Understanding and Valuing the Marine Ecosystem Services of the Northern Mozambique Channel

A study commissioned by WWF International, conducted by:

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Full report and summary at: <u>www.cordioea.net/nmc</u> <u>www.panda.org/marine/nmc</u>

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UNDERSTANDING AND VALUING MARINE ECOSYSTEM SERVICES IN THE NORTHERN MOZAMBIQUE CHANNEL



Blue economy:

"The Blue economy is Africa's future" - African Union (AU) Agenda 2063

Twitter definition - a #blue/#greeneconomy achieves #socialwellbeing, #economicgrowth and #environmentalsustainability jointly #NairobiConvention #NCCOP8 (@dobura)

Of particular importance/value for small island states and coastal zones/economies

But, in the rush to development and securing ocean wealth, a very real risk that 'wealth' is the only focus, rather than sustainability and social goals.

US\$24TN

The overall value of key ocean assets is more than US\$24 trillion

2050

At current rates of temperature rise, coral reefs will disappear by 2050

7th

Based on the gross marine product, the ocean is the 7th largest economy in the world



REVIVING THE OCEAN ECONOMY

2/3

Two-thirds of the base economic value of the ocean is produced by assets that rely on healthy ocean conditions

Background:

Ecosystem service valuation

- Attempt to account for nature in monetary/economic terms
- But a significant problem of many ecosystem functions and services not being easily quantified in such terms

Important milestones

- Millennium Ecosystems Assessment (MEA), 2005
- The Economics of Ecosystems and Biodiversity (TEEB), 2007
- Natural Capital Accounting (NCA)
- Development of multiple tools, first presentation.





Data and sources

- Often there is no direct data, so indicators/proxies need to be developed
- The spatial and temporal resolution of data may be poor or unsuitable
- Heterogeneity of data types and sources
- These issues are compounded at the regional level, due to multiple countries and sources of information

Northern Mozambique Channel –

See Background Document (2015)





Box 1. Facts and figures on the Northern Mozambique Channel.

Nature

- Contains 35 % of Indian Ocean coral reefs
- Contains 5% of world's mangrove forests
- Is the 2nd peak in biodiversity of hard coral species
- Is a key corridor for humpback whales
- is on the migration route of WIO tuna and tuna-like species
- contains large carbon sinks (seagrasses, mangroves, coastal wetlands)

Economics

- marine resources account for approximately 5% of GDP in small Island States.
- small-scale artisanal and subsistence fishers account for 70-80% of total catches.
- NMC provides a significant part of WIO tuna fisheries (\$2 billion/yr)
- NMC supports industrial fishing/mariculture of growing importance
- tourism is among fastest growing sectors/high potential (11% annual growth in Madagascar, annual arrivals)
- NMC holds natural gas reserves, over 100 Tcf (trillion cubic feet) as currently known
- NMC supports 30% of global tanker traffic, over 5000 tanker-trips annually

Geography

- is home to 10 million people in the coastal zone
- Is bordered by 6 coastal states and comprised of Exclusive Economic Zones (EEZ) only (no areas beyond national jurisdiction)

Six services examined:

Category	Services
Provisioning	Large scale fishing
	Artisanal fishing
	Mariculture
Cultural	Coastal tourism and
	recreation
Regulating	Carbon sequestration
	Coastal erosion prevention



Data Sources (2 examples):

- International tourism flows, United Nations World Tourism Organization (UNWTO). By province, 2001-2011.
- Modelling estimating ES value from values measured for a habitat at specific locations, or in the literature (e.g. coral reef fishery catch), and extending those over mapped habitat layers (e.g. coral reef extent) in a GIS.

'Province' level estimation of value:

- Units in millions of US\$ per year







'Province' level estimation of aggregate value:

'Province' level estimation of aggregate value:



预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5_11409

