

Estimating the value of goods and services in a marine protected area: the case of Watamu Marine National Park and Reserve, Kenya

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Abstract

Marine and coastal ecosystems provide a range of goods and services that support the human population livelihood. They are however exposed to anthropogenic threats such as conversion to other land uses, pollution, overexploitation and unsustainable management practices and to the impacts of climate change and other natural causes. Often, decision-making by Marine Park management undervalues ecosystem services. This study determined the value of goods and services within the Watamu Marine Park and Reserve and the cost of biodiversity conservation. The methods used for valuation were also reviewed. A total economic value (TEV) of EUR 103,853.01 ± 63.30 ha⁻¹ year⁻¹ was determined, excluding the values of fuelwood, timber, carbon sequestration and coastal protection that we derived in different units. Recreational value was the highest, totalling more than two thirds of the TEV. Despite the high cost of biodiversity conservation, low funding was allocated to the administration of the Park, lowering the capacity of protecting biodiversity. This study forms a step towards integrating protected areas into wider landscapes, seascapes and sectoral plans and strategies while demonstrating that MPAs constitute an important national economic benefit.

Keywords

protected areas, marine park, reserve, total economic value, biodiversity