INCREASING MARINE TOURISM WITH MARINE SPATIAL PLANNING METHOD AND GROWTH OF MARINE ECOSYSTEM MANAGEMENT OF UNUSED MARINE AREAS

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ABSTRACT

The current state of the art of ecosystem-based marine spatial management (EB-MSM), a new approach to ocean management that is being supported all over the world as the best means of ensuring the sustainability of marine ecosystems. It aims to sustain robust, fruitful, and resilient ecosystems that supply essential products and services while withstanding human influences. It concentrates on all interactions within a marine ecosystem, including human interactions. The most cutting-edge science and innovative methods are needed for successful implementation. Focusing on the role of marine spatial planning (MSP) in marine ecosystem management and discussing the use of MSP to manage the risks associated with geohazards and climate change. Including creation of networks of marine protected areas (MPAs), how maritime activities are distributed both spatially and temporally, flexibility in fisheries management, actions to promote coastal resilience, the restoration of vital coastal ecosystems, the establishment of buffer zones between permanent structures and the coastline, and the implementation of risk-mitigation tools like monitoring programs and warning systems. More responsive demands of coastal countries and more actively supporting the economic integration of foreign operators and tourism. Even during disputes or cancellations, innovative ideas and agreements can stimulate the economy. For instance, a third party can create jobs in sub-Saharan West Africa, while a recreation area could increase tourist in Indonesia.

Keyword: Marine Tourism Advancement, Art of Ecosystem, Ocean Sustainability, Coastal area management

Introduction

Recent technological developments have immensely helped humanity but have also had a detrimental effect on marine ecosystems and the sustainability of resource use. A well-thought-out maritime space management strategy is required to address this, including ecosystem-based marine spatial management (EB-MSM). However, because of foreign shipping, states in Sub-Saharan West Africa miss out on the economic benefits of their coastal marine resources. Bringing faraway activities closer to home can benefit coastal communities and their citizens.

Problems in Developing Economies

Local artisanal fishers are not included in the allocation of ocean resources made by West African coastal governments for foreign industrial fleets. Economic growth methods, which are impacted by bias against the agricultural and fishing industries, government regulation, currency rationing, state-owned firms, bureaucratic bottlenecks, and poor infrastructure, promote local consumption over exports of agriculture and fishery.

Sea level rise, ocean acidification, habitat loss, species shifts, invasive species breakouts, ecosystem changes, and loss of goods and services are all consequences of climate change and EB-MSM.

Methodology

Ecosystem-based marine spatial management (EBMSM) aims to supply basic goods and services

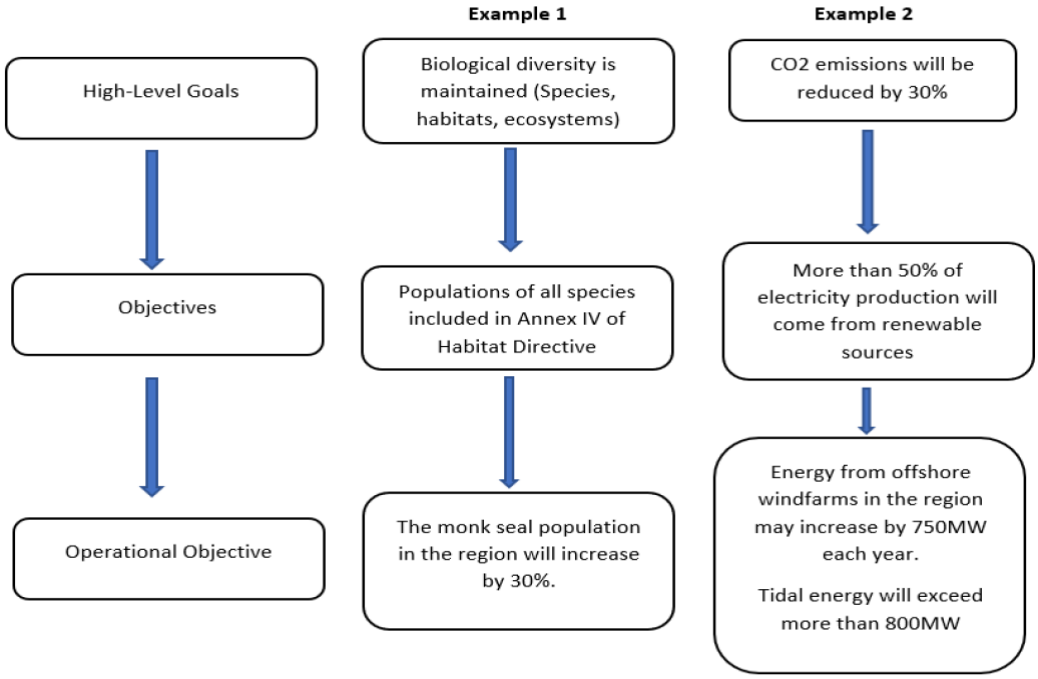

Figure 1. From high-level goals to operational objectives: visualization and examples.

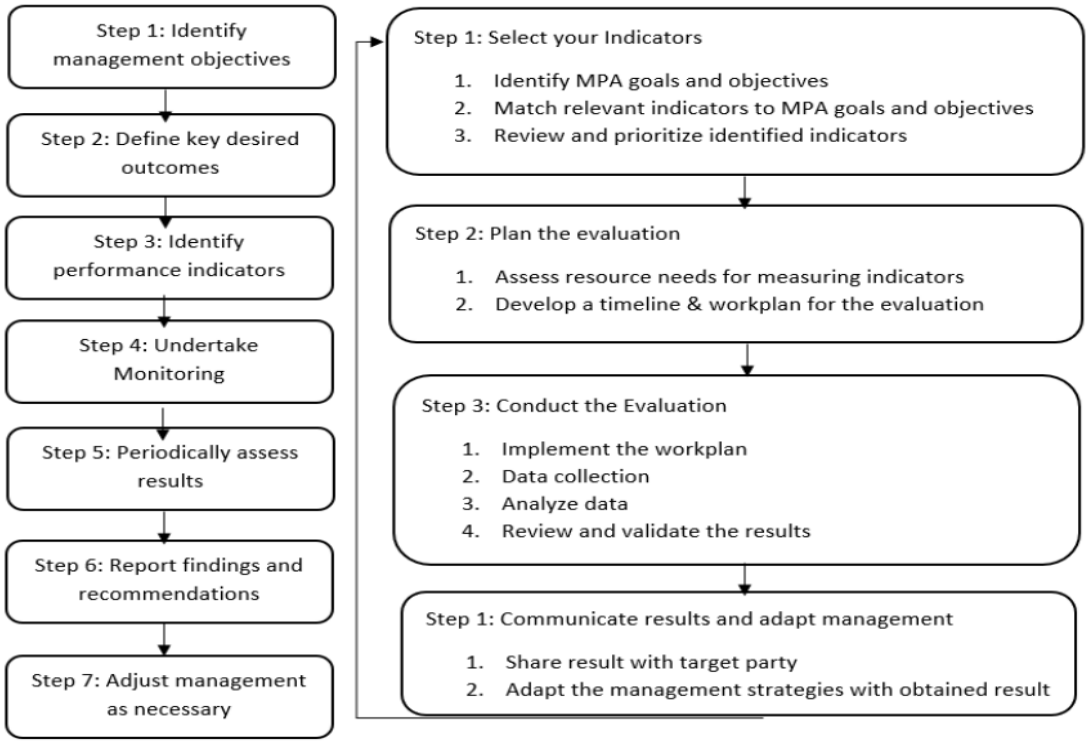

Figure 2. The seven-step evaluative management framework; The outline of the step-by-step guide for the performance assessment of MPAs.

while protecting healthy, productive ecosystems by considering human interactions within marine ecosystems. It makes use of cutting-edge methods like quantitative analysis and geospatial analysis.

Convention on Biological Diversity (CBD) has three high-level goals:

1. Conservation of biological diversity
2. Sustainable use of its components
3. Fair and equitable sharing of benefits arising from the use of genetic resources

High-level foreign policy goals are complicated legally because of competing interests, rights, and jurisdictions of numerous organizations, including coastal States and regional environmental or fisheries organizations, as well as insufficient ocean management mechanisms.

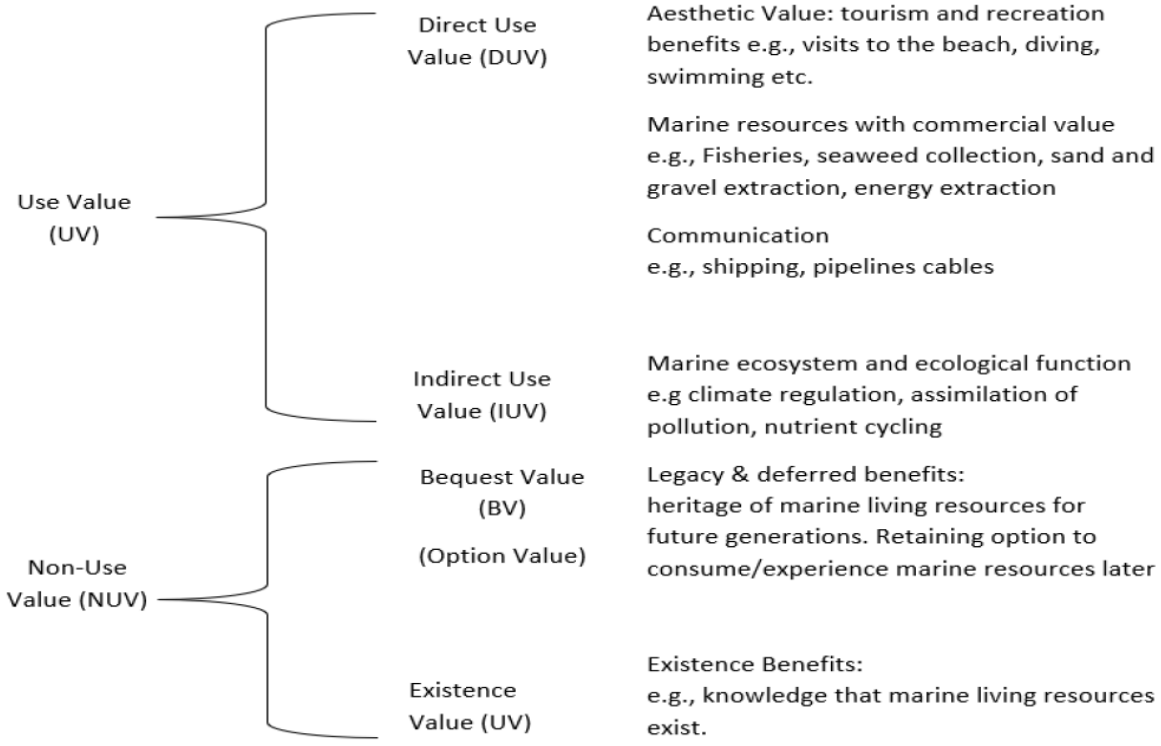

Figure 3. A typology of potential economic values provided by the management of marine areas

Table 1. Values before and after processing goods. (Source: Ocean & Coastal Management, 2011).

		Onboard the vessel value U.S.$		**Added value in Land processing**			
Main species group	**Volume (tons)**	**Per ton**	**Total**	**Recovery ratio (%)**	**Volume (tons)**	**FOB/ ton U.S.$**	**Total FOB Bissau U.S.$**
Shrimp	5,317	4,500	23,926,500	50	2,659	14,000	32,219,000
Cephalopods	6,250	2,000	12,500,000	80	5,000	4,200	21,000,000
Demersal Fish	30,860	1,500	46,290,000	60	18,516	5,000	92,580,000
Small pelagic	1,000	500	500,000	60	600	5,000	3,000,000
Tuna	13,500	1,100	14,850,000	85	11,475	1,800	20,655,000
Other	5,000	500	2,500,000	50	2,500	1,000	2,500,000
Total	61,927		100,566,500		40,750		176,954,000

Ecosystem-based management in marine areas (MSP) is increasingly being utilized by nations to promote sustainable use and biodiversity preservation in ocean and coastal environments, aiming to bridge the gap between theory and application for both governmental and nongovernmental organizations.

In Fig. 1, High-level foreign policy goals present legal difficulties, particularly when it comes to ocean management, monitoring, and implementation outside of national jurisdiction. Continuous monitoring (refer Fig. 2), assessment, reporting, and adaptive management are necessary for effective marine management. Because of the emphasis on habitats and ecosystems, developing operational goals and performance metrics can be difficult.

By resolving disputes over maritime space, marine spatial planning (MSP) improves decision-making and controls human activity in marine environments. Even though coastal nations lose out on jobs and hard currency profits, it supports sustainable use and biodiversity preservation.

Use Value (UV) + Non-use Value (NUV) = Total Economic value (TEV)

Total Economic Value (TEV) is a concept that is now widely accepted. TEV is the total of all environmental values, including market and non-market.

As an alternative, we can consider active values (like aesthetic value) that require action and passive values (like non-use values) (e.g., existence value).

Use values might be direct (like recreational diving) or indirect (like other values) (e.g., assimilation of pollution).

The need to assign monetary values to environmental change has a very apparent justification. We should be able to compare environmental costs and benefits to market costs and benefits using monetary values. Although valuation techniques have come a long way, methodological challenges and important theoretical problems still need to be overcome.

Result and Discussion

The raw product value declines to less than 40% and increases to over 50% in Figs. 4 and 5, respectively, to demonstrate the value differential between onboard vessel products and land-processed frozen food.

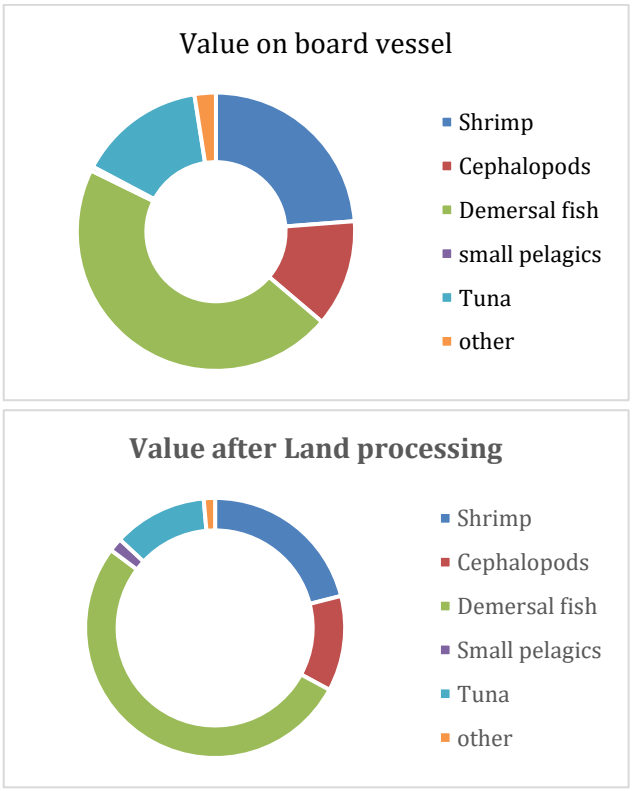

Figure. 4 Comparing resource value onboard the vessel and after processing

Value difference between onboard vessel products and value after processing in land like packaging the frozen food (Shrimps, Tuna, etc.) the raw product value is less than 40% and it increases to more than 50% after processing in land where they have lot of machinery which also creates many jobs for the people at the port area.

Impact of Onshore Processing Plant

Almost $110,000 worth of commodities are exported every 350 days from a Bissau plant, with a potential revenue of $38,500,000. 1,000 tons of "African" fish are processed annually, employing 400 Guineans directly and 1,200 more indirectly.

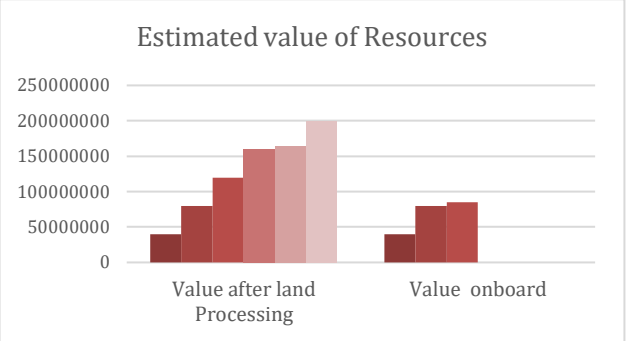

Figure. 5 Estimated values after land processing

Indirect employment and financial benefits examples include:

The costs cover the upkeep of the vessel, the salary of the local crew in Guinea, payroll taxes, food, groceries, gasoline, equipment repair, shipping, handling, licensing, port fees, state taxes, as well as capital and financial costs.

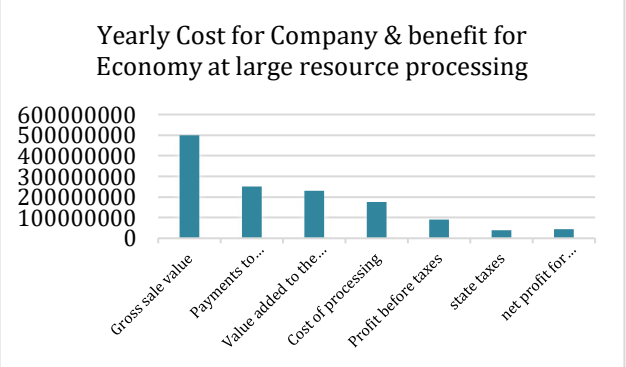

Figure. 6 Yearly costs and benefits generated by the onshore processing of Guinea-Bissau coastal resources.

The "payments to catcher vessels" and nearly all the "cost of processing" as supporting companies are set up to assist the expansion of this sector. Wages, administrative expenses, maintenance and spare parts, packaging materials for completed goods, cleaning supplies, energy costs, utility prices, professional fees, and capital costs are all included in the processing plant's "cost of processing."

By enabling them to spend their income on goods and services (refer Fig. 6), the 1,600 workers at the plant helped to grow the local economy and create up to four times as many employments. The paper highlights the importance of creative problem-solving

and conflict resolution in boosting the economy, as seen in sub-Saharan West Africa and Indonesia, where conflicts and cancellations can increase GDP by 1%.

Conclusion

The EB-MSM is an integrated ocean management model that offers solutions for managing threats from climate change and geohazards by considering ecosystem interactions, human use, and coastal resilience.

Acknowledgements

Marine coastal zones require ecosystem development and protection. Locals can form teams and nonprofit social service agencies like "Kenjeran Beach" in Surabaya, Indonesia, to turn the vacant site into a marine tourism destination.

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