathway to more sustainable and equitable ocean stewardship.

The *Stewards of the Coastline* report presents the first regional assessment of community governance in the Southwest Indian Ocean. Based on data from 52 sites across five countries, this report highlights the strengths and challenges of community-led marine governance, revealing both inspiring successes and critical areas for improvement. It provides a clear roadmap for action, outlining the steps that governments, NGOs, and funders must take to ensure that communities have the rights, resources, and support needed to play their part in safeguarding shared ecosystems and sustaining their livelihoods.

This report is also a testament to what is possible when we work together. Drawing on the knowledge of coastal communities, scientists, and conservation practitioners from across the region, it builds a shared understanding of the challenges and opportunities in community-led marine governance. It also demonstrates the power of collaboration—when local expertise, science, and policy come together, we can find practical solutions that strengthen coastal ecosystems and support the people who depend on them.

Now is the time to act. With the climate, biodiversity, and other crises intensifying, we cannot afford to lose momentum. The future of the WIO will be shaped by the choices made today—choices about how governance and support are transformed to strengthen local governance, to ensure that marine ecosystems and coastal communities can thrive for generations to come.

David Obura, PhD, MBS

Director, CORDIO East Africa and Chair,
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and Ecosystem Services (IPBES)

EXECUTIVE SUMMARY

The *Stewards of the Coastline* report provides the first assessment of community-led marine governance in the Southwest Indian Ocean (SWIO). This biodiversity hotspot spans the southeastern African coastline and neighboring islands.

The region, home to over 60 million coastal inhabitants, contains vital marine ecosystems such as coral reefs, mangroves, seagrass beds, and migratory corridors for marine megafauna. Facing growing threats from climate change, overexploitation, and offshore development, the region has seen the rise of community-managed areas (CMAs), where local communities play a key role in governance and conservation. These area-based conservation strategies have become important for sustaining ecosystems and coastal communities. By engaging local communities in decision-making processes, CMAs play a role in helping countries bordering the SWIO contribute to the Global Biodiversity Framework's targets, including protecting 30% of global lands, waters, and seas (GBF Target 3).

The report synthesizes data from an assessment of 52 CMAs across five SWIO countries, utilizing the Elinor tool and data system to evaluate effective and equitable governance. The assessment emphasizes the need to strengthen community rights and governance systems to ensure local communities have the

30%

GBF TARGET 3 ("30x30")

Conserve 30% of lands, waters, and seas by 2030

support, knowledge, and resources to manage their marine resources effectively. While challenges persist, the findings provide a useful baseline for guiding discussions for regional, national, and local actions to enhance coastal management and community livelihoods. The findings presented here feed into momentum across the SWIO region for community-oriented conservation. We identified five key actions for advancing the interests of coastal ecosystem management and improving the livelihoods and well-being of coastal communities:

1. Strengthen Tenure and Community Rights
Secure and clearly defined community rights to manage coastal resources are essential to incentivize long-term conservation efforts. Many SWIO countries are still developing legislation and policies to provide long-term and secure community rights. Continuous advocacy and effective policy are needed to ensure these rights are recognized and supported nationally in each SWIO country and through time.

2. Tailor Solutions to National and Local Needs
The diversity of marine ecosystems, communities, and governance structures across the SWIO region means that solutions must be tailored to the specific needs of each country and community. For example, findings illustrate the need to

- raise awareness about community rights and build governance capacity in Mozambique
- address gaps in inclusivity, particularly for vulnerable groups in Kenya
- empower vulnerable groups and advocate for stronger community representation in national decision-making in Madagascar
- support operational capacity through training and sustainable financing in Tanzania
- strengthen rights and community participation, particularly among youth and women in South Africa

3. Build Stable and Diverse Funding Sources
CMAs across the SWIO region face challenges securing sustainable, long-term funding. Currently, many rely on non-governmental organizations (NGOs) and donor funding, which are bound by project timelines and donor priorities. Governments, the NGO community, and funders must work together to strengthen CMA operations. Their aim should be to create more reliable, diverse, and durable funding mechanisms, leveraging proven models like conservation trust funds to ensure communities have direct access to financial resources.

4. Strengthen the Capacity For Learning Across the Region
Investing in learning and capacity sharing is crucial for sustaining and scaling effective community-led governance. Approaches like peer-to-peer exchanges and cross-organizational forums have been effective at fostering national and regional learning. These could be further strengthened to ensure efforts designed to support local capacity development are effective in the long term. Investing in the long-term enabling environment for capacity development will also be critical. By strengthening formal institutions with the mandate to lead and support natural resource management, reliance on time-bound donor projects will be reduced.

5. Strengthen Data Sharing and Use Through Expanding the Use of Elinor and Other Shared Data Platforms
The use of the Elinor tool for this assessment provided valuable insights into the strengths and weaknesses of current practices. Expanding the use of Elinor across the SWIO region through existing NGO networks and capacity development will help build a stronger evidence base for improving community-led governance. Pairing governance data with data on social and ecological outcomes can also help demonstrate the effectiveness of CMAs and provide a stronger evidence base for recognizing other effective conservation measures (OECM).

These recommendations provide a clear path to improving CMA effectiveness across the SWIO region. By focusing on these priorities, stakeholders can work together at all levels to ensure coastal communities have the rights, knowledge, and support they need to manage their resources sustainably, benefiting both people and nature.

LIST OF FIGURES

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LIST OF ABBREVIATIONS

The list of acronyms and initialisms below are key terms used in this report. See Appendix 1 for additional terms used within SWIO countries.

BMU	Beach Management Unit
CBO	Community-Based Organization
CCA	Community Conservation Area
CCP	Community Fishing Council
CFMA	Collaborative Fisheries Management Area
CMA	Community-Managed Area
COMRED	Coastal and Marine Resources Development
CORDIO	Coastal Oceans Research and Development in the Indian Ocean
Elinor	Elinor tool and data system
LMMA	Locally Managed Marine Area
CMG	Community Microfinance Group
NGO	Non-Governmental Organization
OECM	Other Effective Conservation Measure
SWIO	Southwest Indian Ocean
VOI	Vondron'Olona Ifotony
WIO	Western Indian Ocean
WWF	World Wildlife Fund

CHAPTER 1

ABOUT THIS REPORT

The Southwest Indian Ocean (SWIO) region spans the East African coastline, bordering Kenya, Tanzania (mainland and Zanzibar), Mozambique, and South Africa, and surrounding islands rich in biocultural diversity, including Madagascar, Comoros, Mauritius, and the Seychelles. A global biodiversity hotspot, the SWIO region contains approximately 11,000 km^2 of coral reefs (including some of the world's most climate-resilient reefs), 7,400 km^2 of mangroves, migratory corridors for marine megafauna, and biodiversity found nowhere else on the planet (WWF 2022).

Over 60 million coastal inhabitants live in the region, whose cultures and traditions are deeply intertwined with the ocean. Their historical connections to fishing, maritime trade, and marine resources date back centuries (WWF 2022).

Supporting community-led marine management is vital for the region's potential to achieve the Global Biodiversity Framework's targets (WWF 2024a), in particular Target 3, which may recognize community-managed areas (CMAs) as potential contributions to conserving 30% of global lands, waters, and seas through other effective (area-based) conservation measures or OECMs (WWF and IUCN WCPA 2023). CMAs, where communities play a leading role in coastal management and governance, are important for managing nearshore fisheries and mangroves throughout the region, as neighboring artisanal fishing communities have strong interests in ensuring the long-term sustainability of the ecosystem services upon which they depend for their livelihoods and well-being. Moreover, it is a basic tenet of equitable governance that the primary users of a resource should be involved in management. CMAs can also help to improve ecological connectivity by protecting threatened and targeted fish species as they migrate and disperse across different SWIO habitats. Despite the existence of hundreds of community-led coastal management initiatives (WWF 2024a), the current state of community-led governance across the SWIO region remains largely unknown.

This report contains one of the first systematic assessments of the status of community-led governance across the SWIO region. The report draws upon the Elinor tool and data system (ElinorData.org) and data collected from 52 CMAs in five countries in the SWIO. The knowledge of local experts also informs the report.

The report is founded on a shared vision for strengthening community-led marine management as a strategy for safeguarding marine ecosystems and improving the well-being of coastal communities. While helping to chart a path forward, this inaugural report identifies data gaps that remain in our understanding of the status of locally led marine management across the SWIO region. The report also identifies opportunities for building and improving a more systematic, region-wide approach to data collection and knowledge co-production. Collectively, we view a regional approach as critical for achieving much more than single communities or countries could achieve in isolation through shared learning on best practices and advocacy. The main objectives of this report are to

1. assess the current status and trends in community-led marine management across the SWIO
2. demonstrate the potential of shared monitoring and assessment based on the Elinor tool
3. identify data and knowledge gaps for future monitoring and reports
4. identify key leverage points for improving community-led management and accelerating best management practices at national and regional levels

COMMUNITY-MANAGED AREAS IN THE SWIO

The SWIO is one of the world's most biodiverse ocean regions, providing food and livelihoods for thousands of coastal communities. However, its marine ecosystems face mounting threats from climate change, overexploitation, and potential offshore fossil fuel projects (Obura et al. 2015; Randone et al. 2018; Samoilys et al. 2017b). Local communities, whose identities are closely connected to the marine ecosystems they depend on for their livelihoods and well-being, can play a crucial role as effective stewards of these resources. Communities are deeply knowledgeable about their local environment and have strong incentives to ensure that they and future generations will continue to enjoy the benefits these ecosystems provide.

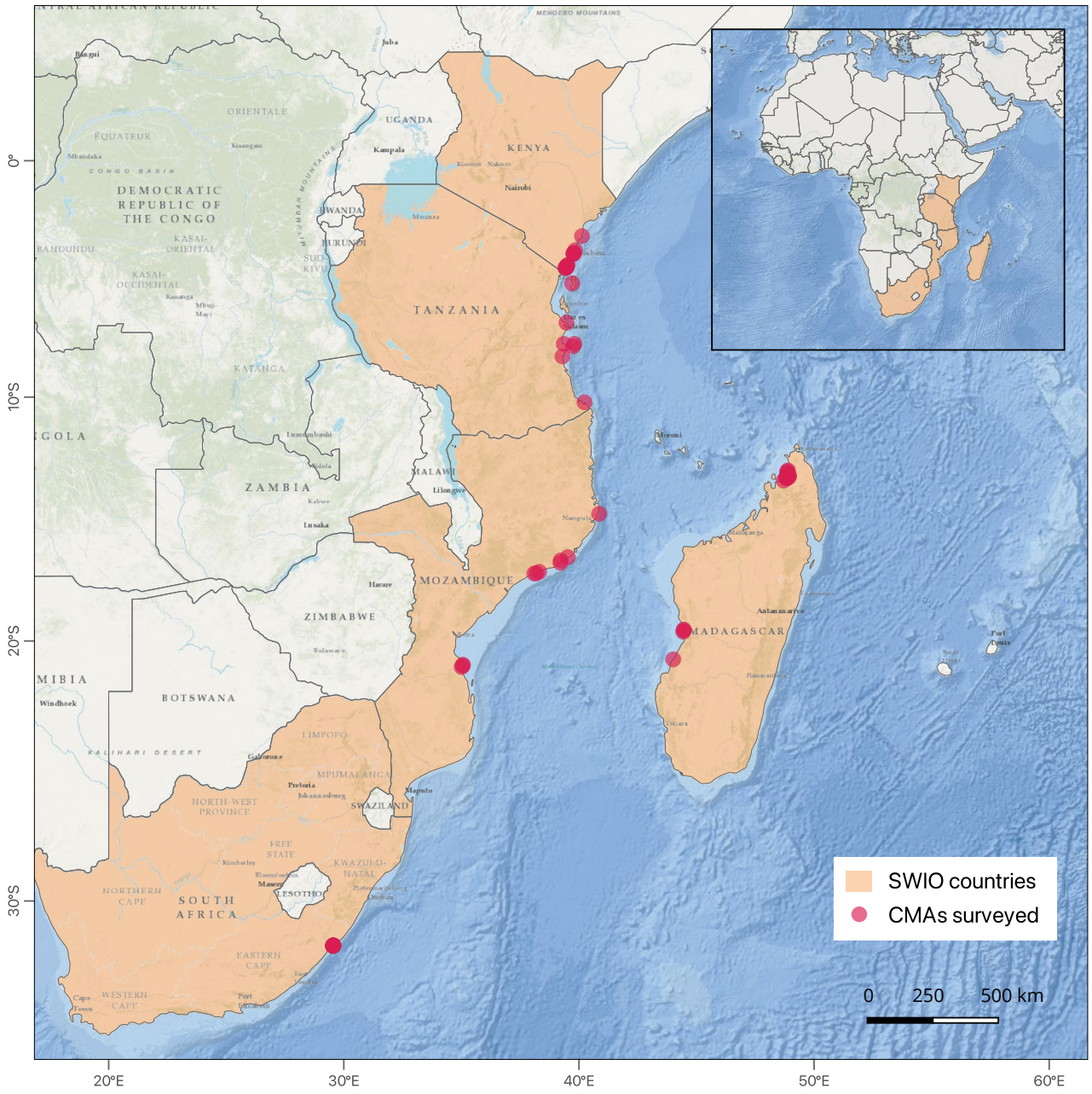

Figure 1. SWIO seascape, selection of countries, and community-managed areas assessed in this report

Across the five assessed countries in the SWIO region, many terms are used to describe the social structures that bring communities and stakeholders together to engage in marine management and the specific areas under community-led or collaborative management. Some terms have different meanings in different places. For instance, the terms "Locally Managed Marine Areas" (LMMAs) or "Collaborative Fisheries Management Areas" (CFMAs) are used in some countries as an official governance unit, while in others, they are perceived as no-take areas. This report uses community-managed areas or CMAs as a generic term to describe the range of collaborative and community-led management approaches used in the SWIO countries. Appendix 1 provides a list of some of the legally and commonly used terms in each country. The key point is that within the SWIO region, there is growing interest and opportunity for local communities and resource users to participate in marine resource management and diverse mechanisms for building community-led conservation governance (Rocliffe et al. 2014).

A recent WWF-commissioned report (WWF 2024b) assessed the extent to which national-level legislation and implementation plans (strategies or action plans) empower and benefit local communities concerning managing mangroves across four SWIO countries. The results suggest that while constitutional provisions and legislation often protect the rights of local communities, these rights and the benefits they may provide to communities are often lacking in the national strategies, implementation plans, and guidelines used to implement mangrove conservation and restoration policies (WWF 2024b). The report highlights the need to improve the coherence between legislation and policies that guide implementation to better secure community rights and benefits. CMAs appear particularly promising in this regard (Katikiro et al. 2015; Kawaka et al. 2017; Rocliffe et al. 2014; Samoilys et al. 2017a) and they play an important role in enhancing ecological connectivity and resilience in the region (Green et al. 2014).

HOW WE ASSESSED THE STATE OF COMMUNITY-MANAGED AREAS

This report draws upon assessments of 52 CMAs in the SWIO, conducted between 2021 and 2024, using the Elinor tool and data system. Elinor is a free, open-source monitoring tool designed to gather, store, share, and use data on environmental governance and management to support effective area-based conservation. The tool was informed by evidence that links equitable governance and effective management to successful biodiversity outcomes (Mahajan et al. 2024). The tool provides a flexible, rapid, and low-cost approach for data collection through multistakeholder focus groups and/or desk-based assessments. In this report, focus groups, generally comprising up to 10 participants (men and women) from local communities, were facilitated by non-governmental organization staff familiar with the respective CMAs. These CMAs govern mangrove ecosystems and/or coastal fisheries, providing critical insights into local perceptions of governance and management.

The Elinor tool includes 35 indicators across 10 attributes that enable equitable governance and effective management (Figure 2; Table 1). Figure 2 outlines a high-level theory of change that describes the four phases needed for developing equitable governance and effective management:

Phase 1. The willingness of local communities to forego short-term benefits from coastal resources and invest their time and resources in local governance often depends on the development and enactment of rules and policies that clearly define their rights to use and manage those resources.

Phase 2. With this foundation in place, communities and their partners can exercise those rights to develop locally appropriate mechanisms for governing CMAs and the resources within them.

Phase 3. Once mechanisms for equitable governance have been established, communities and their partners can invest in activities to govern and manage resources effectively by building operational capacity, enforcement, and capacity for adaptive management.

Phase 4. Communities and their partners that successfully govern and manage resources (Phase 3) based on effective and inclusive mechanisms (Phase 2) with clearly established rights (Phase 1) would be expected to achieve their social and ecological objectives (Phase 4).

The overall theory of change, therefore, suggests that while all gaps will ultimately need to be addressed to fully realize effective and equitable management and governance, earlier phases are often necessary precursors and essential for the effectiveness of later phases. For example, investments in improving implementation (Phase 3) may serve to reinforce inequalities in the absence of inclusive and equitable management (Phase 2).

DEFINING GOVERNANCE AND MANAGEMENT

Governance refers to the institutions (formal and informal rules), legal frameworks, and processes that shape environmental decision-making and management processes (Armitage et al. 2012). Internationally, recent emphasis is being placed on the importance of inclusivity and equity in environmental governance (Bennett et al. 2021; Gurney et al. 2021).

Management, by contrast, refers to the specific resources, plans, and actions used to implement policies and goals (Armitage et al. 2012).

Thus, this report examines the intersection of these two elements under the framework of "equitable governance and effective management" to better understand their roles in conservation outcomes.

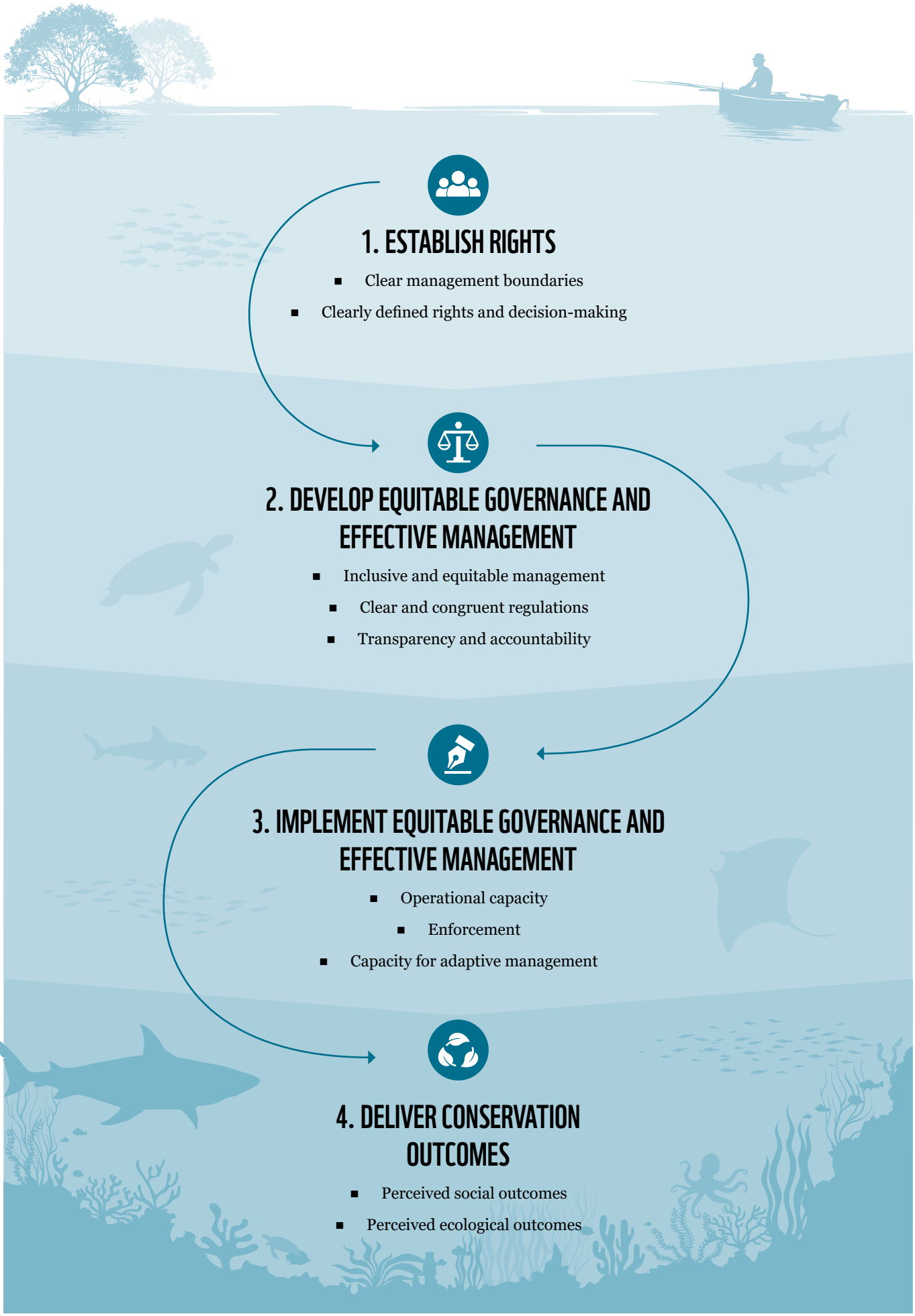

Figure 2. Theory of Change for developing equitable and effective governance and management systems for natural resources

Table 1. Attributes and indicators of governance

Attributes	Description
Phases	**They enable better conservation outcomes by ...**
PHASE 1: Establish rights	
Clearly defined rights and decision-making	... generating incentives for communities to invest their time and resources in conservation.
Resource boundaries	... promoting fair enforcement of rules and can enhance incentives for conservation when combined with secure property rights.
PHASE 2: Develop equitable governance and effective management	
Inclusive and equitable management	... providing mechanisms to protect local livelihoods and integrate local knowledge and values in management decisions.
Transparency and accountability	... providing mechanisms for sharing information, resolving conflicts, and ensuring effective representation of community interests and values.
Clear and congruent regulations	... ensuring that rules are adjusted to local conditions and that governance activities are coordinated across relevant scales.
PHASE 3: Implement equitable governance and effective management	
Operational capacity	... providing the human and financial capacity required for critical management functions such as stakeholder engagement, monitoring, and enforcement.
Enforcement	... providing mechanisms to tailor sanctions based on the frequency, severity, and/or nature of the offense and deter free-riders from violating conservation rules.
Capacity for adaptive management	... providing mechanisms to detect and develop management responses to changes in social and ecological conditions.
PHASE 4: Deliver outcomes for people and nature	
Perceived ecological outcomes	... measuring the extent to which participants believe managed areas have achieved their ecological objectives.
Perceived social outcomes	...measuring the extent to which participants believe managed areas have achieved their social and economic objectives.

Each indicator (question) is assessed on a unique 4-point scale (see Appendix 2 for the full list of questions). For example, the scale for the first indicator, "awareness of boundaries", records whether boundaries are known by most (3), some (2), a few (1), or none (0) of the relevant stakeholder groups. The indicator "clearly defined boundaries", meanwhile, records whether boundaries are well demarcated (3), demarcated with some deficiencies (2), demarcated with major deficiencies (1), or not demarcated at all (0). Although the individual scales vary across indicators, they consistently measure progress toward inclusive and equitable conservation and management needs.

A score of zero indicates that conservation managers have made no progress in addressing a governance indicator. Collaborating with stakeholders is therefore recommended to develop a **plan** to address major governance gaps (Table 2). A score of one suggests some initial progress, although significant gaps remain that require further efforts to **build** upon this progress. A score of two suggests significant progress, but opportunities remain to **strengthen** this indicator by collaborating with stakeholders to address minor gaps. Finally, a score of three reflects relatively effective governance concerning a particular indicator, but continued collaboration with stakeholders is advised to **maintain** strong governance and monitor potential threats.

These scoring scales are also applied to measure attributes (resource boundaries, monitoring, and sanctioning) and overall progress toward inclusive and equitable management and governance, as outlined in Table 2. Qualitative data was also collected alongside quantitative scores to provide context on each question and enrich the findings. While quantitative scores provide valuable insights about governance strengths and weaknesses and highlight areas for improvement, they should not be used in isolation to guide policies and programs. Instead, they should serve as a tool to inform discussions with stakeholders.

Table 2. Elinor Tool Assessment Scales

	Indicator Value	Attribute Value	Aggregate Value
PLAN	0	0–2	0–29
Collaborate with stakeholders to develop plans for addressing severe governance gaps			
BUILD	1	3–5	30–59
Collaborate with stakeholders to build upon initial progress to address major governance gaps			
STRENGTHEN	2	6–8	60–89
Collaborate with stakeholders to strengthen governance by addressing minor gaps			
MAINTAIN	3	9–10	90–100
Collaborate with stakeholders to maintain strong governance and monitor potential threats			

LIMITATIONS

This report represents the first attempt to assess the state of governance in coastal CMAs in the SWIO region. Although it includes one of the largest samples of community governance in the region (n=52), there are limitations in data coverage and representativeness: (1) The sample does not include all SWIO countries. (2) The data covers only a small subset of communities within each country. For example, only eight of the 62 currently recognized small-scale fishing cooperatives in South Africa's Eastern Cape were included (Kaplan 2022). (3) The cases were selected based on a current relationship with conservation partners and thus are not necessarily representative of communities in the SWIO seascape. (4) The Elinor assessments provide snapshots of participants' perspectives, which may have shifted as governance systems and management practices evolved. For example, assessments in South Africa occurred just before the establishment of co-management structures, potentially influencing several governance attributes. Given these limitations, this report serves as a starting point for understanding CMA governance across the region rather than a comprehensive assessment.

CHAPTER 2

STATE OF COMMUNITY GOVERNANCE IN THE SWIO REGION

The overall results from 52 Elinor assessments of CMAs in Kenya (n=11), Madagascar (n=16), Mozambique (n=10), South Africa (n=8), and Tanzania (n=7) are summarized in Figure 3.

The results show variable progress toward inclusive, equitable, and effective governance across the SWIO region. Approximately 30% (n=14) of the 52 CMAs have made substantial progress towards equitable governance and effective management (Figure 3). Ambakivao village in Madagascar and BK CFMA on Mafia Island in Tanzania stand out as "Bright Spots" examples, potentially offering valuable lessons for other CMAs in the region. However, about 40% (n=21) of assessed CMAs are still in the early stages of building inclusive, equitable, and effective governance systems. The remaining 30% (n=17) have made minimal progress and require more work to catalyze local governance.

In what follows, we explore findings for each governance attribute. The attributes are organized within the four phases of development presented in Figure 2. Each section begins with a description of the attribute, a graph displaying results across the 52 assessed CMAs (not disaggregated by country, given the limited sample size), a summary of key results, and the identification of several Bright Spots. These Bright Spots highlight relatively high-performing CMAs, successful policies, or other achievements that may inform future actions. Further details about the assessments, including the distribution of CMA sites across the Elinor assessment scale within each country and attribute scores for each CMA, can be found in Appendices 4 and 5, respectively.

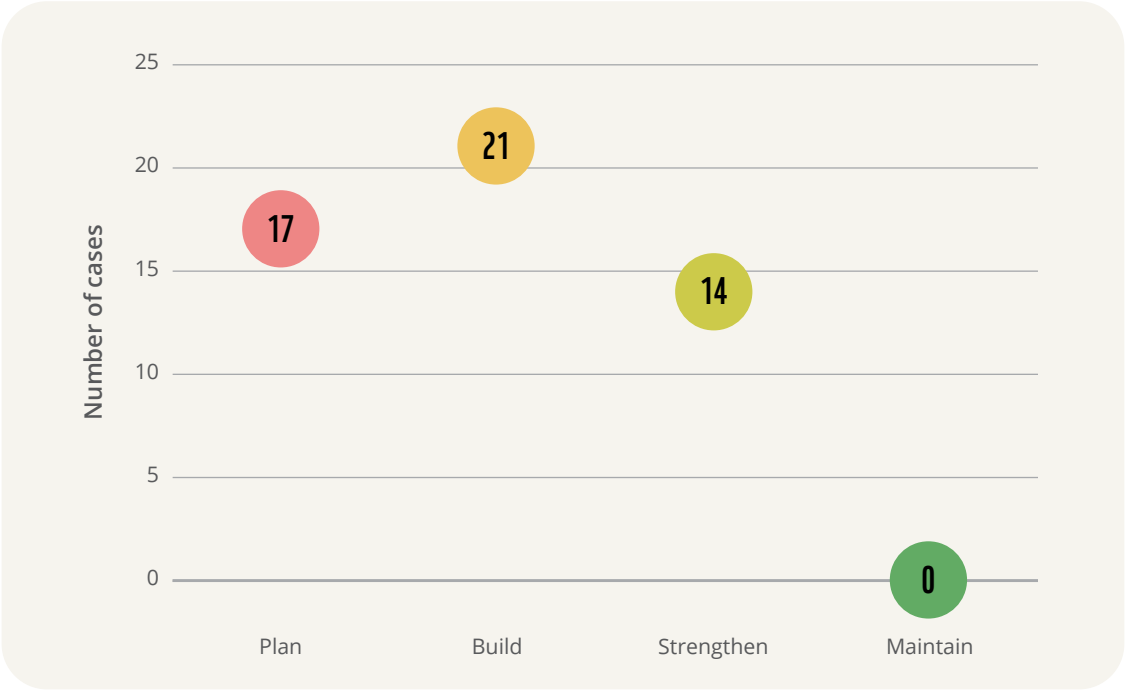

Figure 3. Progress toward effective and equitable governance of CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

PHASE 1: ESTABLISH RIGHTS

Attributes in this phase:

Clearly defined rights and decision-making

Clearly defined and secure rights enable better conservation outcomes by incentivizing communities to invest their time and resources in conservation.

Resource boundaries

Clearly defined boundaries enable better conservation outcomes by promoting fair enforcement of rules and can incentivize conservation when combined with secure property rights.

Clearly Defined Rights and Decision-Making

This attribute is composed of five indicators that measure the extent to which the property rights of local communities are clearly defined. These include whether the rights of local communities to use, manage, and control access to resources within managed areas are clearly defined by laws, policies, regulations, and/or customs and whether rights-holders can exercise these rights (sometimes described as recognitional equity). Clearly defined rights to resources can help catalyze and sustain local governance by incentivizing local actors to invest in the conservation of regional resources, particularly when combined with clearly defined boundaries.

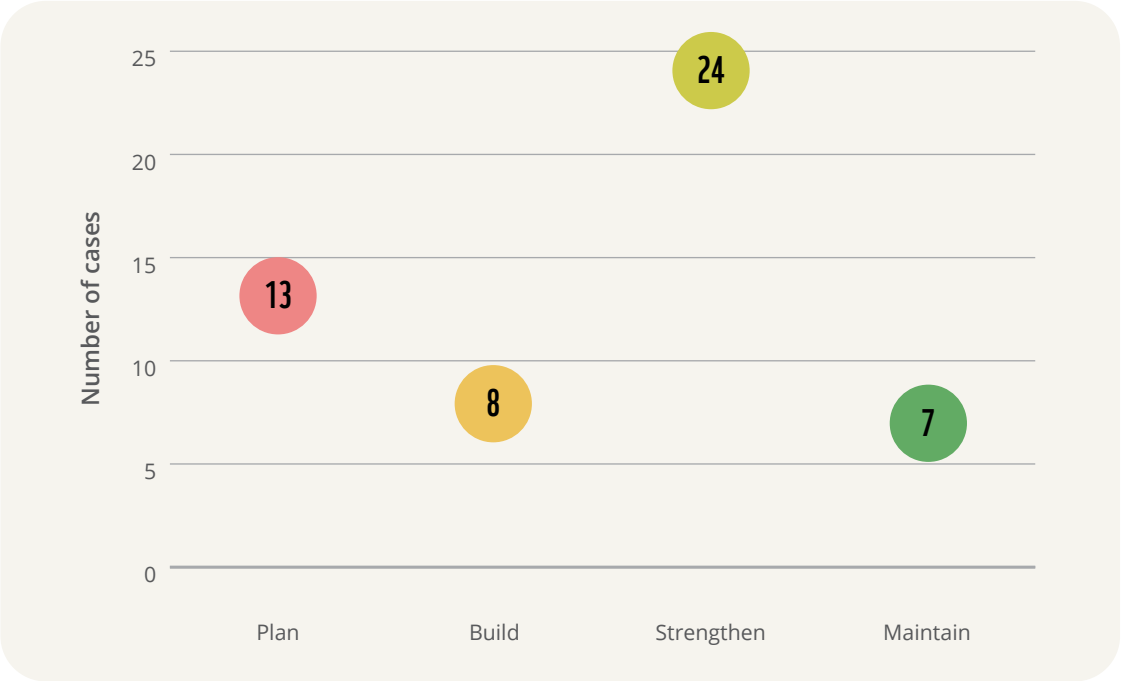

Figure 4. Progress towards clearly defined rights and decision-making among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Progress toward clearly defined rights and decision-making varied substantially across countries in the SWIO region. Communities in Kenya, Madagascar, and Tanzania generally perceive that CMAs operate within a system that clearly defines their rights to use and manage resources. Yet, respondents in Madagascar and Tanzania perceived that most assessed CMAs lack full rights to manage and control access to those resources (they lack rights to determine who can and who cannot harvest resources within the CMA). This may undermine local governance if the benefits of local governance and conservation accrue disproportionately to outsiders or in ways perceived as unfair by local communities. In cases where local governance and conservation are undermined by overexploitation by outsiders, it may be worth considering granting rights to control access to help strengthen local governance. Building the capacity to enforce access management could also further support local governance systems.

Bright Spots

- Seven of the assessed CMAs scored in this attribute's highest category ("maintain"). These include Gazi, Kuruwitu, Mkunguni, Munje, and Mwandamu in Kenya; Soarano sur Mer in Madagascar; and BK CFMA Mafia Island in Tanzania.
- In Kenya and Tanzania, legislation has empowered communities to establish community-led Beach Management Units (BMUs). These units oversee the licensing of local fishers and the development of by-laws that align with national legislation. In Kenya, the next steps involve ensuring that communities fully understand their rights and responsibilities, enabling them to implement inclusive and equitable management practices at the local level.
- In Madagascar, the Gelose Law (No. 96-025) enables the transfer of management rights over state-owned renewable natural resources to local communities. However, these rights are typically granted on a temporary basis, lasting between three and 10 years. (See Case Study 1 below.)

CASE STUDY 1

VOI AMBAKIVAO, MADAGASCAR

Ambakivao is a fishing village in the Belo/Tsiribihina district in the Eastern Centre of the Menabe region. The village, of approximately 400 Vezo tribe households, is situated between the Tsiribihina River and the Mozambique Channel. The community is highly dependent on natural resources for livelihoods and well-being and faces significant poverty. In 2013, the village began establishing a community-based natural resource management system (CBNRM) supported by WWF. This led to the creation of the Vondron'Olona Ifotony (VOI) Lovainjafy, a local organization tasked with managing the Ambakivao managed area. The organization was formalized through a management transfer contract from the Ministry of the Environment, which legally recognized VOI Lovainjafy as the resource management group for a delineated area in the village. Administrative and cultural considerations, including the leadership roles held by women in VOI Lovainjafy, have bolstered legitimacy.

VOI Lovainjafy aims to support the sustainable use of forests, wildlife, and natural resources to benefit future generations. However, its management rights are limited by a 10-year renewable contract that expires in 2033. Contract renewal depends on a capacity assessment conducted six months prior to expiration, led by the regional branches of the Ministry of the Environment and Ministry of Fisheries and Blue Economy. The Gelose Law (No. 96-025) of 1996 enables such transfer of management but limits the duration for all locally managed areas.

Supportive networks and initiatives that address the basic needs of communities have been important for complementing natural resource governance and management in Ambakivao, as most community members depend entirely on marine resources for their livelihoods and well-being. For example, a group of women in the community were trained to become solar engineers (through a partnership between Barefoot College and WWF) who now support the maintenance and use of small-scale solar technology in their community. Women from this network participated in exchange visits to Beanjavilo in 2022 and Iavomanitra in 2023. Referred to as "solar grandmothers", these women have helped scale this approach, training more women in basic engineering, expanding livelihood benefits to more women, and providing solar energy to hundreds of households.

Since the formal establishment of the Renewable Natural Resource Management Transfer site (known in Madagascar as Site de Transfert de Gestion des Ressources Naturelles Renouvellable), the spirits of fishing households have improved. Yet, as a new and growing organization tasked with governing the area, the VOI still faces ongoing challenges, including dependence on external funding, limited capacity among office staff, and inadequate enforcement resources for community patrollers (e.g., boats, uniforms). The VOI is also currently developing a conflict resolution strategy to address disputes.

Key Lessons

- Actively involving community members and encouraging leadership have contributed to optimism within fishing households.
- Including customary practices in mangrove forest management highlights the value of local knowledge and practices in natural resource management.
- Mainstreaming equity in governance and associated sustainable livelihood activities can lead to more equitable social outcomes.

Clear Management Boundaries

The resource boundaries attribute is composed of two indicators that measure the extent to which conservation governance systems have established clear management boundaries. These include indicators of the extent to which management boundaries are known by relevant communities and rights-holders and are marked by signs or other relevant natural features. Clear management boundaries can help promote fair and effective enforcement of rules by ensuring that local communities know the locations in which rules apply. They can also act as a catalyst for community-led management when local communities are granted secure rights to use and manage resources within or adjacent to those management boundaries.

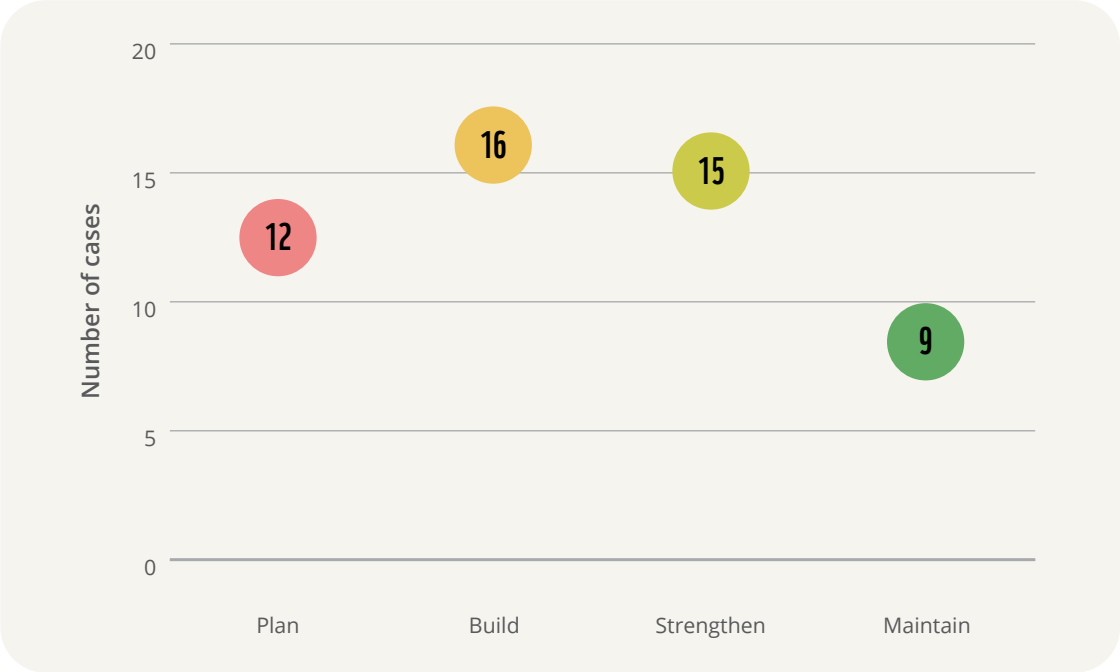

Figure 5. Progress towards clear management boundaries among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Approximately half of the CMAs assessed in this report demonstrated good awareness and understanding of their boundaries (Figure 5). Although many CMAs lack buoys, signs, and other constructed markers, local groups have found alternative ways to inform fishers and other resource users about the location of the CMA. CMA boundaries often align with key jurisdictional boundaries between countries, regions or shoreline features such as landing beaches, rivers, sandbanks, or lagoons. Other ecosystem features, such as the edge of coral reefs that are familiar to local fishers, are also often used to demarcate areas that provide particularly valuable ecosystem services, such as breeding areas or refuges for key species, such as octopus in Tanzania.

Boundary recognition was often enabled by the participation of local communities in CMA demarcation processes. Boundaries for CFMAs in Tanzania, for instance, were established through extensive consultation and engagement with local fishers and elders. Participatory fishing pattern surveys helped uncover historical and current resource use issues, enabling boundaries to align with relevant natural or constructed features, such as the edge of reefs, rivers, lagoons, roads, or the boundaries of settlements. Furthermore, CMAs have also established mechanisms to ensure that new and migratory fishers are informed about the locations of those boundaries upon their arrival. As a result, while physical markers, such as buoys, may be useful in some cases where natural features are lacking, engaging local fishers to raise awareness and potentially adjust boundaries to fit the local seascape has proven to be more effective.

Bright Spots

- Nine of the assessed CMAs scored in the highest category (“maintain”) for this attribute. These include Gazi CMA in Kenya; Port St. Johns Central in South Africa; Ampasivelona, Andranomena, Antsotsomo, Bobatanty, and Mahaligny Andapotaly in Madagascar; BK CFMA on Mafia Island; and JOJIBAKI CFMA in Tanzania. As noted above, although physical markers may be beneficial at times, CMAs that successfully establish clear management boundaries often align these boundaries with well-known and easily identifiable features of the shoreline or marine ecosystem.

PHASE 2: DEVELOP EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Attributes in this phase:

Inclusive and equitable management

Inclusive management processes enable better conservation outcomes by providing mechanisms to protect local livelihoods and integrate local knowledge and values in management decisions.

Transparency and accountability

Transparency and accountability enable better conservation outcomes by providing mechanisms for sharing information, resolving conflicts, and ensuring effective representation of community interests and values.

Clear and congruent regulations

Clear and congruent regulations enable better conservation outcomes by ensuring that rules are adjusted to local conditions and that governance activities are coordinated across relevant scales.

Inclusive and Equitable Management

The inclusive and equitable management attribute is composed of several indicators of procedural (inclusiveness and fairness of decision-making processes) and distributive (fairness in the distribution of benefits and costs) equity in conservation governance. These include the existence and effectiveness of mechanisms to enable local participation in decision-making, limit the impacts of conservation on vulnerable groups, and equitably distribute the benefits of managed areas. It also includes measures of the presence and effectiveness of social networks and mechanisms for promoting community resilience to climate change. Collectively these mechanisms can help to establish conditions conducive to collective action by reducing conflicts, enabling social learning, and building social capital and trust.

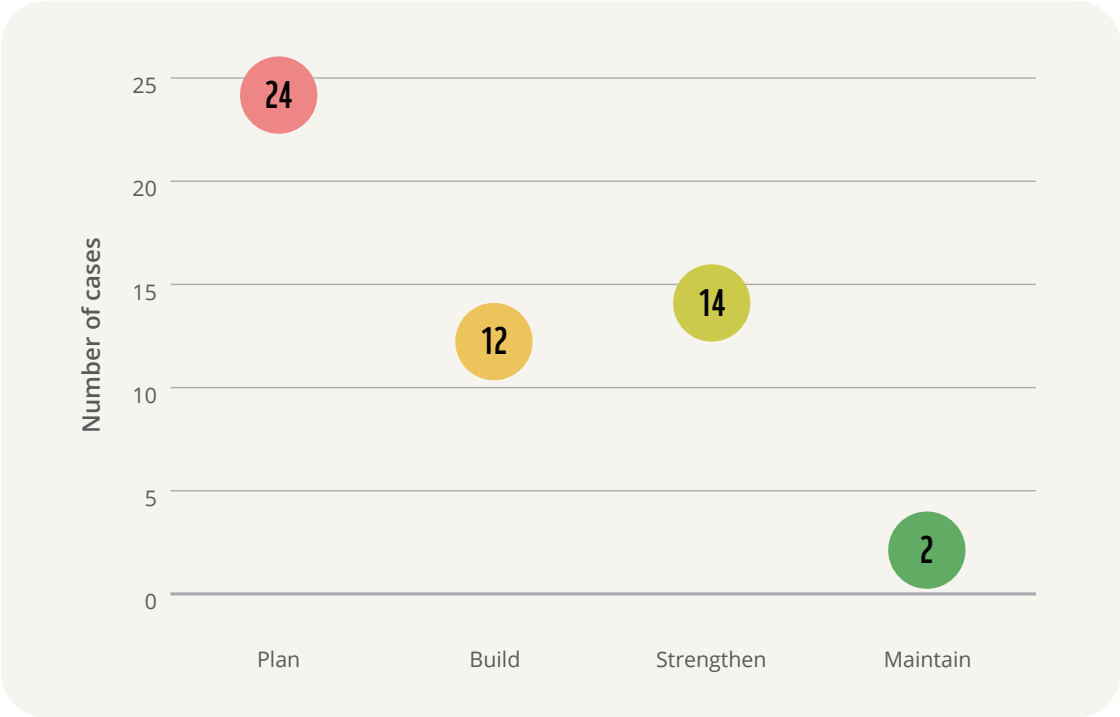

Figure 6. Progress towards inclusive and equitable management among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Progress towards inclusive and equitable management is mixed across the assessed CMAs in the SWIO region (Figure 6). While about one-third of CMAs have made considerable progress, almost half remain in the early stages of development. These CMAs face challenges in enabling local participation in decision-making, establishing rules to ensure that the rights of vulnerable groups to use resources are protected, and promoting more equitable distribution of benefits. This likely stems partly from the lack of clearly defined and understood rights, which limit incentives and opportunities for local communities to invest time and resources in developing inclusive and equitable local governance systems.

In some sites and countries, clearly defined rights have not translated into inclusive and equitable management systems due to limited community influence over policy design. Many community members and community-based organizations (CBOs) report feeling excluded from meaningful participation, with their engagement often reduced to approving pre-determined policies. Effective and locally appropriate participation processes are essential for fostering equity in these cases.

Bright Spots

- In Tanzania, all assessed CMAs have established strong foundations for inclusive and equitable management, scoring in the "strengthen" or "maintain" categories. BMUs in Tanzania require at least 30% of elected positions to be reserved for women, strengthening women's rights and representation in decision-making. They also require fishers to land their catch at designated landing sites where auctions are held, helping to promote transparency and equity in pricing. Building on this success may include further investments to ensure the effective implementation of these rules and to enable more local participation in decision-making.
- An example of community-driven success comes from the MKISAMI CFMA in Tanzania, where fishers leveraged their rights to establish a community-led octopus closure. The closure was a "bottom-up" initiative led by local fishers who lobbied their respective BMUs to modify CFMA regulations.
- In South Africa, WWF is supporting the Department of Forestry, Fisheries, and the Environment to pilot a co-management structure within small-scale fisheries in Port St. Johns, Eastern Cape. This project aims to empower fishing communities, improve governance, and promote sustainable fishing practices. Insights from this pilot will guide the development of scalable and effective co-management approaches for other fishing communities in South Africa.

NYAMANJISOPOJA CFMA, TANZANIA

The NYAMANJISOPOJA CFMA was established in 2013 and officially registered in 2020. It covers approximately 18,470 ha of shared fishing grounds and includes eight fishing communities, each governed by its own BMU. The area forms part of the Rufiji-Mafia-Kibiti-Kilwa Biosphere Reserve, which was designated in June 2023 and includes critical habitat for corals, seagrass, and mangroves.

WWF Tanzania has partnered with communities within the CFMA since its founding to help establish the BMUs and the CFMA. The NYAMANJISOPOJA CFMA management plan was developed by the BMUs to promote the sustainable use of marine resources through a range of measures, including gear restrictions and seasonal closures. Local community adoption and adherence to these measures have been high. For example, octopus reef closures have been used by five of the eight villages associated with the CFMA, while BMUs have worked together with government partners to implement seasonal closures for prawn fisheries and enforce gear restrictions. Through fisheries licensing and vessel registration, harmful fishing practices, such as blast fishing, have also been eliminated. Collectively these management efforts have led to improvements in fish catches and community well-being.

Alongside the governance system, WWF has also partnered with the communities within the CFMA to strengthen local livelihoods, ensure that basic needs are met and help communities thrive as resource protection measures are developed and implemented. Several of the local villages have also worked with the private sector through a community-on-community social responsibility program to access outboard engines, fuel for patrols, water for domestic use, and electricity. Multiple Community Microfinance Groups (CMGs) have also been formed, which enable members (most often women) to collectively save and disperse loans to one another. CMGs have played a significant role in helping to improve both the economic well-being and diversity of livelihood options available to women in these coastal communities. Last, introducing new techniques and infrastructure to improve seafood processing, particularly through cold storage, has improved the quality of fish products sold from coastal communities within the CFMA. This has improved the capacity for local fish traders (often women) to bargain more fairly with larger traders (or intermediaries), generating greater profits for women and, in turn, families and communities.

Key Lessons

- Developing BMUs at the village level (where governance structures already existed) enabled more successful collaborative governance at the CFMA level.
- Investing in sustainable livelihoods and community microfinance addressed the immediate needs of coastal communities, enabling better participation in natural resource governance and more equitable benefit-sharing.
- Focusing on women's empowerment through community microfinance and improvements to seafood processing can strengthen livelihood benefits for families and communities.

Clear and Congruent Regulations

The clear and congruent regulations attribute consists of four indicators that assess the quality of regulations across several different dimensions. These indicators include the extent to which respondents perceive that conservation rules are adapted to be ecologically effective, given local conditions, and generate incentives for local actors to invest their time and resources in governance activities. The attribute considers whether governance systems exist across different spatial scales (local, regional, or national) and work together to coordinate the governance of a managed area. Given the diversity of social and ecological contexts and scales at which conservation problems are situated, it is important that there is a balance between tailoring rules to local conditions and ensuring that rules are coordinated at relevant scales.

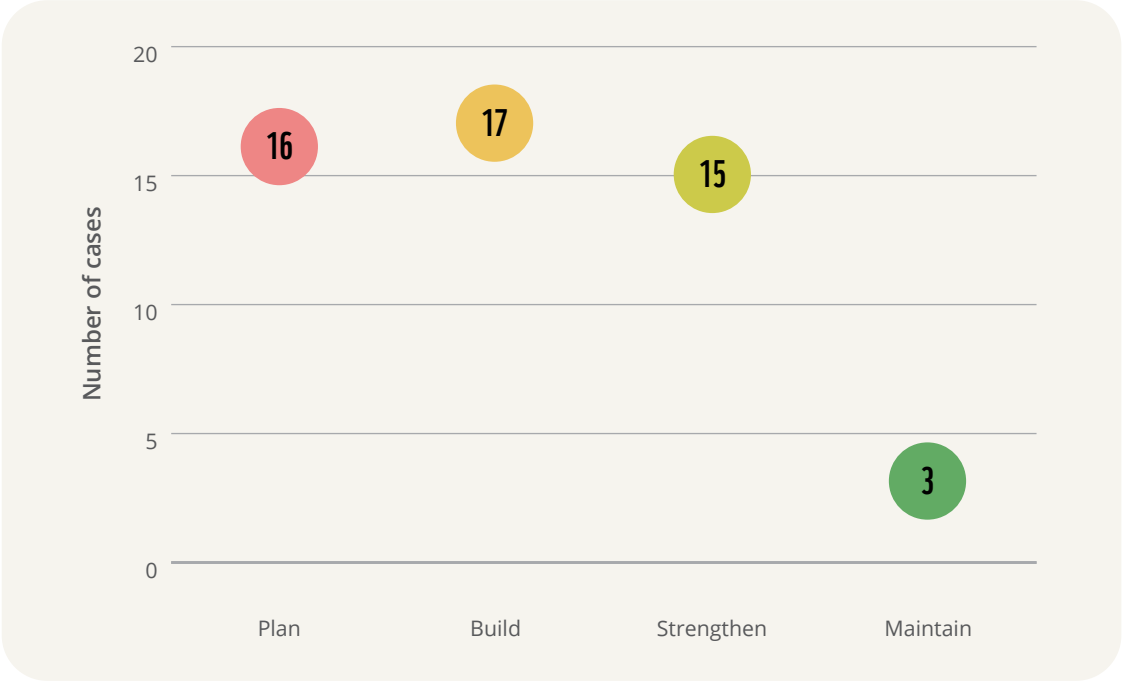

Figure 7. Progress towards clear and congruent regulations among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Clear and congruent regulations for managing coastal resources are generally lacking across many of the assessed CMAs in the SWIO region (Figure 7). Respondents in South Africa and Mozambique perceived management rules as either absent or weak regarding ecological effectiveness and coordination across relevant organizations and government levels. In contrast, CMAs in Kenya and Tanzania show better progress toward establishing clear and congruent regulations and systems to facilitate effective coordination across government levels. However, in Kenya, these regulations were mostly perceived as ineffective in achieving positive conservation goals due to challenges in matching rules to local ecological conditions and inconsistent enforcement by CMAs, authorities, county fisheries departments, and courts. CMAs in Madagascar, meanwhile, appear to have developed rule systems that are generally perceived as both ecologically effective and well-coordinated across scales.

Bright Spots

- Three of the assessed CMAs scored in the highest category ("maintain") for the clear and congruent regulations attribute. They include the Ambakivao and Andranomena LMMAs in Madagascar and DOKICHUNDA CFMA in Tanzania. The DOKICHUNDA CFMA is managed under a five-year management plan established by a network of four community BMUs that work together effectively to implement this plan. This collaboration has resulted in the establishment of two fish markets where public auctions provide better prices and greater transparency for fishers and provide funds for the management of the CFMA.

Transparency and Accountability

Transparency and accountability are based on three indicators that assess the existence and quality of mechanisms for sharing information, holding leaders accountable for their decisions, and resolving conflicts among community members, managers, and other conservation stakeholders. Information sharing ensures that local communities are aware of conservation regulations, as well as the status and trends of resources within managed areas. Meanwhile, mechanisms for holding leaders accountable help to encourage better representation of the interests and values of local communities. Finally, as conflicts are inevitable in natural resource management and conservation, it is important that communities have access to local, low-cost mechanisms to resolve those conflicts and sustain trust within communities.

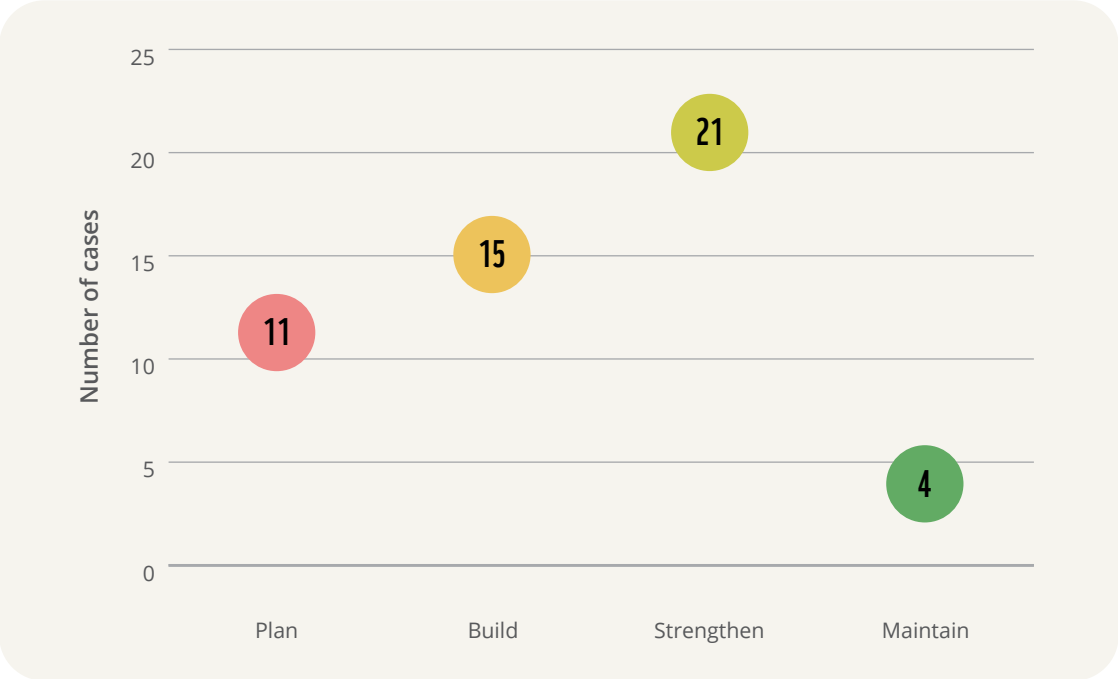

Figure 8. Progress towards transparency and accountability among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

CMAs in the SWIO region have made considerable progress in promoting transparency and accountability in governance, although progress varies by country (Figure 8). At the time of assessment, mechanisms for ensuring transparency and accountability were perceived as mostly absent or weak in Mozambique and South Africa, relatively strong in Kenya and Tanzania, and mixed across CMAs in Madagascar. In Kenya, BMUs are required to establish conflict resolution sub-committees and develop annual financial and technical reports outlining their progress in implementing co-management plans, which has contributed to fairly high levels of accountability. In Tanzania, CFMAs address conflict through a multi-level system involving village elders, local government, and BMUs, and information is shared through regular meetings. Madagascar shows variable progress. Some communities have established and used procedures for holding leaders accountable and sharing information in regular meetings (monthly or quarterly), while in others, accountability is limited, and it has been several years since meetings were held. Many communities have also struggled to access external conflict resolution mechanisms, which at times can require several days of travel.

Bright Spots

- Four of the assessed CMAs scored in the highest category ("maintain") for the transparency and accountability attribute. These include the Mtwapa and Munje co-managed areas in Kenya and JOJIBAKI and MKISAMI CFMAs in Tanzania. The Mtwapa co-managed area has established a conflict management committee that provides opportunities for local resource users to raise concerns, seek resolution in conflict with other resource users, and hold members of the BMU committee accountable for their actions.

PHASE 3: IMPLEMENT EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Attributes in this phase:

Operational capacity

Operational capacity enables better conservation outcomes by providing the human and financial capacity required for critical management functions such as stakeholder engagement, monitoring, and enforcement.

Enforcement

Fair and effective enforcement systems enable better conservation outcomes by providing mechanisms to tailor sanctions based on the frequency, severity, and/or nature of the offense and to deter free-riders from violating conservation rules.

Capacity for adaptive management

Adaptive management enables better conservation outcomes by providing mechanisms to detect and develop management responses to changes in social and ecological conditions.

Enforcement

The enforcement attribute comprises two indicators assessing progress toward fair and effective sanctioning systems in conservation governance. This includes indicators of the extent to which penalties are used to address rule violations and whether these penalties are graduated based on the frequency, severity, or nature of the offense. Effective enforcement of conservation rules is an important, if not essential, ingredient in long-term and effective local governance. It helps address problems with free-riders and thereby establishes conditions conducive to collective action. However, sanctions are often most effective when they are graduated to allow for small sanctions such as a warning, public apology, or token fine for minor, accidental, or first-time offenses while reserving larger sanctions for more significant offenses and repeat offenders.

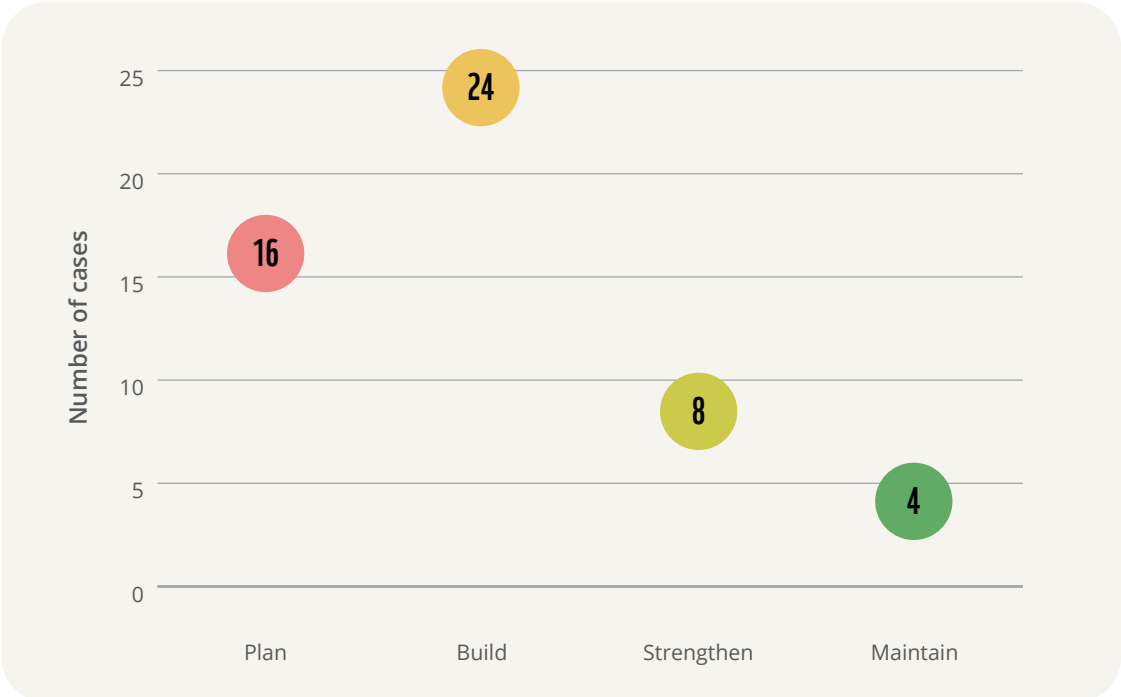

Figure 9. Progress towards effective enforcement among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

The results suggest a need for more robust enforcement systems across CMAs in the SWIO region (Figure 9). While most CMAs have established penalties for rule violations such as warnings, fines, license suspensions, and/or confiscation of fishing gear, enforcement is often limited by gaps in monitoring, control, and surveillance systems. In Mozambique, penalties are rarely applied because community organizations (Community Fishing Councils, or CCPs) conduct patrols but lack the mandate to apply sanctions, and the government agents that can apply penalties are rarely present to do so. Additionally, many CMAs lack graduated sanctions, which are essential for tailoring penalties to the nature and severity of the offense. For example, enforcement agents often abstain from reporting violations that are driven by poverty or hunger to avoid further harming vulnerable individuals. In contrast, many CFMAs in Tanzania use graduated sanctions effectively. For example, in BK CFMA on Mafia Island, minor penalties are applied for small infractions, such as catching a small number of undersized fish, while larger sanctions are reserved for larger violations. Finally, in Kenya, previous studies (Kawaka et al. 2017; Murunga et al. 2021; O'Leary et al. 2020) suggest weak on-water enforcement as a significant challenge for CMAs, a result which is further reinforced (with some exceptions) by the Elinor assessments included in this report.

Bright Spots

- The Munje Community Conservation Area (CCA) in Kenya has found success with co-management and temporary closures for octopus fishing. Support from the local community has helped to improve monitoring and enforcement due to higher levels of voluntary compliance (see Case Study 3 below).
- In Mozambique, the new Regulation of Maritime Fishing (REPMAR) establishes the basis for co-management of fisheries. Co-management is formalized through agreements established between the fisheries management authority and private, community, or civil society organizations. A co-management agreement is a contract that binds the parties and establishes responsibilities and mechanisms for coordination, monitoring, evaluation, and accountability in carrying out activities within a defined area. Although some agreements have been signed, including the agreement signed in Moma and Pebane Districts by local government and CCPs, this concept remains relatively new and not fully implemented.

CASE STUDY 3


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MUNJE COMMUNITY CONSERVATION AREA, KENYA

In Kenya, CCAs are established by forming and implementing Co-Management Areas Plans (CMA Plans) developed by local communities, primarily represented by BMUs. These plans are created collaboratively, involving BMUs, national government agencies, county authorities, and other relevant local stakeholders. Within the framework of fisheries co-management plans, BMUs can devise and implement conservation strategies such as establishing no-take zones and temporary fishing closures and imposing restrictions on specific types of fishing gear.

A notable example is the Munje CCA in Msambweni, Kwale County. Although the process of establishing the area began in 2006, the community was resistant to the idea of a permanent no-take area. Success began in 2014 when collaboration with Coastal and Marine Resources Development (COMRED) and Blue Ventures introduced a new model of temporary octopus fishery closures. By 2016, the Munje community members participated in a learning exchange to Pate Island, one of Kenya's first and most successful CCAs. This deepened community support for the idea and offered a valuable learning opportunity. The Munje CCA co-management plan, supported by the Munje fisher community, Kenya Fisheries Service, and county government officers, was officially recognized in 2016. A review of the CMA Plan was led by the BMU members, Kenya Fisheries Service, and County Fisheries, supported by Coral Reef Degradation in the Indian Ocean (CORDIO) East Africa and was approved in December 2023 for another five years (2023–27). The average closure period is now four to six months, after which the area is opened for 2-3 days to allow fishers to harvest only mature octopus. This new approach has proven successful; for instance, a recent short opening yielded 649 kg of octopus by 20 fishers in just three days, improving fishers' incomes.

The management of the current CCA includes a patrol team of 15 community members who conduct surveillance. Additionally, an ecological reef monitoring system was established that includes eight community ecological monitors with support from COMRED and Blue Ventures. Leaders from the BMU were also trained in governance. Gender inclusion has also improved significantly, with men and women collaborating to manage the octopus fishery grounds and sharing the benefits of closure.

Key Lessons

- Active involvement of local communities in decision-making fosters responsibility and commitment to conservation efforts. This includes the fair sharing of benefits generated from local revenue.
- Tangible benefits from the octopus closure helped generate more support for the CCA from community members.
- Continuous training and capacity building supported by government agencies and NGOs enable the communities to adapt and maintain the best sustainable practices for the CCAs.
- Effective monitoring and enforcement mechanisms are important to ensure compliance and benefit from inclusive and equitable management that helps boost voluntary compliance.

Operational Capacity

Operational capacity comprises several indicators of the financial and human resources available to support the implementation of conservation management and governance systems. These include the adequacy of the budget, equipment, and number and capacity of conservation staff. It also includes assessments of the extent to which management authorities have the capacity to adequately enforce conservation rules and access to funding sources that offer long-term security. Operational capacity is crucially important for the long-term effectiveness of conservation governance by enabling a range of critical conservation activities such as social and ecological monitoring, community engagement, fundraising, enforcement, and conflict resolution, and has been associated with better conservation outcomes.

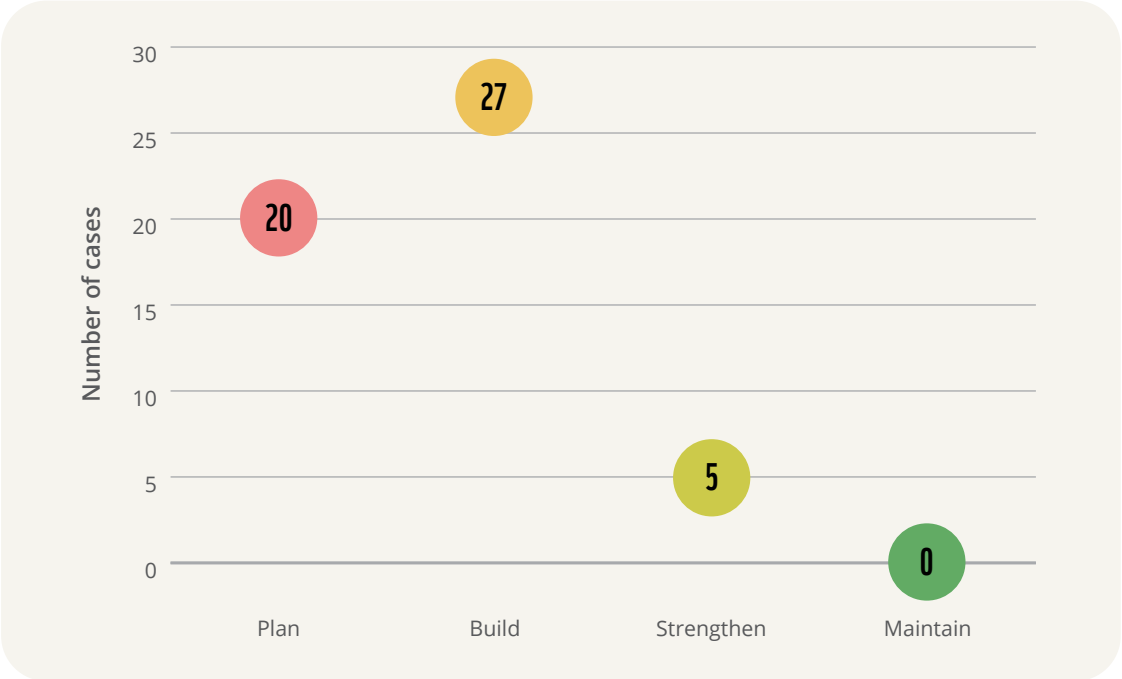

Figure 10. Progress towards adequate operational capacity among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Assessment data shows significant gaps in operational capacity across CMAs in the SWIO region (Figure 10). Except for two CMAs in Kenya and three in Tanzania, the remaining 47 CMAs face substantial challenges related to budget and staff constraints. In Madagascar, although many CMAs have some staff to support activities such as enforcement, these efforts are limited by insufficient funding. In Mozambique, both inadequate budget and staffing significantly hinder CMAs' effectiveness. In contrast, some CMAs in Kenya and Tanzania with higher operational capacity have developed diverse strategies to bolster their resources. These include developing locally generated revenue from licensing and sales (see Bright Spots example below) and external donor funding to support staff and operations. Although these measures have enabled short-term operational capacity, continued attention is required to ensure the long-term durability of these funding sources.

Bright Spots

- The DOKICHUNDA CFMA in Tanzania generates most of its revenue locally through licensing fees, anchorage fees, fines, and levies on auctioned catches, enabling it to fund BMU leaders, auctioneers, and government activities. Operational capacity could, however, be strengthened by diversifying sources of financial support.

Capacity for Adaptive Management

The capacity for adaptive management attribute comprises six indicators that collectively measure the extent to which conservation governance systems have developed mechanisms that allow them to detect and respond to changes in social and ecological conditions. This includes the existence and effectiveness of mechanisms for monitoring changes in social and ecological conditions, and the impacts of climate change. It also includes measures of the extent to which there are effective mechanisms for integrating the results of monitoring activities and local and traditional knowledge in decision-making processes. The importance of adaptive management in conservation governance has grown significantly as the pace of social and environmental change has accelerated in recent years.

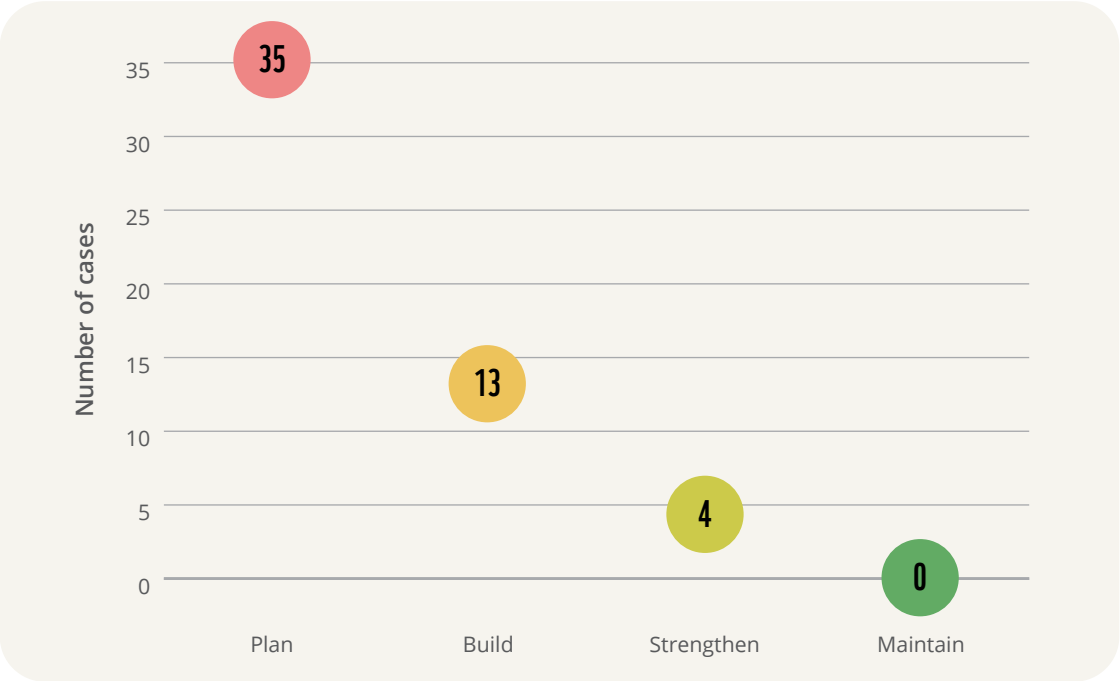

Figure 11. Progress towards capacity for adaptive management among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Significant gaps in capacity for adaptive management among CMAs exist across the SWIO region (Figure 11). Of the CMAs assessed, only four (two in Madagascar and two in Tanzania) demonstrated relatively effective systems for detecting and responding to changes in social and ecological conditions. In Tanzania, all assessed CMAs have established relatively robust mechanisms for incorporating local knowledge into decision-making. However, except for BK CFMA on Mafia Island, social and ecological monitoring efforts remain limited across the remaining CMAs. In Madagascar, while many CMAs have social and ecological monitoring programs, these are often constrained by insufficient financial resources, leading to decisions based exclusively on local knowledge. While local knowledge is essential for inclusive and equitable governance, management decisions often benefit from integrating local and scientific knowledge. Finally, the capacity for adaptive management is still limited among CMAs in Mozambique and South Africa. However, improvements are expected as local governance structures evolve with growing support from their government and donors.

Bright Spots

- CMAs in Mozambique have begun implementing the Management Oriented Monitoring System (MOMS), a low-cost, accessible, community-led approach to assess the status and trends of resources. While it is promising for adaptive management, MOMS requires further funding and capacity building to implement the system and effectively inform governance decisions.
- BK CFMA along the coast of Mafia Island in Tanzania has developed relatively effective systems to support adaptive management. BK CFMA has set targets and benchmarks in its management plan and tracks progress towards these using electronic reporting of fish catches, sea turtle nest counts, and habitat assessments. BK CFMA has also developed systems for tracking governance-related indicators but could benefit from enhanced monitoring of the community's socioeconomic status.

PHASE 4: DELIVER OUTCOMES FOR PEOPLE AND NATURE

Attributes in this phase:

Perceived ecological outcomes

Perceived ecological outcomes measure the extent to which participants believe managed areas have achieved their ecological objectives.

Perceived social outcomes

Perceived social outcomes measure the extent to which participants believe managed areas have achieved their social and economic objectives.

Perceived Ecological Outcomes

Perceived ecological outcomes measure the extent to which respondents perceive the ecological objectives of the CMA are being achieved. Ecological objectives can vary widely across different individuals and communities but generally include elements of a healthy environment, such as increases in the size and abundance of target species, conservation of culturally significant species, and the protection and restoration of habitats and ecosystem services. While the perceived ecological outcomes attribute may be measuring different types of outcomes, depending upon the interests and values of different respondents, this approach helps to ensure that assessments are based on the most important ecological outcomes to respondents.

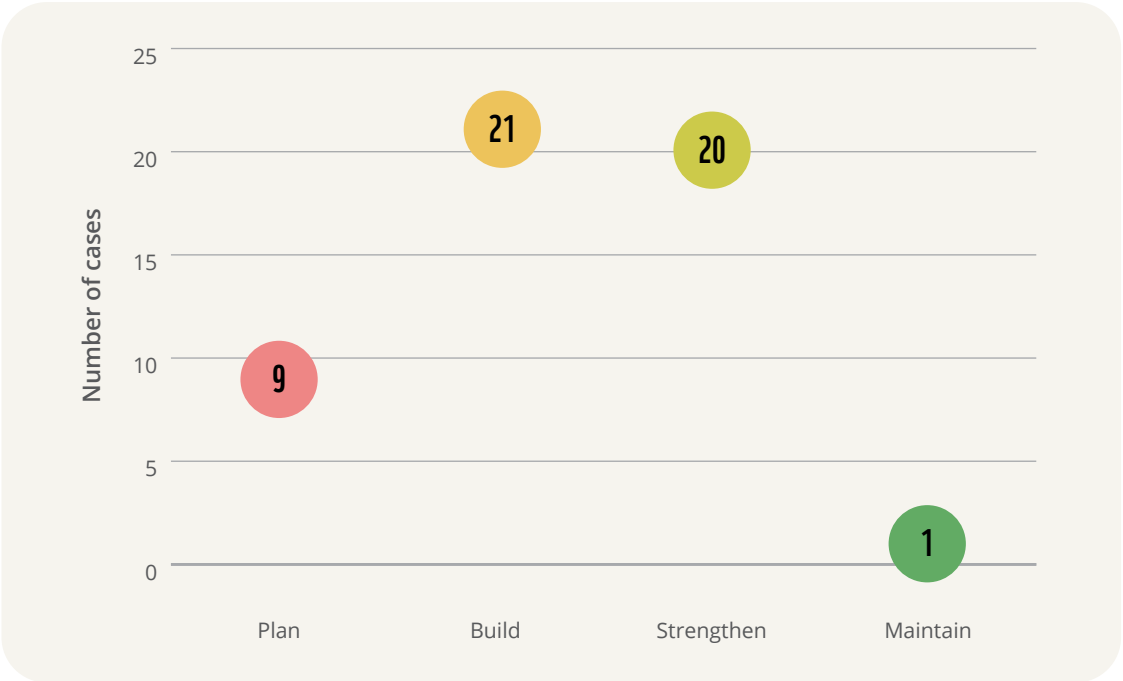

Figure 12. Perceived progress towards ecological outcomes among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

The results show mixed progress towards positive perceived ecological outcomes across the assessed CMAs. Twenty-one of the 52 CMAs fall within the "strengthen" and "maintain" categories, indicating significant progress toward achieving ecological objectives (Figure 12). Progress has generally been significant in Madagascar and Tanzania, where community-led governance is more robust. It has been more limited in Kenya, Mozambique, and South Africa, where governance tends to be less effective. For instance, fishers in the Mtwapa CMA in Kenya explained that conservation regulations are weakly enforced in their CMA and are often exploited by migrant fishers, which collectively limits the ecological benefits of the CMA.

Bright Spots

- Andranomena in Madagascar was the only CMA where local communities have had very positive perceptions of ecological outcomes (Figure 12). Community-led restoration and protection efforts have reportedly improved mangrove conditions in recent years, demonstrating the effectiveness of local management systems.

Perceived Social Outcomes

Perceived social outcomes measure the extent to which respondents believe the CMA is achieving the social objectives. These objectives vary widely across individuals and communities but generally include elements of social and economic well-being such as household assets, income, relationships with family and friends, cultural well-being, and life satisfaction. While the specific social outcomes measured may differ based on community priorities and values, this approach ensures the assessment reflects the social outcomes most important to respondents.

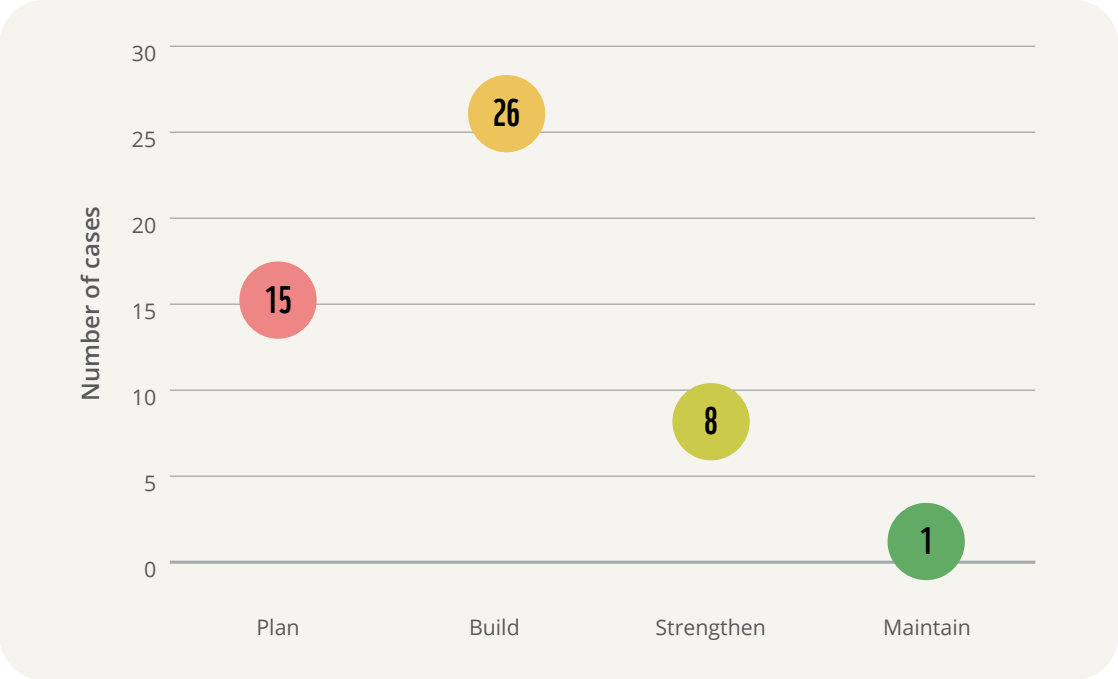

Figure 13. Perceived progress towards social outcomes among CMAs in the SWIO region (The chart shows the distribution of CMA sites that were assessed to be within the four levels of the Elinor assessment scale.)

Overall, the Elinor assessments suggest limited progress in achieving social objectives across most CMAs. Only nine CMAs (18%) fall within the "strengthen" or "maintain" categories, while the remaining 41 CMAs reported limited contributions of management actions to improving social conditions such as income levels and household well-being (Figure 13). In these CMAs, local governance has thus far failed to reverse declines in resource abundance, limiting more sustainable resource-based livelihood or the development of other suitable alternatives. Progress towards social objectives also varies across SWIO countries. While most assessed CMAs in Tanzania (five of seven) have made significant progress towards social objectives, Kenya and Madagascar report more limited success, while Mozambique and South Africa show little to no progress.

Bright Spots

- The JOJIBAKI CFMA in Tanzania scored highly for perceived social outcomes (Figure 13). Focus group participants from the JOJIBAKI CFMA indicated that investments in CFMA governance have been accompanied by investments in diversifying local livelihoods. This has expanded to activities like coconut, banana, and rice farming, as well as livestock husbandry, improving the economic welfare of local communities.

CHAPTER 3

PRIORITIES FOR STRENGTHENING COMMUNITY-MANAGED AREAS

Here, we summarize how assessment results may be used to strengthen CMAs' governance across the SWIO region while acknowledging some limitations associated with the data and analysis.

First and perhaps most importantly, these assessments represent a snapshot in time. As some assessments were carried out as early as 2021, ongoing developments and policy changes continue to reshape the governance context and perceptions about CMAs. For instance, in Kenya and Madagascar, there are ongoing reviews of key legislative frameworks (including the Fisheries Management and Development Act (2016), the Wildlife Conservation and Management Act (2013), the Forests Act (2005) in Kenya, and the Gelose law (1996) in Madagascar), which present timely opportunities to address barriers to CMA establishment and sustainability. These legislative reviews could incorporate provisions that enhance community-based natural resource governance, ensuring that these areas are legally recognized and better aligned with national conservation efforts.

Findings also showed a positive relationship between CMA establishment and governance scores. CMAs that had been established for at least four years at the time of assessment tended to score higher than those that had been established more recently. However, after five years of CMA establishment, governance scores remained fairly consistent across the region for the next 15 years. This suggests that governance may significantly improve in the first few years after CMA establishment, but progress stalls afterward. This could indicate that communities may experience systemic barriers to strengthening community-led governance. Future studies in the SWIO region should test this hypothesis and explore other factors and processes that limit the ability of communities to strengthen local governance.

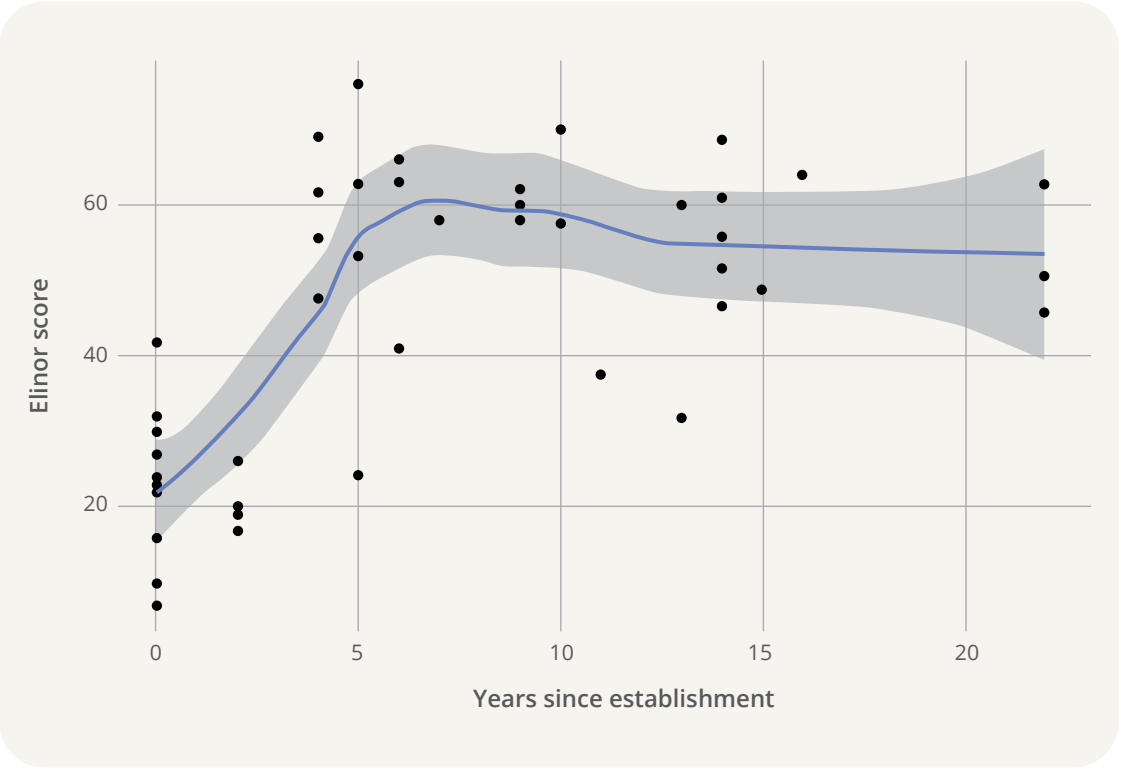

Figure 14. Comparison of Elinor scores and years since CMA establishment (Each dot represents one CMA in the assessment. CMAs in South Africa assessed in this report were not formally established at the time of this assessment but have been assigned a value of zero in this figure.)

Third, although this report provides general insights across the SWIO, it is important to note that national policy contexts are often very different, leading to country-specific dynamics and variation in progress. Despite these differences, CMAs do face shared challenges: as demonstrated in Appendix 1, no single type of community organization has the full legal mandate for community-based management of fisheries, mangroves, and marine wildlife (e.g., turtles and marine mammals).

Finally, this assessment did not include detailed discussions on equity and gender. Although guidance for focus groups in the Elinor tool encourages organizers to include women and allow their voices to be heard, gender-disaggregated data is not reported. In many parts of the SWIO region, women play pivotal yet often unrecognized roles in marine and terrestrial resource management (see case studies for examples). Addressing gender disparities and empowering women in CMA decision-making processes represents a significant area for growth and further action. Gender-responsive assessments can help to identify opportunities for women's leadership and engagement in coastal resource management (e.g., disaggregating data by gender or other subgroups for further analysis within communities).

The remainder of this section uses the theory of change (Figure 2), and Elinor assessment results to identify country-specific strategic priorities for advancing inclusive governance and effective management. These priorities follow a phased approach, where CMAs establish strong foundations in earlier phases (e.g., inclusivity and equity in governance) before progressing to later ones (e.g., enforcement). For example, boosting enforcement (Phase 3) where governance is neither inclusive nor equitable (Phase 2) may exacerbate conflicts, reinforce inequalities, and catalyze resistance to conservation and natural resource management (Hara 2005). Thus, the strategic priorities discussed here are not simply based on the lowest-scoring attributes but through a sequential analysis of attribute scores within each phase, supplemented by country-specific expertise from co-authors (Table 3).

Table 3. Strategic priorities for advancing community governance based on the current Elinor data per country as well as expert insights from co-authors

Country	Key Priorities	Secondary Priorities
Kenya	■ Inclusive and equitable management	■ Clear and congruent regulation ■ Capacity for adaptive management
Madagascar	■ Inclusive and equitable management	■ Operational capacity ■ Capacity for adaptive management
Mozambique	■ Clearly defined rights and decision-making ■ Inclusive and equitable management	■ Resource boundaries
South Africa	■ Clearly defined rights and decision-making ■ Inclusive and equitable management	■ Transparency and accountability
Tanzania	■ Clear and congruent regulations ■ Operational capacity	■ Capacity for adaptive management

PHASE 1: ESTABLISH RIGHTS

Phase 1 highlights the importance of first clearly establishing rights and management boundaries to provide the foundation for developing equitable governance and effective management. The assessment results suggest that while many CMAs have progressed beyond the first phase of developing equitable governance and effective management, there is variation across SWIO countries regarding how communities perceive progress towards establishing rights. Results indicate that CMAs in Mozambique and South Africa may require further targeted investments in Phase 1, while CMAs in Kenya, Madagascar, and Tanzania may have a stronger foundation of perceived rights from which to build.

Mozambique and South Africa could prioritize efforts to assess how stakeholders and rights-holders perceive progress towards establishing rights within CMA sites, which could inform next steps. These steps could include, for example, raising awareness around existing rights or advocating for stronger policies to better enshrine local management and use rights. Investments could also be made in building the foundations for equitable governance and effective management (Phase 2) at local scales, which might involve training and building capacity for local communities to develop fair and effective systems for making decisions concerning the use of coastal resources.

In Kenya, Madagascar, and Tanzania (where rights are perceived as being more clearly defined), site-level data can be used to assess whether boundaries are known and respected by relevant actors to inform what actions are needed to develop or strengthen boundaries. This might involve activities to adjust and/or raise awareness of those boundaries through extension and physical markers. In contrast, in Mozambique, all citizens currently have the right to access marine resources due to the absence of exclusion rules. Establishing clearer boundaries could strengthen CMA governance by defining where fishing is allowed and helping to manage resource use more effectively.

PHASE 2: DEVELOP EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Phase 2 focuses on developing locally appropriate mechanisms for governing CMAs and their resources in equitable and effective ways. The results suggest that most CMAs in Kenya and Madagascar could benefit from targeted investments in this area, as data indicates that the institutions that govern CMAs are not always able to exercise their rights (Phase 1) to establish equitable governance and effective local-scale management. In contrast, CMAs in Tanzania have made progress in developing relatively inclusive, equitable, and effective governance to improve social and ecological outcomes in many cases.

However, weaknesses in the quality of regulations still exist in several CMAs. Local leaders are often not compensated for their efforts, limiting incentives to continue investing their personal time and resources in governance. This may hinder long-term conservation and livelihood benefits, and it is further reinforced by a lack of operational capacity such as appropriate staff, budget, and equipment. Addressing these gaps requires a better understanding of the underlying factors affecting operational capacity and the potential for adapting policies or financial and technical support to bolster local governance capacity.

PHASE 3: IMPLEMENT EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Phase 3 involves investments in the capacity to implement equitable governance and effective management by, for instance, attracting sustainable funding, hiring staff, and enforcing rules. In general, such investments appear to have the greatest potential to deliver desired social and ecological outcomes in CMAs that have established relatively equitable and effective governance systems (Phase 2). This is true for many CFMAs in Tanzania and some LMMAs in Madagascar. This does not imply that investments in operational capacity are not needed in CMAs and countries where the foundations of inclusive and equitable management are weak or absent, but rather that the nature of these investments should be aligned with the phase of CMA development. For example, CMAs working to develop inclusive and equitable management (Phase 2) may require investments to build capacity for community engagement, conflict resolution, and planning. In contrast, CMAs that have already established inclusive and equitable management could prioritize investments in social and ecological monitoring to support adaptive management and enforcement to address problems associated with free-riders.

Gaps remain concerning the development of inclusive and equitable management in some CMAs (about 80% of the assessed CMAs in Kenya and 50% in Madagascar). In Kenya, despite general enabling policies, stakeholder participation is perceived as being relatively limited, and provisions for protecting the rights of vulnerable groups and benefit sharing are lacking. Investments that could strengthen local governance in Kenya include investments in implementing locally appropriate mechanisms for community participation in CMA decision-making and supporting the design of rules and strategies for benefit sharing to protect the livelihoods of vulnerable groups. CMAs in Madagascar, meanwhile, appear to have achieved higher levels of community participation. Still, many lack effective mechanisms to protect vulnerable groups, share benefits, and benefit from social learning through social networks.

Finally, as Mozambique and South Africa are in the earlier stages of supporting CMAs nationally, prioritizing investments in Phase 1 will likely be required in most places. However, where rights are better defined and known, investing in locally appropriate mechanisms for community participation, benefit sharing, and protection of the livelihoods of vulnerable groups will be important for strengthening inclusive and equitable management.

PHASE 4: DELIVER OUTCOMES FOR PEOPLE AND NATURE

Perceived social and ecological outcomes are generated, at least in part, from the successful completion of the first three phases of CMA development. As many of the CMAs assessed for this report are still working towards full implementation of community-led governance, it is not surprising to find that many CMAs have not delivered the desired social and ecological outcomes. The ecosystem recovery and the benefits they provide to people can take many years following the implementation of conservation initiatives (Edgar et al. 2014; Watts et al. 2020).

However, Figures 15 and 16 offer some optimism that investments in governance may help communities move towards better social and ecological outcomes. The figures grouped CMAs with poor perceived ecological outcomes (red: “plan” or “build”) and CMAs with good perceived ecological outcomes (green: “strengthen” or “maintain”) and calculated the average score of these groupings for each of the remaining Elinor governance attributes. The same process was then applied to perceived social outcomes (Figure 16). As shown in Figure 15, it is apparent that CMAs with better perceived ecological outcomes have higher governance scores across all eight Elinor governance attributes. The same pattern is observed in Figure 16 for perceived social outcomes. These findings appear to support our theory of change and further suggest that investments in planning, building, and strengthening local governance are likely to support progress towards social and ecological objectives.

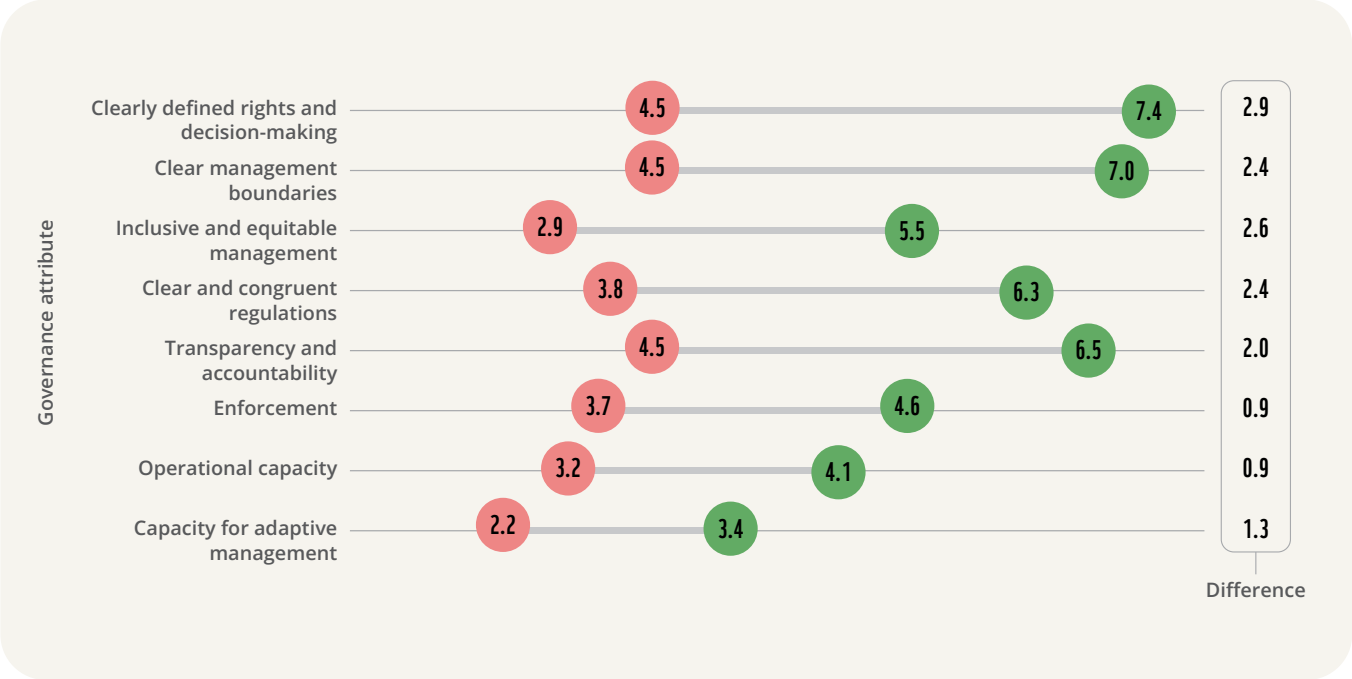

Figure 15. Differences in Elinor scores between CMAs with high and low levels of progress toward ecological objectives (The chart shows the average Elinor attribute scores for CMAs with high [green: "strengthen" or "maintain"] and low [red: "plan" or "build"] levels of perceived progress toward ecological objectives.)

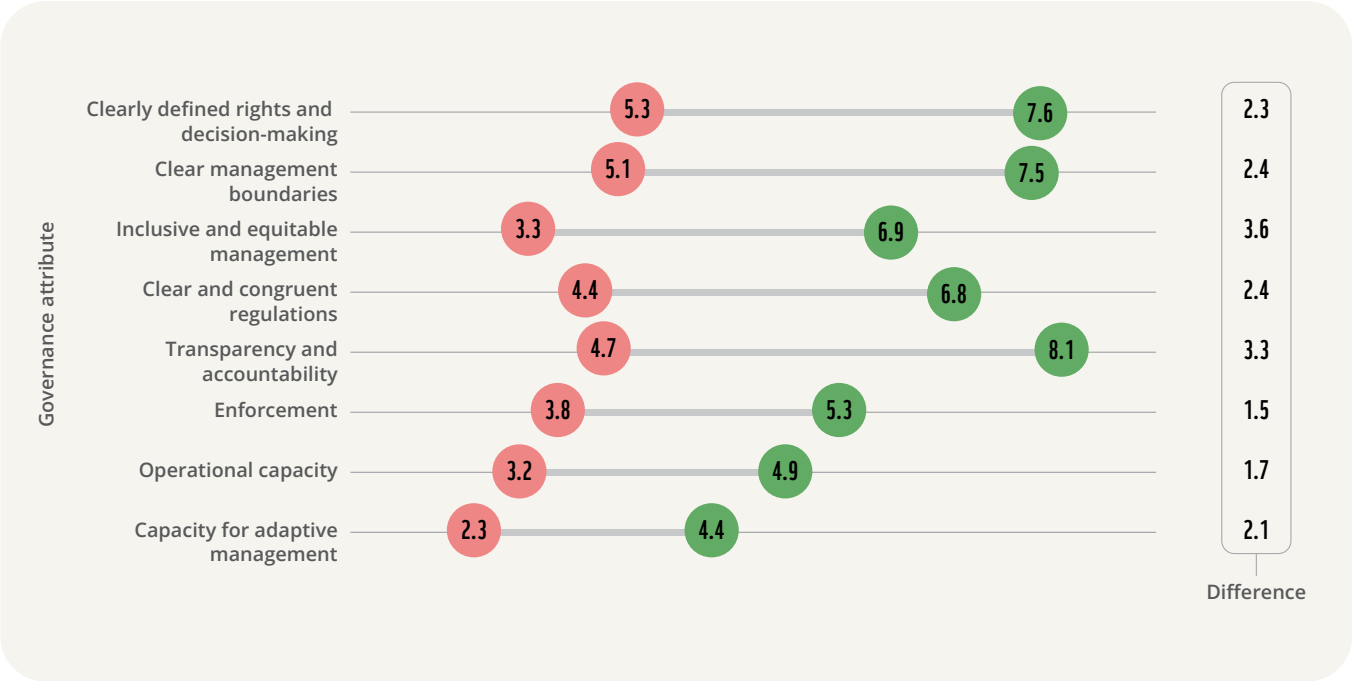

Figure 16. Differences in Elinor scores between CMAs with high and low levels of progress toward social objectives (The chart shows the average Elinor attribute scores for CMAs with high [green: "strengthen" or "maintain"] and low [red: "plan" or "build"] levels of perceived progress toward social objectives.)

CHAPTER 4

KEY ACTIONS FOR THE ROAD AHEAD

The SWIO region stands as a prime example of how communities, governments, and NGOs can successfully co-manage a biodiversity hotspot without undermining the well-being of those who most depend on marine ecosystems. Despite anthropogenic threats (largely driven by external actors), efforts to establish collaborative management over the past two decades have moved this region in the right direction. Community-led coastal management has and will continue to play a key role in creating a future where both ecosystems and people can thrive.

This report finds that more work is needed to ensure that coastal communities across the SWIO region are supported so they can fully participate in managing the ecosystems on which they depend. As an inaugural report, the authors acknowledge that many knowledge gaps remain, and there is still more to learn to provide a representative baseline understanding of the status of community-led governance across the region. Nonetheless, these findings can be used locally and nationally to identify phases and attributes that most need attention and how to strengthen them through local action and effective policy.

Interestingly, a recent report assessing the readiness of LMMAs in the SWIO region to be recognized as OECMs had complementary findings (CORDIO East Africa 2025). Although the report focused on OECM criteria, it also concluded that LMMAs contribute to equitable local governance and lead to improvements for local fisheries, food security, and livelihoods. The shared findings of these reports demonstrate that there is interest as well as a critical need for further investments in financial and human capital for CMAs, especially if communities and governments agree on the value of formally recognizing CMAs as OECMs. Such investments, as outlined in the previous section of this report, will support more sustainable use of fisheries and other natural resources that allow coastal communities to satisfy their needs while safeguarding biodiversity.

Ensuring coordinated action between the many actors who seek to strengthen CMAs will be critical going forward. We argue that a regional strategy and action plan could help to clarify what national policies may be required to support community-based marine management, define what roles actors and NGOs can play, encourage more involvement from national governments, establish meaningful goals and timelines, and help further articulate the need for further funding for a CMA network.

Five key actions are identified here as important considerations in such a strategy. Together, these actions strive to advance the interests of coastal ecosystem management and improve the livelihoods and well-being of coastal communities.

1. Strengthen Tenure and Community Rights

Without clearly defined and secure long-term rights to use, manage, and control access to resources, communities lack opportunities and incentives to allocate their limited time and resources to the long-term conservation of resources. As a result, essential for catalyzing community governance across the region are efforts to define clear and secure rights to use and manage resources (provisions for establishing co-management or other forms of community-led management) and ensure that communities (and the broader public, including migrant fishers from afar) are aware of those rights. Enshrining rights in national policy is in various stages of development across all countries in the SWIO, and all face unique challenges in their progress and in securing rights in perpetuity. Complexities arise with securing community rights across often siloed policies and government ministries. Continuous advocacy and policy action will be needed in the coming years, especially when taking the next step: ensuring that rights translate into inclusive and equitable management systems.

Ensuring that coastal communities have the agency and capacity to lead this advocacy will be equally critical. Leveraging the new OECM framework at the international policy level may help accelerate efforts to secure management rights for local communities (see CORDIO East Africa, 2025). It could also add another layer of complexity, so it will need to be navigated carefully. At the same time, it will be critical to invest in individual sites, where CMAs need to develop locally appropriate mechanisms that ensure that decision-making processes are inclusive, benefits are shared equitably, and the rights of vulnerable members of those communities are protected.

2. Tailor Solutions to Address Needs at National and Local Levels

Coastal ecosystems, communities, and progress toward equitable and effective governance vary significantly across countries and CMAs. As a result, to be effective, solutions need to be tailored to reflect the needs and contextual conditions of different countries and CMAs. While individual assessment data highlights these unique needs at site levels and can be used to inform local adaptive management, data from this report has highlighted themes of focus that could strengthen locally-led governance and management nationally.

- In Kenya, many sites still require investments in strengthening community participation, benefit sharing, and protecting the interests, needs, and values of vulnerable groups.
- In Madagascar, local governance could improve by developing the capacity of vulnerable groups to more effectively manage resources equitably and strengthening policy that further empowers coastal communities in national-level decision-making processes.
- In Mozambique, the most critical measures for strengthening locally-led governance and management at the site level are raising community awareness about user rights and continuing to invest in developing local governance and management systems through capacity development, learning, and financial support.
- In South Africa, building awareness about community rights to use and manage resources is foundational. Further investments in capacity development, social learning, and long-term financial support could then help strengthen equitable local governance and effective management. Continued efforts to strengthen community participation, improve governance, and increase participation by youth and women will also be essential for ensuring the long-term sustainability of marine resources.
- In Tanzania, investing in developing operational capacity (whether through changes in CMA policies, training, or securing longer-term financing) might enable communities to better implement equitable governance and effective management to realize long-term social and ecological benefits.

3. Build Towards Stable and Diverse Funding to Support Capacity for Community-Managed Areas

Assessment results show that operational capacity is weak across all countries. Funding that is sustainable, long-term, and comes from diversified sources will be important to support CMAs' operational capacity over time. As of now, there are no national policies in any SWIO countries that guarantee funding to communities managing CMAs. This keeps CMA governance dependent on (often foreign) public and private investments channeled through local and international NGOs. These funding sources will continue to be essential and could increasingly be channeled into innovative financing mechanisms that provide more sustainable, long-term financing to communities, such as community-centric conservation trust funds.

At present, CMAs across the SWIO region tend to rely heavily on NGOs, which in turn rely on donor funding. There is a need to find more balance and to ensure that CMAs have consistent, reliable, and independent funding (Katikiro et al. 2024). Many communities that manage CMAs in the region have engaged in "community microfinance", designed to generate local wealth and catalyze sustainable development. Increasingly, microfinance groups are using their savings to contribute to CMA governance. As a result, there are growing opportunities to use these local finance institutions to catalyze greater investments in governance activities.

At the time of publication, several new regional and national finance mechanisms were under development to support community-led conservation in Madagascar that take a blended finance approach. Learning from these efforts and scaling their lessons across the region could be instrumental in securing long-term financing for community-led conservation. Alongside these new mechanisms, continued investments in financial capacity development for community-based organizations will be needed to ensure that they have the institutional structures and capability needed to equitably and effectively use funds to support good governance.

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4. Strengthen the Capacity for Learning Across the Region

Investing in learning and capacity sharing can be valuable for inspiring engagement in collaborative coastal management (e.g., Rocliffe et al. 2014, Kawaka et al. 2017) and for scaling effective approaches and practices. For example, peer-to-peer learning opportunities between communities that lead on CMA governance have been shown to be an effective way to scale community-led approaches and inspire collective action (Rocliffe et al., 2014). Forums that enable NGOs to learn from one another can strengthen NGO capacity to better meet the unique needs of CMAs across countries and contexts and avoid duplicating efforts. Learning opportunities (including peer-to-peer exchanges) that facilitate links between different national and regional governments that may be responsible for supporting capacity development or the development and implementation of policy can also help scale effective practices, policies, and training approaches (see Ralison, 2024 for a recent review on capacity needs for CMA governance in the SWIO).

This report highlights specific opportunities where cross-site and national learning could help scale effective practices. For example, the case studies on Ambakivao and Munje presented in this report provide some glimpses into how individual CMAs have navigated specific challenges in ways that may be informative for other sites. Additionally, the enabling policy environment may be further along in Tanzania compared with Mozambique and South Africa. Learning exchanges among policymakers could help countries that are developing new policies learn from the successes and failures of others in the region.

All CMAs assessed in the report still have areas of growth. Thus, investing in strengthening the long-term learning environment will be important to continuously improve the capacity for effective CMA governance and management. Currently, environmental NGOs play a critical role in providing on-the-ground capacity development, but these types of training opportunities are often dependent on time-bound donor funding and project cycles. Investing in insstitutions with capacity development as their long-term mandate (for example, government training institutions) and ensuring these institutions have the capacities and funding needed to meet CMA needs and learn from one another could ensure capacity development and learning opportunities are perpetually available and fit for context.

5. Strengthen Data Sharing and Use Through Expanding the Use of Elinor and Other Shared Data Platforms

This report shows that Elinor assessments can yield useful local, national, and regional insights on the strength and areas of growth for CMA governance. While this report contains only an illustrative set of CMAs per country, expanding the use of the Elinor tool across the region by different conservation actors (e.g., NGOs, governments, communities, and researchers) could strengthen the evidence base on the state of CMA governance, and more accurately inform appropriate local, national, and regional actions in support of community-led governance.

As Elinor assessments only represent a snapshot in time, it will also be important to ensure that support and funding for longer-term monitoring can enable repeat assessments to track changes and trends over time. Scaling the use of the Elinor tool will also require building capacity for conservation stakeholders, including CMA leaders, conservation NGO staff, government officials, and academics, to conduct assessments. Additionally, pairing Elinor assessment data with information on the social and ecological changes within and around CMAs will be increasingly important in the years to come. Doing so would provide critical insights into how CMAs contribute to ecosystem health and human well-being, strengthen the evidence base for a community-centric approach to conservation, and provide critical insights into which CMAs might be best positioned to be recognized as OECMs. Realizing this goal requires stronger investments in generating, using, and sharing comparable ecological data in CMAs through similar shared data platforms, such as Marine Ecological Research Management Aid (MERMAID; DataMermaid.org.)


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APPENDIX 1

COMMONLY USED TERMS IN EACH SWIO COUNTRY

This list is organized by country (and not alphabetically). It may not be exhaustive of all terms used to commonly and legally describe CMAs in the SWIO region.

Term	Countries	Description	Resource Context		Social group	Geographic area	Legal term
			Fisheries	Mangroves			
Community Fishing Council (CCP)	Mozambique	A CCP is a community-based organization (CBO) that collaborates with the government to support fisheries in co-management and conflict resolution. Revisions to the fisheries regulations in 2021 (Regulamento da Pesca Marítima) enabled the government to formally recognize registered CCPs as legal entities with the rights and responsibilities to manage local fisheries sustainably and enforce specific regulations.	✓		✓		✓
Áreas de Pesca de Gestão Comunitária (APGC)	Mozambique	An APGC, or community-managed fishing area, refers to a geographic area under community management. Only a few areas have been formally designated using this mechanism. APGC may be within or outside existing Marine Protected Areas (MPAs) under the Ministry of Fisheries. Notably, APGCs are a fisheries management tool, not a conservation tool.	✓				
Community Conservation Area (CCA)	Mozambique, Kenya	The term CCA is commonly used to reference areas managed by communities in both Mozambique and Kenya. Mozambique: Article 7 of the Revised Fisheries Regulations (2021) formalized community participation in conservation area management by allowing CBOs to establish CCAs. Article 7 also mandates the establishment of Conservation Area Management Councils (CGACs), which provide local communities with a platform to provide input on a conservation area's management plan, regulations, and other fundamental governing instruments. Kenya: While the term CCA is used more generally, locally, a CCA is referred to as a "tengefu", which means "to set aside" in Swahili. These are either seasonal closures or no-take zones within an area managed by BMUs.				✓	
Community Wildlife Association (CWA)	Kenya	CWA refers to an association established under the provisions of the 2013 Wildlife Conservation and Management Act. There are four CWAs in Lamu and Tana River counties that intersect their activities with other community-led institutions. Coastal communities adjacent to the ocean may establish a wildlife conservancy, which means land set aside by an individual landowner, corporate body, group of owners, or a community for purposes of wildlife conservation in accordance with the provisions of the 2013 Wildlife Conservation and Management Act.			✓		✓

Term	Countries	Description	Resource Context		Social group	Geographic area	Legal term
			Fisheries	Mangroves			
Community Forest Association (CFA)	Kenya	A CFA is a local group that has registered as an association or other organization established to engage in forest management and conservation. CFAs develop participatory forest management plans (PFMPs). PFMPs provide guiding principles for the conservation and management of forests, including mangrove forests. CFAs sign a Forest Management Agreement (FMA) with the government (Kenya Forest Service) to provide for legally binding commitments (legal rights) for co-managing forests with the government and other stakeholders.		✓	✓		✓
Conservancy	Kenya	A conservancy is an area of land set aside by an individual landowner, body corporate, group of owners, or a community for wildlife conservation. It is recognized in the 2013 Wildlife Conservation and Management Act and the 2017 Draft Wildlife Policy 2017. Land includes marine waters in the territorial sea and the Exclusive Economic Zone (EEZ).				✓	
Beach Management Unit (BMU)	Kenya,Tanzania (mainland)	A BMU is the smallest unit of fisheries governance in Kenya and Tanzania. BMUs operate at a village level and were the first unit of co-managed marine fisheries first established in Tanzania. BMUs are responsible for implementing fisheries regulations under the direction of the Ministry responsible for fisheries. BMUs often carry out extension services on behalf of fisheries department staff. Tanzania: The 2003 Fisheries Act formalized BMUs as the governing unit responsible for managing fisheries at a local level. As of 2009, a new provision in the Fisheries Act requires BMUs to be managed at an ecosystem scale through CFMAs. Kenya: The 2007 Fisheries Regulations mandate BMUs to have jurisdiction for their respective co-management areas. This ultimately gives them the power to establish and manage seasonal closures and no-take zones as part of management strategies to promote biodiversity conservation and enhanced fisheries management.	✓		✓		✓
Collaborative Fisheries Management Area (CFMA)	Tanzania (mainland)	CFMAs are fishing areas shared by fishers from more than one village or BMU. CFMAs are areas adjacent to the village that were established to manage fishing areas (access, use, management, and decision-making powers). CFMA leaders are selected from BMU executive leaders to form a Collaborative Coordination Committee.	✓			✓	
Central Coordination Committee (CCC)	Tanzania	A CCC is a social group responsible for overseeing the management of a CFMA (more than one village), such as joint patrols and surveillance activities. CCC members include elected members from the BMUs whose fishing grounds are part of the CFMA.	✓		✓		
Village Liaison Committee (VLC)	Tanzania (mainland)	VLCs are committees composed of communities that live within or adjacent to MPAs. VLCs are invited to participate in developing any amendments to regulations, zoning, or general management plans. VLCs also advise MPA wardens about management and liaise between members of the village or community and the warden, advisory committee, unit manager, and board of trustees.			✓		

Term	Countries	Description	Resource Context		Social group	Geographic area	Legal term
			Fisheries	Mangroves			
Village Natural Resources Committee (VNRC)	Tanzania (mainland)	VNRCs are relevant for community management and implementation of mangrove management plans and harvesting plans at the village level. Moreover, they are responsible for restoring mangroves (planting), enforcing law and local regulations, and promoting and creating awareness of alternative income-generating activities such as the production of energy-efficient stoves and beekeeping projects.		✓	✓		
Community-Based Forest Management (CBFM)	Tanzania (Zanzibar)	CBFM refers to a system where communities have the right to manage forested areas (including mangrove forests). CBFM is guided by Zanzibar's forest policies and laws, such as the Forest Resources Management and Conservation Act (1996) and subsequent amendments, which promote community involvement in forest governance. In some cases, CBFM involves governing joint forest management areas, where communities collaborate with the government or NGOs in managing forests and mangroves.		✓		✓	
Shehia (ward) Fisher Committee (SFC)	Tanzania (Zanzibar)	SFCs implement collaborative fisheries plans, including fisheries closures, restrictions, no-take-zones, and gear restrictions. SFCs possess the authority to generate by-laws and control fishing activities within their area of responsibility with the approval of the Department of Fisheries Development and its Marine Conservation Unit. Collaborative Management Groups (CMGs) gather shehia (neighboring communities) and their representatives to integrate mangrove management.	✓		✓		
Locally Managed Marine Area (LMMA)	Madagascar	An LMMA is an area of nearshore waters and its associated coastal and marine resources. LMMAs are largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area.	✓	✓		✓	
Vondron'Olona Ifotony (VOI) /COBA in French)	Madagascar	In 1996, the Gelose law provided the legal framework for transferring natural resources management rights to local communities. The transfer is realized through a management contract between the government, the territorial authority, and a local community association, often called a "vondron'olona ifotony" in Malagasy (a CBO).		✓	✓		✓
Small-scale fishing community area (SSFCA)	South Africa	SSFCAs are designated geographic regions where a recognized small-scale fishing community has exclusive or priority rights to fish. The areas are clearly demarcated in permit conditions, and there is legislation to support their declaration. In many cases, SSFCAs are yet to be formally proclaimed by the Minister of the Department of Forestry, Fisheries, and the Environment.				✓	

APPENDIX 2

ELINOR ASSESSMENT QUESTIONS

Indicators of equitable conservation and management (summarized from Mahajan et al. 2024).

PHASE 1: ESTABLISH RIGHTS

Resource boundaries

- Is the boundary known by all local stakeholder groups?
- Is the boundary clearly defined?

Clearly defined rights and decision-making

- Are there formal or informal rules that clearly define the rights of local stakeholders to harvest resources within the managed area (MA)?
- Are there formal or informal mechanisms that clearly define the rights of local stakeholders to develop rules for the use of resources within the MA?
- Are there formal or informal rules that clearly define the rights of local stakeholders to exclude other groups from harvesting resources within the MA?
- Is there legislation in place to enable resource management by local communities?
- Are local stakeholders able to exercise their rights to natural resources?

PHASE 2: DEVELOP EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Inclusive and equitable management

- To what extent are stakeholders affected by the rules of the MA able to play a role in making changes to the rules?
- Do women or other vulnerable groups living in the local community have clearly defined rights to natural resources within the MA?
- Is there an effective strategy or approach for ensuring benefits from the MA are shared equitably among local stakeholders?
- Do networks exist that develop social relations and support mutual learning among local stakeholders?
- Is information on climate change being used to inform strategies to build community resilience to climate change?

Clear and congruent regulations

- Are rights to harvest or benefit from resources within the MA related to the contributions of local stakeholders to the governance of the MA (in terms of time and/or resources contributed)?
- Do different levels of management exist within the MA that function as a coordinated unit?
- Are appropriate regulations in place to control natural resource-based activities in the MA?
- Is there a management plan for the MA and is it being implemented?

Transparency and accountability

- Are those responsible for the governance of the MA held to account if they do not perform their role?
- Do local stakeholders receive information from MA authorities in a timely manner?
- Do local stakeholders have access to effective conflict resolution mechanisms?

PHASE 3: IMPLEMENT EQUITABLE GOVERNANCE AND EFFECTIVE MANAGEMENT

Enforcement

- How often are the penalties for breaking resource use rules administered?
- To what extent do penalties for breaking rules for the use of resources depend upon the nature, severity, or frequency of the infraction?

Capacity for adaptive management

- Are systems in place to monitor and document ecological conditions in the MA?
- Are systems in place to monitor and document the social conditions of communities in and/or adjacent to the MA?
- Are systems in place to monitor and document impacts of climate change?
- Do those responsible for managing the MA integrate different types of knowledge (scientific, experiential, local, and traditional) into management decisions?
- Are the results of monitoring, research, and evaluation routinely incorporated into decisions and/or policies related to MA management?
- Is the MA consciously managed to adapt to climate change?

Operational capacity

- Do those responsible for managing the MA (e.g., staff, community associations, management groups) have the capacity to enforce the rules and regulations?
- Are there enough people employed or engaged to manage the MA?
- Do those responsible for managing the MA have sufficient capacity (e.g., information and adequate skills) to fulfill management objectives?
- Is the current budget or funds used to support MA activities sufficient?
- Is the budget or funding secure?
- Is the equipment sufficient for management needs?

PHASE 4: DELIVER OUTCOMES FOR PEOPLE AND NATURE

Perceived ecological outcomes

- To what extent do you feel the ecological outcomes are being achieved?

Perceived social outcomes

- To what extent do you feel the social outcomes are being achieved?

APPENDIX 3

COUNTRY-SPECIFIC METADATA FOR ELINOR ASSESSMENTS

ASSESSED AREAS IN KENYA

Name	Size (hectares)	Year of establishment	Number of community participants	Male	Female
Bodo	–	2006	6	3	3
Funzi	–	2012	6	3	3
Gazi	250	2007	7	4	3
Kanamai	10	2008	6	3	3
Kuruwitu	12,000	2006	6	3	3
Marina	–	2007	8	4	4
Mkunguni	1,071	2007	6	3	3
Mtwapa	25	2007	6	3	3
Munje	2,000	2007	6	3	3
Mwaembe	–	2010	6	3	3
Mwandamu	–	2007	6	3	3

ASSESSED AREAS IN MADAGASCAR

Name	Size (hectares)	Year of establishment	Number of community participants	Male	Female
Ambakivao	2,935.0	2013	9	8	1
Ampasivelona	1,711.5	2001	6	4	2
Analasatrana	1,140.0	2016	10	–	–
Andranomena	493.0	2019	6	1	5
Angodorofo	608.5	2019	6	2	4
Anjiabe	5,581.0	2001	6	5	1
Ankazomborona	1,755.0	2013	6	2	4
Ankiabe	273.0	2019	6	5	1
Antsohimbondrona	996.0	2016	10	–	–
Antsotsomo	1,269.0	2018	6	6	0
Bobatanty	250.0	2018	6	3	3
Bevava	6,231.0	2005	8	7	1
Mahaligny Andapotaly	1,525.0	2012	1	–	–
Mataipako	250.0	2018	6	5	1
Siranana	2,177.0	2001	6	5	1
Soarano sur Mer	203.0	2016	6	5	1

ASSESSED AREAS IN MOZAMBIQUE

Name	Size (hectares)	Year of establishment	Number of community participants	Male	Female
Matasse	13,113	2023	14	10	4
Mussanga	7100		17	10	7
Batata	66.3		11	10	1
Macomba	51,000		15	6	9
CMFA – Moma North	7,810	2022	28	23	5
CMFA – Moma Center	6,630	2022	28	22	6
CMFA – Moma South	18,860	2022	38	33	5
CMFA – Pebane North	242,300	2022	31	28	3
CMFA – Pebane Center	304,400	2022	48	40	8
CMFA – Pebane South	242,300	2022	31	28	3

* CMFA = Community-Managed Fishing Area

ASSESSED AREAS IN SOUTH AFRICA

Name	Size (hectares)	Year of establishment	Number of community participants	Male	Female
Port St. Johns Blowhole Cooperative	–	2024	7	7	0
Port St. Johns Central	–	2024	11	11	0
Port St. Johns Flatrock Cooperative	–	2024	8	6	2
Port St. Johns Madakeni Cooperative	–	2024	6	3	3
Port St. Johns Manxokweni Cooperative	–	2024	6	-2	4
Port St.Johns Mngazana Cooperative	–	2024	9	8	1
Port St. Johns Mtalala Cooperative	–	2024	9	9	0
Port St. Johns Nomngcingci Cooperative	–	2024	5	1	4

Note: SSFCAs had not been formally designated at the time of assessment or release of this report, and 2024 was used as the designation year for the development of Figure 12.

ASSESSED AREAS IN TANZANIA

Name	Size (hectares)	Year of establishment	Number of community participants	Male	Female
BK CFMA Mafia Island	256	2018	10	6	4
DOKICHUNDA	47,800	2018	20	13	7
JOJIBAKI	27,600	2016	20	11	9
KIMSA	28,700	2013	10	6	4
MKISAMI	13,800	2013	15	9	6
MNASI	11,800	2013	15	7	8
NYAMANJISOPOJA	184,700	2009	40	29	11

APPENDIX 4

COUNTRY-LEVEL DISTRIBUTIONS

Attribute	Country	Plan	Build	Strengthen	Maintain	Total
Resource boundaries	Kenya	1	6	3	1	11
	Madagascar	1	2	8	5	16
	Mozambique	8	2	0	0	10
	South Africa	2	4	1	1	8
	Tanzania	0	2	3	2	7
	SWIO	**12**	**16**	**15**	**9**	**52**
Clearly defined rights and decision-making	Kenya	0	1	5	5	11
	Madagascar	1	0	14	1	16
	Mozambique	4	6	0	0	10
	South Africa	8	0	0	0	8
	Tanzania	0	1	5	1	7
	SWIO	**13**	**8**	**24**	**7**	**52**
Inclusive and equitable management	Kenya	4	5	2	0	11
	Madagascar	5	4	6	1	16
	Mozambique	8	2	0	0	10
	South Africa	7	1	0	0	8
	Tanzania	0	0	6	1	7
	SWIO	**24**	**12**	**14**	**2**	**52**

Attribute	Country	Plan	Build	Strengthen	Maintain	Total
Clear and congruent regulations	Kenya	1	8	2	0	11
	Madagascar	1	2	11	2	16
	Mozambique	9	1	0	0	10
	South Africa	5	2	0	0	7
	Tanzania	0	4	2	1	7
	SWIO	**16**	**17**	**15**	**3**	**51**
Transparency and accountability	Kenya	0	1	8	2	11
	Madagascar	1	6	9	0	16
	Mozambique	4	6	0	0	10
	South Africa	6	1	0	0	7
	Tanzania	0	1	4	2	7
	SWIO	**11**	**15**	**21**	**4**	**51**
Enforcement	Kenya	3	5	1	2	11
	Madagascar	3	8	4	1	16
	Mozambique	8	2	0	0	10
	South Africa	2	6	0	0	8
	Tanzania	0	3	3	1	7
	SWIO	**16**	**24**	**8**	**4**	**52**

Attribute	Country	Plan	Build	Strengthen	Maintain	Total
Operational capacity	Kenya	2	7	2	0	11
	Madagascar	2	14	0	0	16
	Mozambique	10	0	0	0	10
	South Africa	6	2	0	0	8
	Tanzania	0	4	3	0	7
	SWIO	**20**	**27**	**5**	**0**	**52**
Capacity for adaptive management	Kenya	9	2	0	0	11
	Madagascar	7	7	2	0	16
	Mozambique	10	0	0	0	10
	South Africa	7	1	0	0	8
	Tanzania	2	3	2	0	7
	SWIO	**35**	**13**	**4**	**0**	**52**
Perceived ecological outcomes	Kenya	0	7	4	0	11
	Madagascar	3	2	10	1	16
	Mozambique	6	4	0	0	10
	South Africa	0	5	2	0	7
	Tanzania	0	3	4	0	7
	SWIO	**9**	**21**	**20**	**1**	**51**

Attribute	Country	Plan	Build	Strengthen	Maintain	Total
Perceived social outcomes	Kenya	5	4	2	0	11
	Madagascar	3	11	2	0	16
	Mozambique	6	4	0	0	10
	South Africa	1	6	0	0	7
	Tanzania	0	1	4	1	6
	SWIO	**15**	**26**	**8**	**1**	**50**
Overall Elinor score	Kenya	0	9	2	0	11
	Madagascar	1	10	5	0	16
	Mozambique	10	0	0	0	10
	South Africa	6	2	0	0	8
	Tanzania	0	0	7	0	7
	SWIO	**17**	**21**	**14**	**0**	**52**

APPENDIX 5

FULL ELINOR ASSESSMENT RESULTS

Country	CMA name	Resource boundaries	Clearly defined rights and decision-making	Inclusive and equitable management	Clear and congruent regulations		Transparency and accountability	Enforcement	Operational capacity	Capacity for adaptive management	Perceived ecological outcomes	Perceived social outcomes	Elinor score
Kenya	Bodo	3.3	4.0	5.3	4.2		6.7	3.3	2.8	2.2	3.3	6.7	41.8
	Funzi	5.0	7.3	1.3	4.2		8.3	0.0	3.3	2.2	3.3	3.3	38.4
	Gazi	10.0	10.0	4.7	5.8		6.7	5.0	4.4	1.7	3.3	0.0	51.6
	Kanamai	6.7	6.7	1.3	1.7		6.7	0.0	3.3	2.2	3.3	0.0	31.9
	Kuruwitu	8.3	9.3	4.7	5.8		5.6	5.0	1.7	1.7	6.7	0.0	48.7
	Marina	5.0	6.7	3.3	5.8		7.8	5.0	4.4	2.8	6.7	3.3	50.8
	Mkunguni	5.0	9.3	6.7	6.7		8.9	10.0	7.2	0.6	3.3	3.3	61.0
	Mtwapa	8.3	8.7	1.3	4.2		10.0	10.0	6.7	3.3	3.3	0.0	55.8
	Munje	5.0	9.3	6.7	7.5		10.0	6.7	5.6	4.4	6.7	6.7	68.5
	Mwaembe	1.7	6.0	2.5	5.8		8.9	0.0	3.9	2.2	3.3	3.3	37.7
	Mwandamu	5.0	10.0	3.3	3.3		8.3	3.3	5.0	1.7	6.7	0.0	46.7
	Kenya average	**5.8**	**7.9**	**3.7**	**5.0**		**8.0**	**4.4**	**4.4**	**2.3**	**4.5**	**2.4**	**48.4**

Country	CMA name	Resource boundaries	Clearly defined rights and decision-making	Inclusive and equitable management	Clear and congruent regulations		Transparency and accountability	Enforcement	Operational capacity	Capacity for adaptive management	Perceived ecological outcomes	Perceived social outcomes	Elinor score
Madagascar	Ambakivao	8.3	8.7	8.0	10.0		7.8	1.7	5.0	6.7	6.7	6.7	70.0
	Ampasivelona	10.0	6.7	6.7	8.3		6.7	10.0	2.8	5.0	3.3	3.3	62.8
	Analasatrana	6.7	6.7	2.0	8.3		4.4	5.0	3.9	3.9	0.0	0.0	41.0
	Andranomena	10.0	7.3	4.0	9.2		8.9	5.0	3.3	0.6	10.0	3.3	61.6
	Angodofofo	8.3	8.7	3.3	7.5		6.7	6.7	2.2	2.2	6.7	3.3	55.6
	Anjiabe	6.7	7.3	6.0	6.7		6.7	3.3	3.3	3.9	6.7	0.0	50.6
	Ankazomborono	8.3	8.0	7.3	6.7		5.6	5.0	3.9	2.8	6.7	3.3	57.6
	Ankiabe	5.0	6.0	2.7	8.3		7.8	8.3	4.4	1.7	0.0	3.3	47.6
	Antsohimbondrona	6.7	6.7	3.3	8.3		4.4	5.0	3.3	3.3	0.0	0.0	41.0
	Antsotsomo	10.0	8.0	5.3	5.0		7.8	5.0	5.0	3.3	6.7	6.7	62.8
	Bevava	8.3	8.7	7.3	8.3		7.8	3.3	4.4	5.6	6.7	3.3	64.0
	Bobatanty	10.0	7.3	2.0	6.7		3.3	8.3	3.9	1.7	6.7	3.3	53.2
	Mahaligny Andapotaly	10.0	8.0	8.3	5.8		5.6	1.7	4.4	4.4	6.7	3.3	58.0
	Mataipako	0.0	0.7	1.3	0.0		3.3	5.0	3.3	0.6	6.7	3.3	24.2
	Siranana	6.7	7.3	2.7	7.5		1.1	6.7	4.4	2.8	3.3	3.3	45.8
	Soarano sur Mer	5.0	9.3	9.3	8.3		6.7	0.0	3.3	6.1	6.7	3.3	58.0
	Madagascar average	**7.5**	**7.2**	**5.0**	**7.2**		**5.9**	**5.0**	**3.8**	**3.4**	**5.2**	**3.1**	**53.4**

Country	CMA name	Resource boundaries	Clearly defined rights and decision-making	Inclusive and equitable management	Clear and congruent regulations		Transparency and accountability	Enforcement	Operational capacity	Capacity for adaptive management	Perceived ecological outcomes	Perceived social outcomes	Elinor score
Mozambique	Batata	0.0	2.0	1.3	0.8		0.0	1.7	1.1	0.0	3.3	0.0	10.0
	Macomba	0.0	3.3	1.3	0.0		0.0	0.0	0.8	1.7	0.0	0.0	7.0
	Matasse	0.0	3.3	4.0	1.7		2.2	0.0	2.2	1.7	3.3	3.3	22.0
	Moma Centre	1.7	3.3	2.7	1.7		3.3	1.7	2.2	0.6	0.0	0.0	17.0
	Moma North	1.7	3.3	2.0	0.8		3.3	0.0	1.7	0.6	3.3	3.3	20.0
	Moma South	3.3	2.0	2.7	1.7		3.3	3.3	1.7	1.7	0.0	0.0	20.0
	Mussanga	1.7	3.3	2.7	1.7		1.1	1.7	2.8	1.1	0.0	0.0	16.0
	Pebane Centre	0.0	1.3	2.0	2.5		3.3	1.7	2.8	2.2	0.0	3.3	19.0
	Pebane North	3.3	2.7	3.3	1.7		3.3	1.7	1.7	2.2	3.3	3.3	26.0
	Pebane South	0.0	3.3	2.0	3.3		3.3	3.3	2.2	1.7	0.0	0.0	19.0
	Mozambique average	**1.2**	**2.8**	**2.4**	**1.6**		**2.3**	**1.5**	**1.9**	**1.4**	**1.3**	**1.3**	**17.6**

Country	CMA name	Resource boundaries	Clearly defined rights and decision-making	Inclusive and equitable management	Clear and congruent regulations		Transparency and accountability	Enforcement	Operational capacity	Capacity for adaptive management	Perceived ecological outcomes	Perceived social outcomes	Elinor score
South Africa	Port St. Johns Blowhole Cooperative	5.0	1.3	2.0	2.5		3.3	3.3	0.6	2.8	3.3	3.3	27.0
	Port St. Johns Central	10.0	0.7	0.0	1.7		1.1	1.7	1.7	0.0	3.3	3.3	24.0
	Port St. Johns Flatrock Cooperative	3.3	1.3	1.3	3.3		2.2	1.7	2.2	1.7	6.7	3.3	27.0
	Port St. Johns Madakeni Cooperative	1.7	0.8	2.0	1.7		2.2	3.3	2.8	2.8	3.3	3.3	24.0
	Port St. Johns Manxokweni Cooperative	3.3	2.7	2.7	-		-	3.3	2.7	3.3	-	-	30.0
	Port St. Johns Mngazana Cooperative	1.7	2.7	0.0	4.2		1.1	5.0	3.3	2.8	3.3	3.3	27.0
	Port St. Johns Mtalala Cooperative	3.3	2.7	3.3	2.5		1.1	3.3	3.3	2.2	6.7	3.3	32.0
	Port St. Johns Nomngcingci Cooperative	8.3	1.3	1.3	0.8		1.1	5.0	2.0	0.0	3.3	0.0	23.0
	South Africa average	**4.6**	**1.7**	**1.6**	**2.4**		**1.7**	**3.3**	**2.3**	**2.0**	**4.3**	**2.8**	**26.8**

Country	CMA name	Resource boundaries	Clearly defined rights and decision-making	Inclusive and equitable management	Clear and congruent regulations		Transparency and accountability	Enforcement	Operational capacity	Capacity for adaptive management	Perceived ecological outcomes	Perceived social outcomes	Elinor score
Tanzania	BK CFMA Mafia Island	10.0	10.0	9.2	7.8		3.3	10.0	4.4	8.3	6.7	6.7	76.0
	DOKICHUNDA CFMA	3.3	8.0	8.0	10.0		7.8	6.7	7.8	7.2	3.3		69.0
	JOJIBAKI CFMA	10.0	4.7	7.3	5.8		10.0	5.0	5.6	4.4	3.3	10.0	66.0
	KIMSA CFMA	6.7	8.0	6.0	5.8		8.3	5.0	3.9	3.3	6.7	6.7	60.0
	MKISAMI CFMA	8.3	7.3	6.7	5.0		10.0	5.0	5.0	2.2	6.7	6.7	63.0
	MNASI CFMA	5.0	6.7	6.7	6.7		7.8	6.7	7.2	2.2	6.7	6.7	62.0
	NYAMANJISOPOJA CFMA	8.3	6.7	7.3	5.0		7.8	6.7	6.1	5.0	3.3	3.3	60.0
	Tanzania average	**7.4**	**7.3**	**7.3**	**6.6**		**7.9**	**6.4**	**5.7**	**4.7**	**5.2**	**6.7**	**65.1**
SWIO average		**5.4**	**5.7**	**4.0**	**4.9**	**5.3**		**4.1**	**3.6**	**2.7**	**4.2**	**3.0**	**42.9**	**42.9**

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