



CONSERVATION POLICY IN BRIEF

FEBRUARY 2026 | N° 65

conservation-strategy.org

PARTNER:



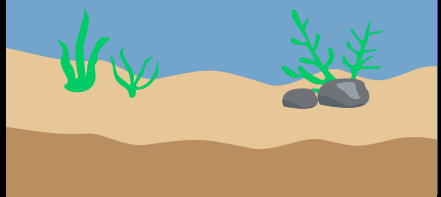
AUTHOR:



CONSERVATION
STRATEGY FUND

An investment in LMMA
management
could unlock a staggering

ROI of 300:1



The Economic Case for Locally-Led Marine Management in the Western Indian Ocean

Insights from Conservation Strategy Fund's Ecosystem Service Valuation Study of LMMAs in Mozambique, Madagascar, Tanzania and Kenya

Protecting Marine Resources and Coastal Communities

The Western Indian Ocean (WIO) is a critical economic and ecological asset for ten countries and nearly 244 million people. Its coral reefs, mangroves, and seagrass meadows provide essential natural infrastructure, supporting fisheries, food security, and coastal protection for the 40 million people living along its coast. Locally Managed Marine Areas (LMMAs) represent the most effective, equitable, and durable conservation models available to protect these ecosystems. CSF's study quantifies the immense value of "natural infrastructure" protected by LMMAs.

The study estimates that the natural assets protected and managed by Locally Managed Marine Areas (LMMAs) in these four countries generate a total annual ecosystem service value of approximately \$21.2 billion (International Dollars/year).

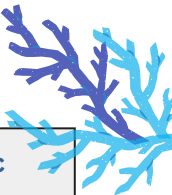
Research Insights

Balancing Responsibility and Benefits

CSF's analysis highlights a structural imbalance in how the benefits and costs of WIO ecosystems are distributed. Local benefits include food security, storm protection, and tourism-based livelihoods that underpin coastal economies. Global benefits include carbon sequestration and biodiversity conservation that support climate stability and global ecological resilience. However, local communities bear most of the costs, including management expenses and opportunity costs from restricted extraction. Individual fishers can face annual income losses of USD 150–300 due to conservation measures, even as their stewardship generates thousands of dollars in global value per hectare. Despite this, local communities receive less than 3 percent of global climate finance.

Ecosystem Service Valuation: Key Data

Ecosystem Asset	Primary Service	Estimated Economic Value (Int\$/ha/year)
Mangroves	Coastal Protection (Cyclones/Erosion)	\$4,000 – \$9,000
Mangroves	Raw Materials (Timber/Fuelwood)	\$7,700
Mangroves	Climate Regulation (Carbon)	\$900
Healthy Reefs	Regional Fisheries Support	\$2 Billion+
Seagrass Meadows	Blue Carbon Storage of 150 metric tons of carbon/ha	No estimated economic value due to data gaps.



THE ECONOMIC CASE FOR INVESTING IN LMMAS

KEY INSIGHTS

Storm Protection & Coastal Resilience

Coral reefs and mangroves reduce exposure to coastal hazards and protect assets and livelihoods. The study highlights mangroves' cyclone and erosion protection value at USD 4,000–9,000 per hectare per year.

Economic Endurance through Ecosystem Protection

Healthy reefs and seagrasses underpin fisheries contributing over USD 2 billion annually to the regional economy.

A Global Climate Resilience Asset

WIO mangroves and seagrass meadows are among the world's most efficient carbon sinks. Seagrass meadows alone can store up to 150 metric tons of carbon per hectare, positioning the region as a high-value asset for carbon markets and climate finance. This valuation estimates economic values for mangroves and coral reefs in the WIO LMMA context; seagrass values are presented as biophysical climate assets (carbon storage), reflecting current data gaps for per-hectare monetary valuation.

The ROI of Stewardship

The LMMAs in the WIO protect more than 15,000 USD per hectare in ecosystem services for local and global beneficiaries.

Data from TNC and the Waldron Report estimate LMMA management costs to be roughly \$20 to \$50 per hectare per year. An investment in LMMA management could unlock ecosystem services valued at over \$15,000 per year, representing a staggering **ROI of 300:1**.



Every dollar invested in WIO's LMMAs strengthens water, food, climate, and economic resilience for decades to come.

POLICY RECOMMENDATIONS

Formally Recognize and Expand LMMAs

Integrate LMMA frameworks into national Blue Economy strategies to ensure community-led management is legally protected and prioritized. Use economic valuation data to identify "high-value" ecological zones for the expansion of LMMAs. Strengthening management capacity in these areas is an investment that yields high returns in biodiversity, food security, and tourism revenue.

Redirect Climate & Nature Finance

Incorporate ecosystem service values into national accounting and development planning. Use economic evidence to attract international climate and impact finance and ensure resources reach local managers.

Scale Nature-Based Solutions

Prioritize mangrove and seagrass restoration as a cost-effective climate strategy that provides more local jobs and biodiversity than traditional engineering.

Position the LMMAs as the Global Leaders they are in Establishing a Sustainable Blue Economy

Use this valuation to showcase the WIO as a model region where conservation, economic performance, and social equity reinforce one another.

Financing the Future

A Roadmap for Sustainable Marine Finance in the WIO

The transition to a resilient blue economy requires moving away from short-term "project-based" funding toward permanent financial architecture. CSF has identified the following priority mechanisms for the WIO.

Priority	Finance Mechanism for LMMAs	Finance Solution Description
1	Establish a regional CTF to support regular and ongoing financial needs across the LMMA alliance network in the region.	Leverage private foundation and ODA funding to establish a regional Conservation Trust Fund for LMMAs in selected target countries - build an endowment over time, as well as position the CTF to hold programmatic funding.
2	Include an LMMA window in existing national Conservation Trust Funds of target countries in the WIO.	Leverage private foundation and ODA funding to establish long term access to endowment funding for LMMAs adhering to specific criteria, using the efficiencies of existing structures and knowledge of local contexts.
3	Improve Grant applications and financial management capacity for LMMAs in region	Strengthen grant funding capacity amongst LMMA network members, allowing them to access funding. Establish principles of good practice allocating funding to communities, building confidence amongst donors, and alignment with the needs of local communities.
4	Strengthen the capacity of LMMAs through a network to aggregate their needs to achieve scale and access large scale funding.	Through coordinated efforts of the Alliance, strengthen grant funding capacity and coordination amongst LMMA network members, ensuring that the collective needs can be combined to align with funding scale.
5	Develop and implement a WIO LMMA finance plan aligned with the management and expansion strategy of WIO LMMAs.	Coordinated effort and collective input regionally (through a structure like the WIO LMMA Alliance) to develop a regional LMMA finance plan and communicate this shared vision, including the expansion strategy, approach and key financial and capacity needs of LMMAs in the region.

CSF's Recommendation: Establish a Regional Conservation Trust Fund (CTF)

Reduces Financial Fragility

- Short-term grants are ill-suited for recurring costs like patrols and monitoring. A CTF provides the predictable, multi-year funding necessary for LMMAs to remain effective over decades, not just project cycles.

Builds Scalable Fiduciary Architecture

- By using a "Country Window" model, a regional fund can achieve the scale needed to attract major international donors while ensuring money is distributed through trusted national institutions and directly to communities.

Corrects the Economic Imbalance

- A CTF serves as a mechanism to channel global payments for ecosystem services (like carbon and biodiversity) directly to the local stewards who bear the opportunity costs of conservation.

Protects Ecosystems with Exceptional Efficiency

- An illustrative \$30 million endowment earning 5% would provide \$1 million annually in grants. This permanent stream of capital could support core operations for 75–100 LMMAs, ensuring their survival and growth.