

Capturing ecotourism benefit values in Riverine and Marine Parks: Montego Bay Marine Park, Jamaica, and the Canaima National Park in Venezuela
by Richard Huber, Organization of American States

Most efficient way to raise money to fix environmental deterioration and sustainably manage natural resources

- Relationship made between ecosystems and the value of economic goods and services
- Who should rightfully retain rents or net benefit values earned through the use of the environment?
- Hotel room view – proximity to noisy highway
- Tour operators “feel” the true costs associated with using the protected area.

Coral reef ecology

- Decline from 50% coral cover in 1970's to 5% in 1990s
- Hughes -- Overfishing, hurricane damage and disease -- Hurricane Allen (1980)
- La Point -- Phase shift from coral to macroalgal dominance -- Nitrogen and Phosphorous highest concentrations worldwide
- TNC - REA -- nutrient loading, changes in current circulation, and mechanical damage
- Pigott and Land 1986 - submarine groundwater discharges
- Large scale non-point source nutrient loading associated with deforestation sewage, ag and ind developments.

What Triggers ICZM program?

- Decentralization and local autonomy Debt-Swap
- Desire to increase economic benefits flowing from use of the Coastal Zone
- Serious resource depletion problems and damage to productive coastal areas increasing pollution of marine environment and loss of life and property
- Perceived economic opportunities associated with new forms of development
- conflicts of interest among user groups

Integrating Scientific Data & Expert Opinion to improve coral reef health & How to generate revenue

What is the most cost effective means for achieving a given level of coral reef quality as expressed by percent coral cover?

The Economics

Valuation Methods

- Cunard Liner hit a reef in Gulf of Aquaba Egyptians sought \$23m or \$10k/m²
- Direct use valuation - estimating the lost productivity or value in the absence of proper protection or conservation
- Contingent valuation - estimating the benefits derived from “public goods”

Creating the Benefits Function

Valuation methods and site-specific economic survey data to create the benefits function
- to be used as educational and planning tool to assist policymakers

- Fishery NPV -- \$1.31 million
- Tourism and Recreation NPV -- \$315 m
- Coastal Protection Function -- \$65 million

Global Optimization using combined cost and benefit functions

- Optimal improvement of coral reef abundance of 13% requiring net expenditures of \$27m
- Interventions -- installation of sediment trap, waste aeration, sewage outfall, improved SWM collection, and implementation of economic incentives to improve waste management by the hotel industry.
- Financing -- Voluntary \$1/Night Hotel Tax earmarked hotel room fee of US\$1 per bed-night, to lead to an annual revenue of approximately US\$1.5 million.

Canaima National Park

Venezuela

- Larger than Belgium
- Tepui summits, steep flat-topped table mountains
- 100k visits/year
- 17.7 million kW/yr valued at 1.2k/kW
- if unchecked deforestation occurred in the fragile Caroní basin, the power capacity of the hydroelectric system would be reduced between 10% and 15% when the project useful life was half over.
- Charge US\$10 for international visitors and US\$4 for Venezuelan residents
- US\$1 per overnight stay in the park, to lead to an annual revenue of approximately US\$5.0 million.

The End