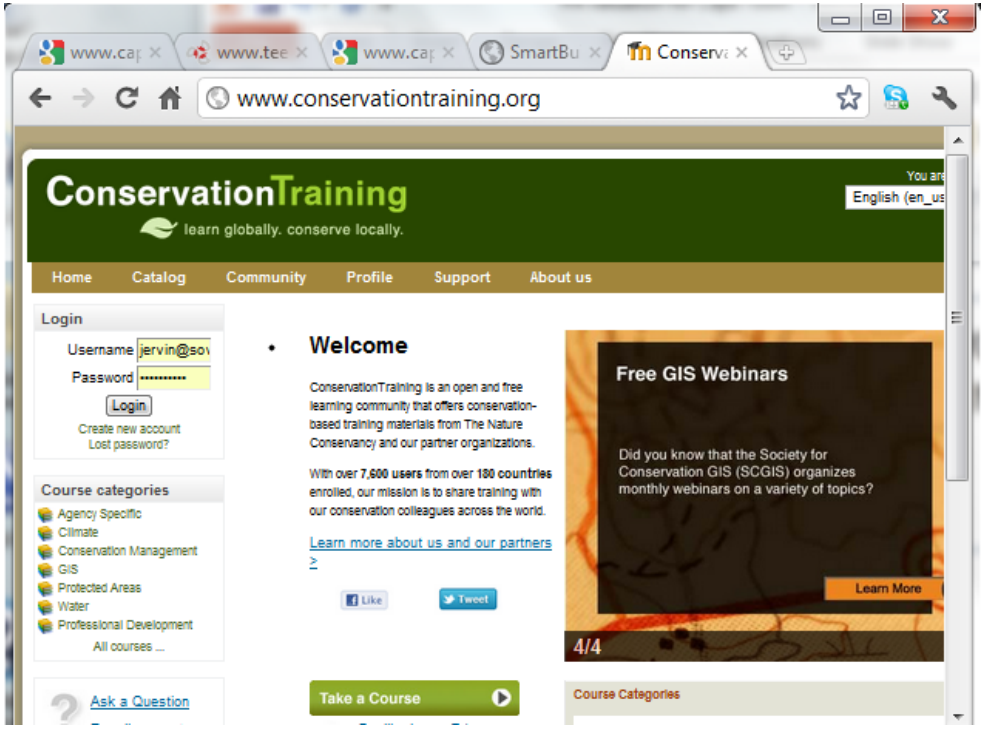
Assessing protected area values:
Making the economic case for conservation

Jamison Ervin, UNDP Senior Advisor

TWO WAYS TO ACCESS E-LEARNING MODULES



www.conservationtraining.org

your flash drive

E-module on PA policy and valuation (Mod 8)

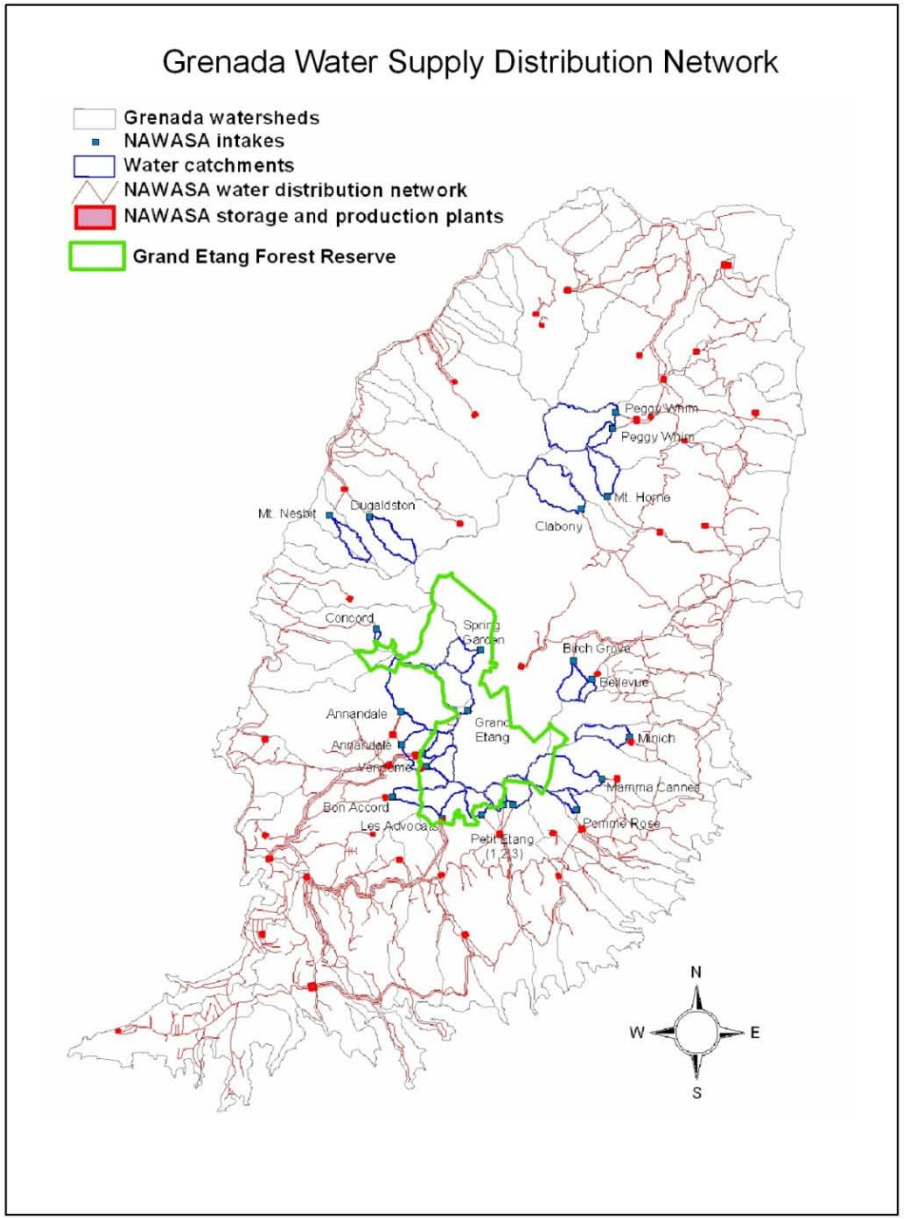
35000 ha of forest store over 1.4 billion gallons of water per day, serving more than 8 million people daily

The cost is $320 million, BUT this investment avoids $6 billion in water treatment costs (plus $300 million/year in operating costs)

8 million residents of Bogota obtain water from Chingaza and Sumapaz national parks.

Protected areas = 9% of the Western Cape, but provide 60 % of the water generated

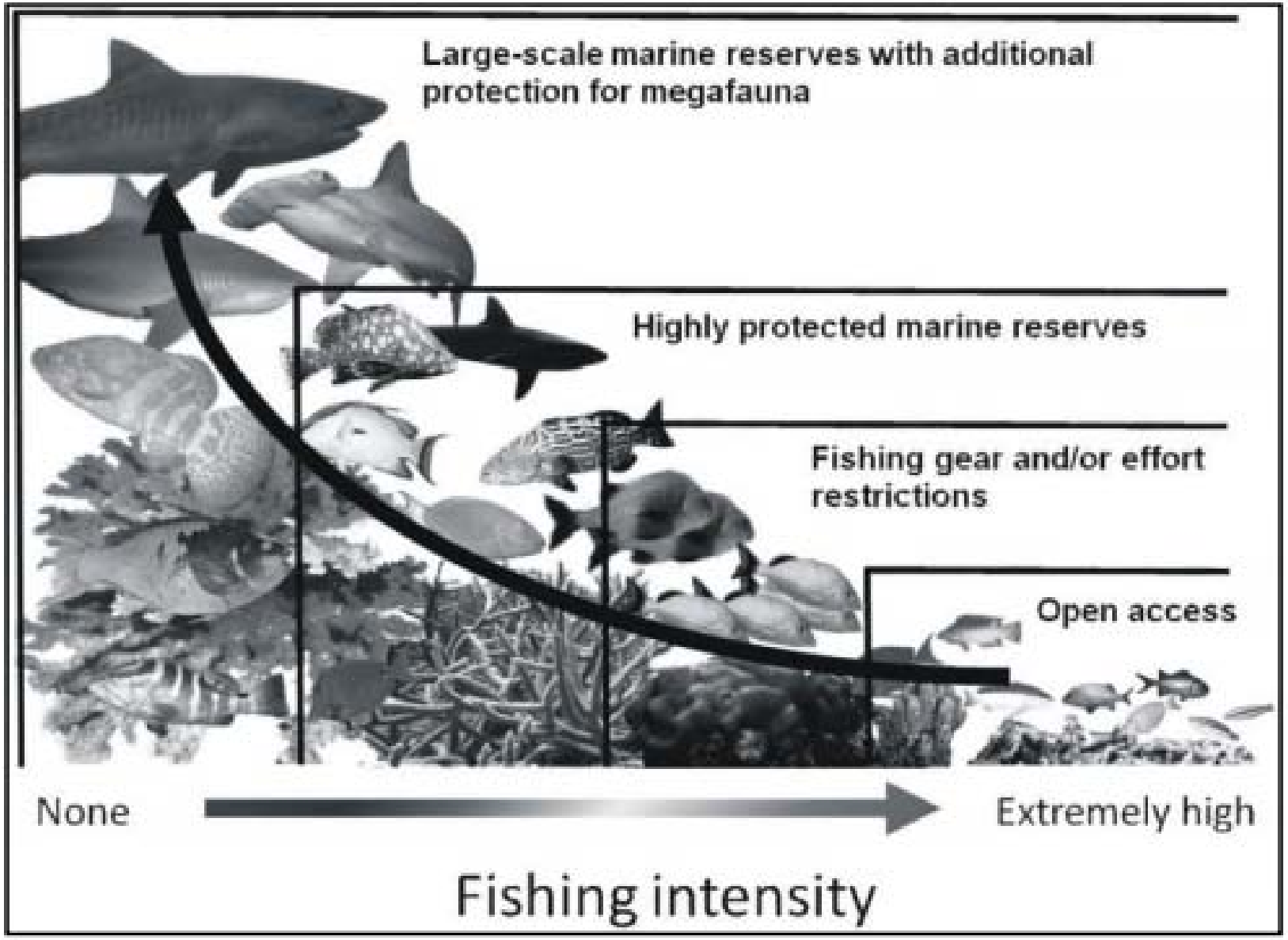
Grand Etang: Supplies 90% of Grenada's water supply AND cruise ships with water AND avoids $15mm annually



The value of coral reefs

Healthy coral reefs in the Caribbean provide shoreline protection services estimated as worth between **$2,000** per square kilometer in virtually unpopulated areas and **$1** mm per square kilometer in densely settled and developed areas (Burke and Maidens 2004).

The value of MPAs to fisheries



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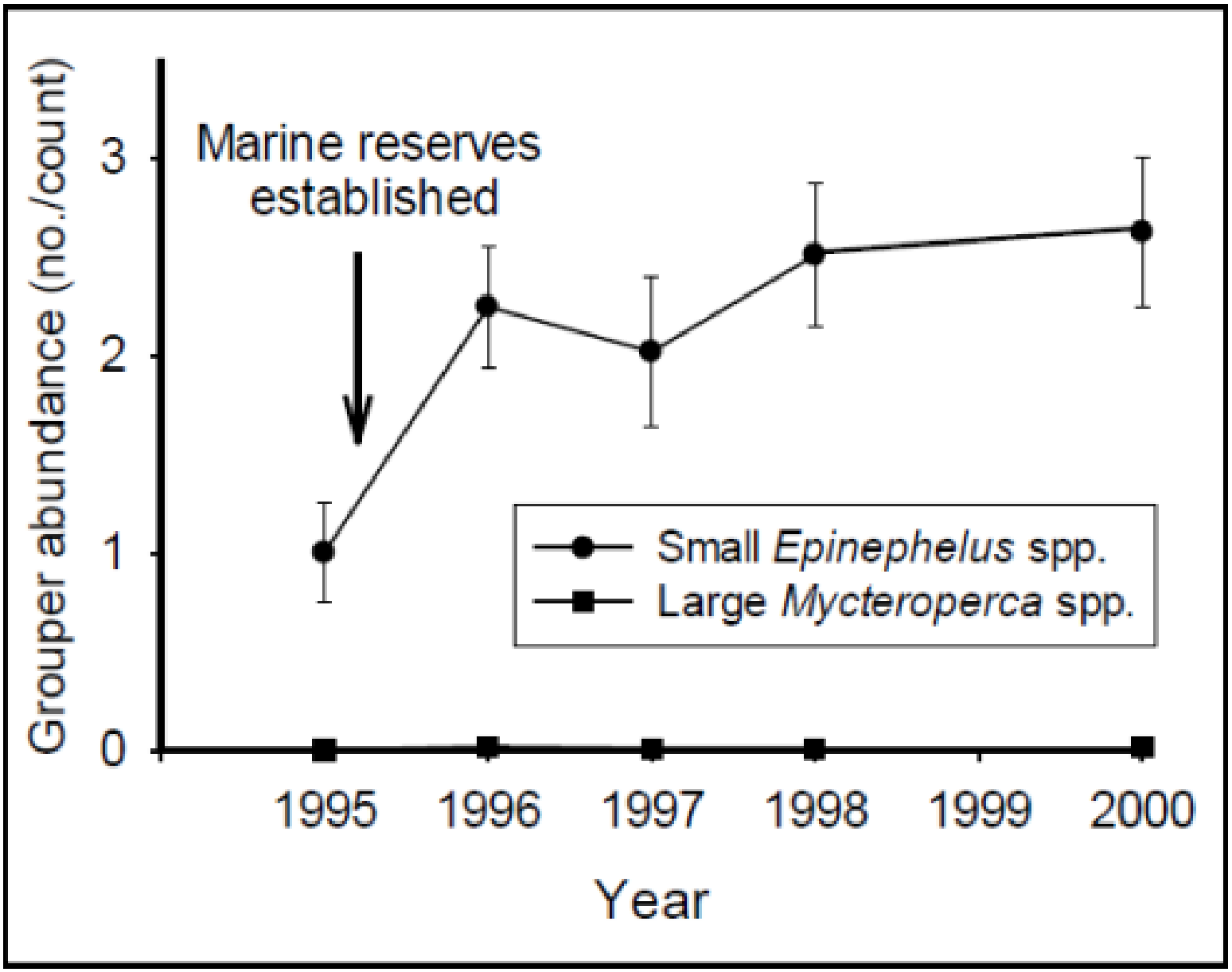
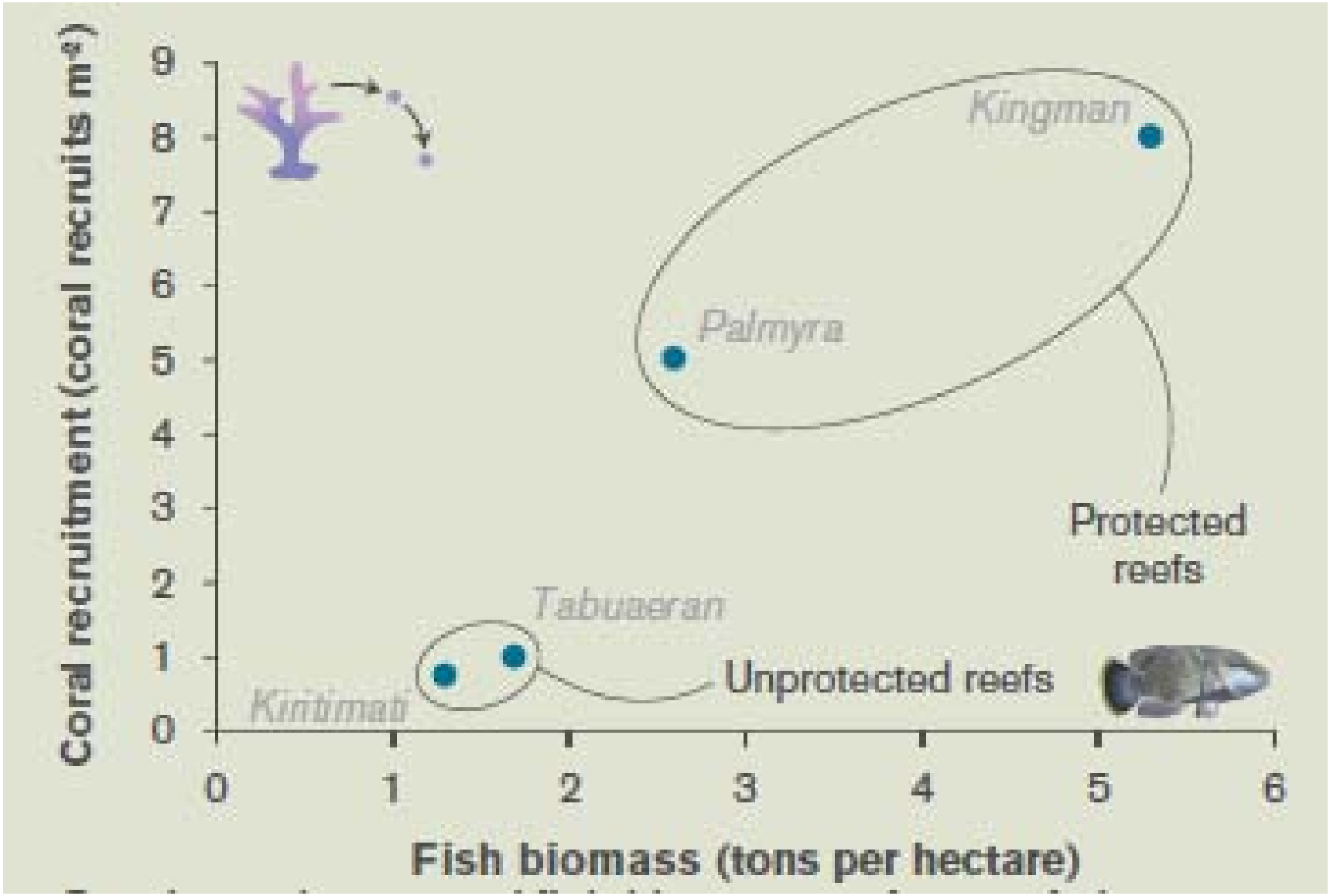


The value of MPAs – resilience after bleaching



The value of MPAs – tourism

The value of tourism

- 16-18% of GDP in the Caribbean
- 30mm visitors a year to Caribbean
- Tourists come to view healthy reefs and habitat

IMPACTS

IMPACTS

BENEFITS

IMPACTS

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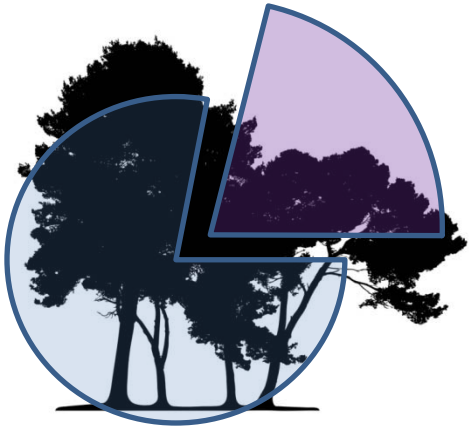

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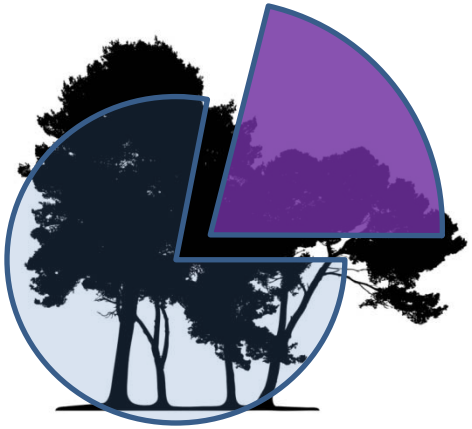

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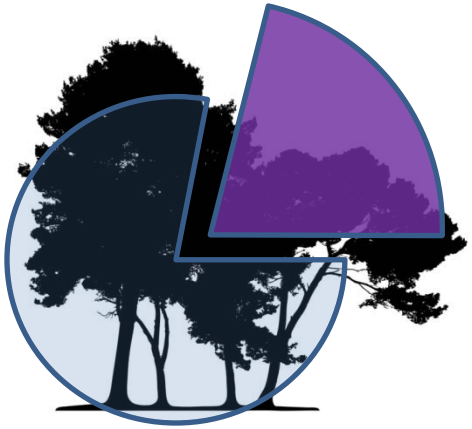

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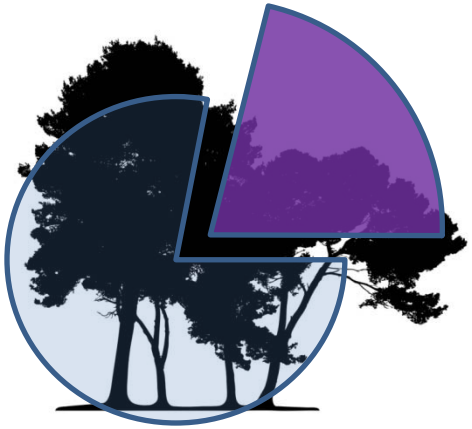

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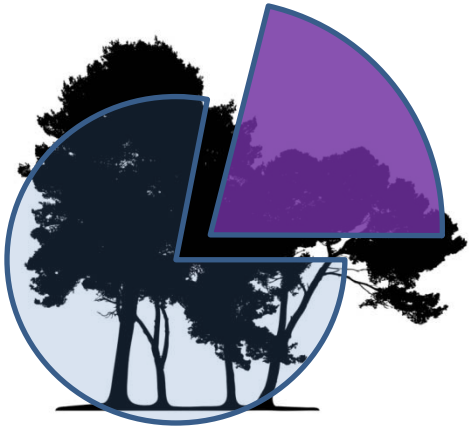

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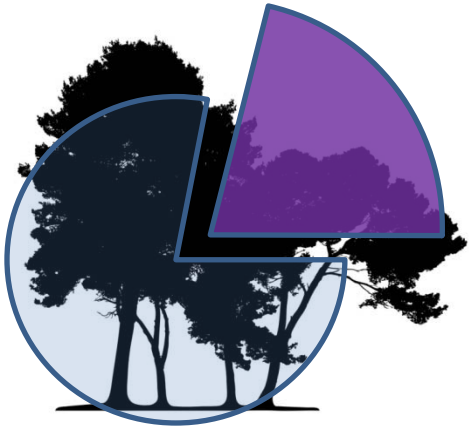

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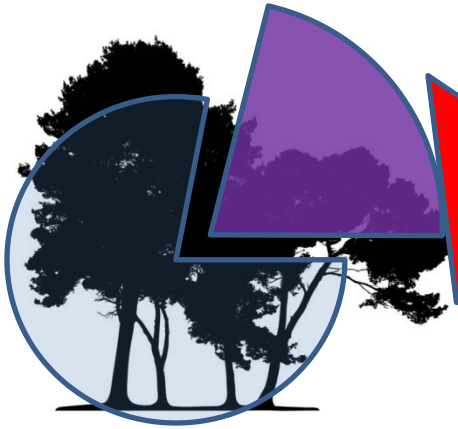
BENEFITS

Under valued



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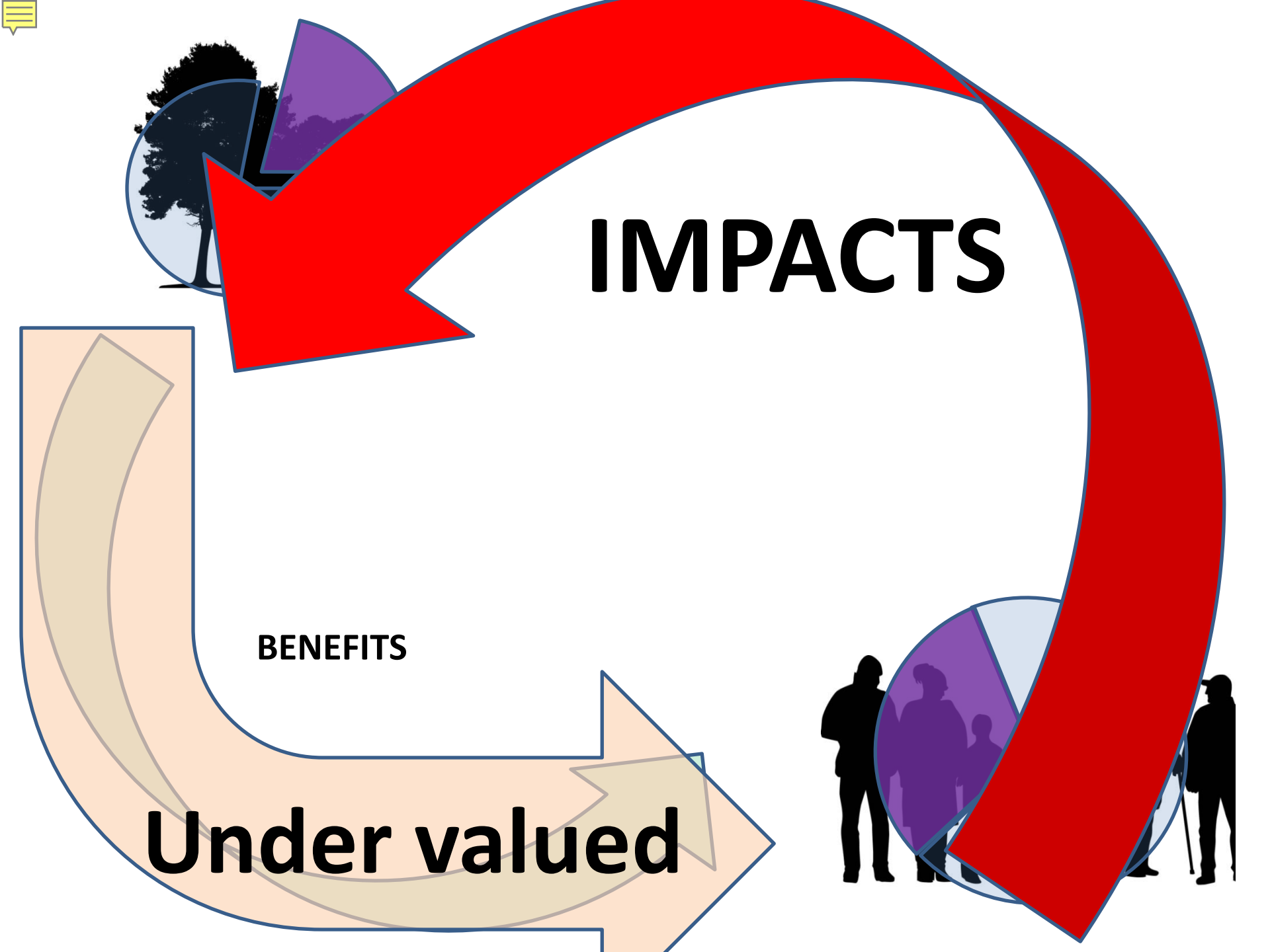
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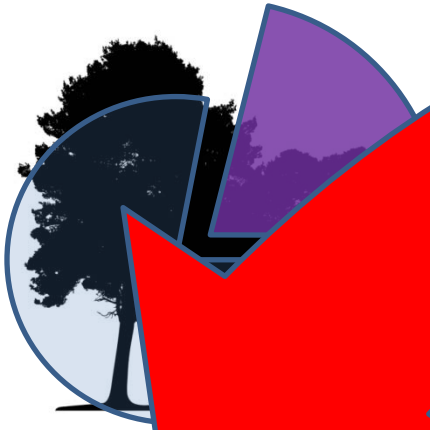
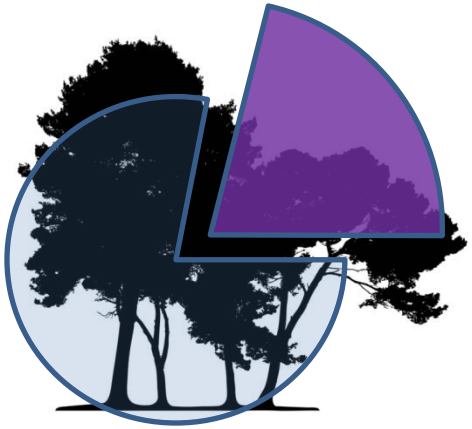


IMPACTS

“Vicious cycle”

BENEFITS

Under valued



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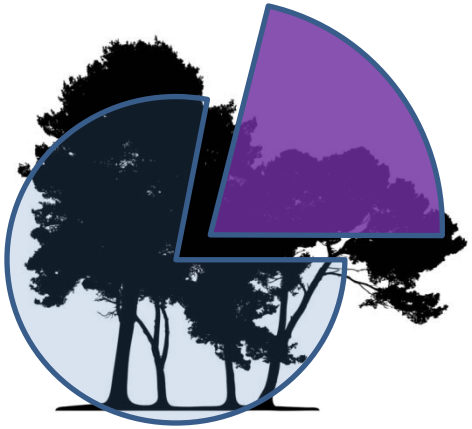

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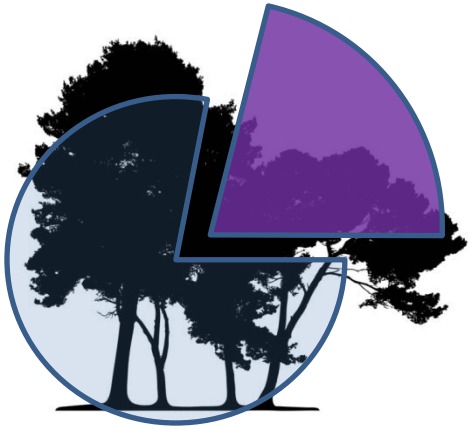
BENEFITS

Fully valued



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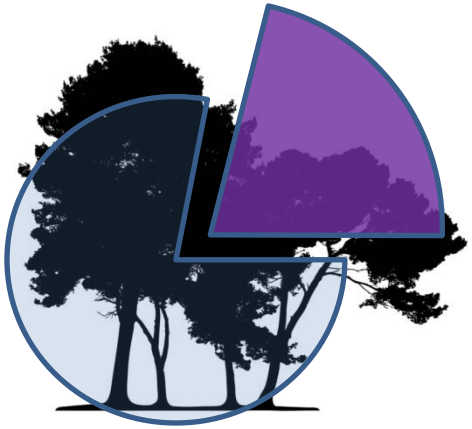

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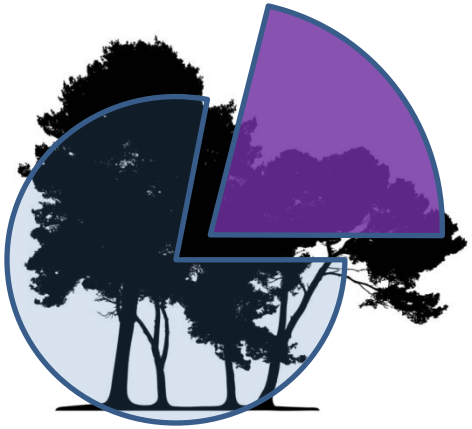


IMPACTS

“Virtuous cycle”

BENEFITS

Fully valued




… Under what circumstances is it important to assess and mainstream the values of protected areas and biodiversity?

…when there is a problem caused by undervaluation!

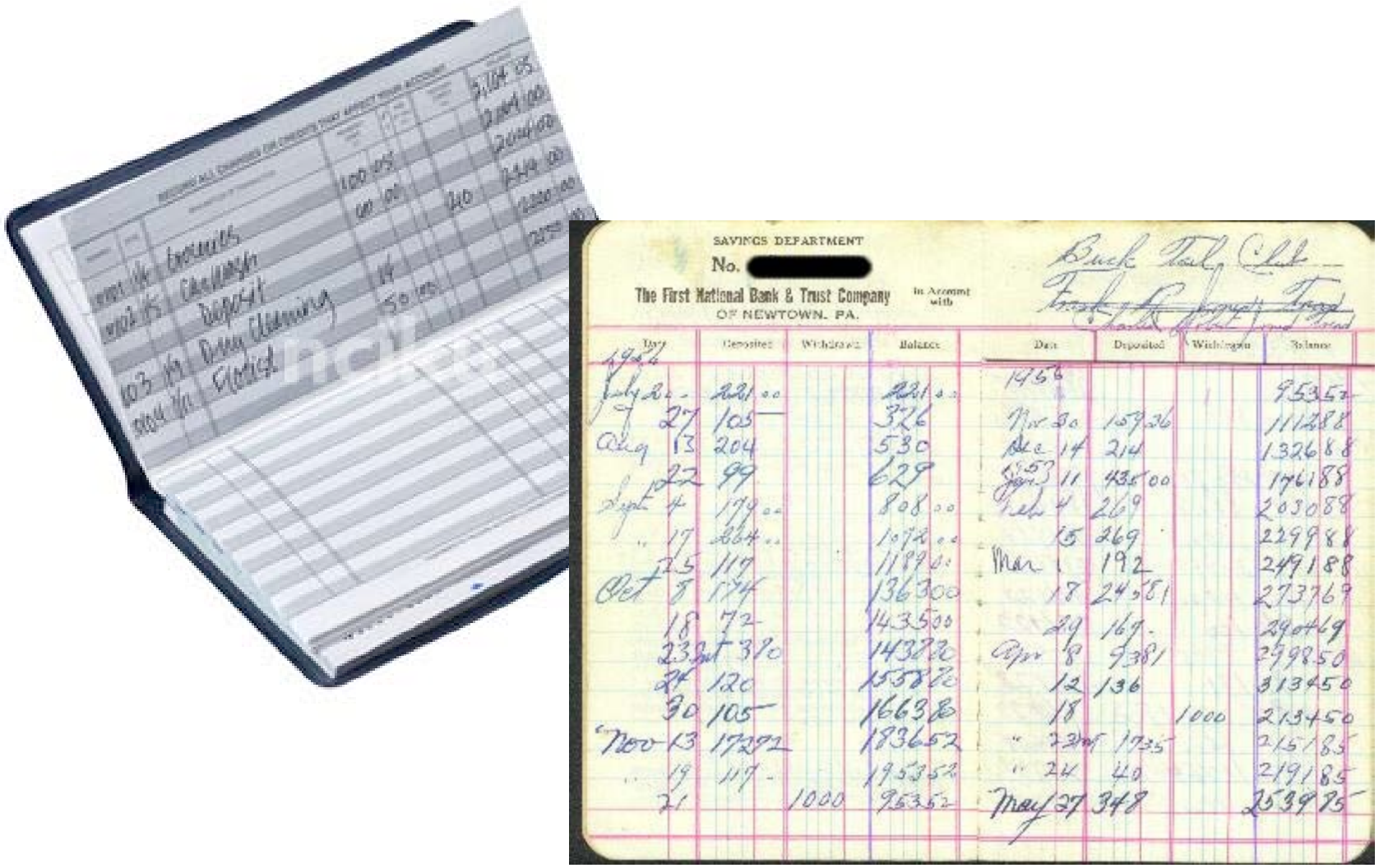
Examples of undervaluation:

1. A road is planned through a large protected area
2. Headwater forests are being degraded
3. Wetlands are being drained and mangroves are being cut down
4. Rivers are being polluted from agricultural waste
5. Illegal fishing is occurring within protected areas
6. There is sand mining allowed on protected beaches
7. A protected area is planned for degazettement

BUT…protected areas are not ATM machines

And protected areas are not piñatas…

Protected areas are a societal investment



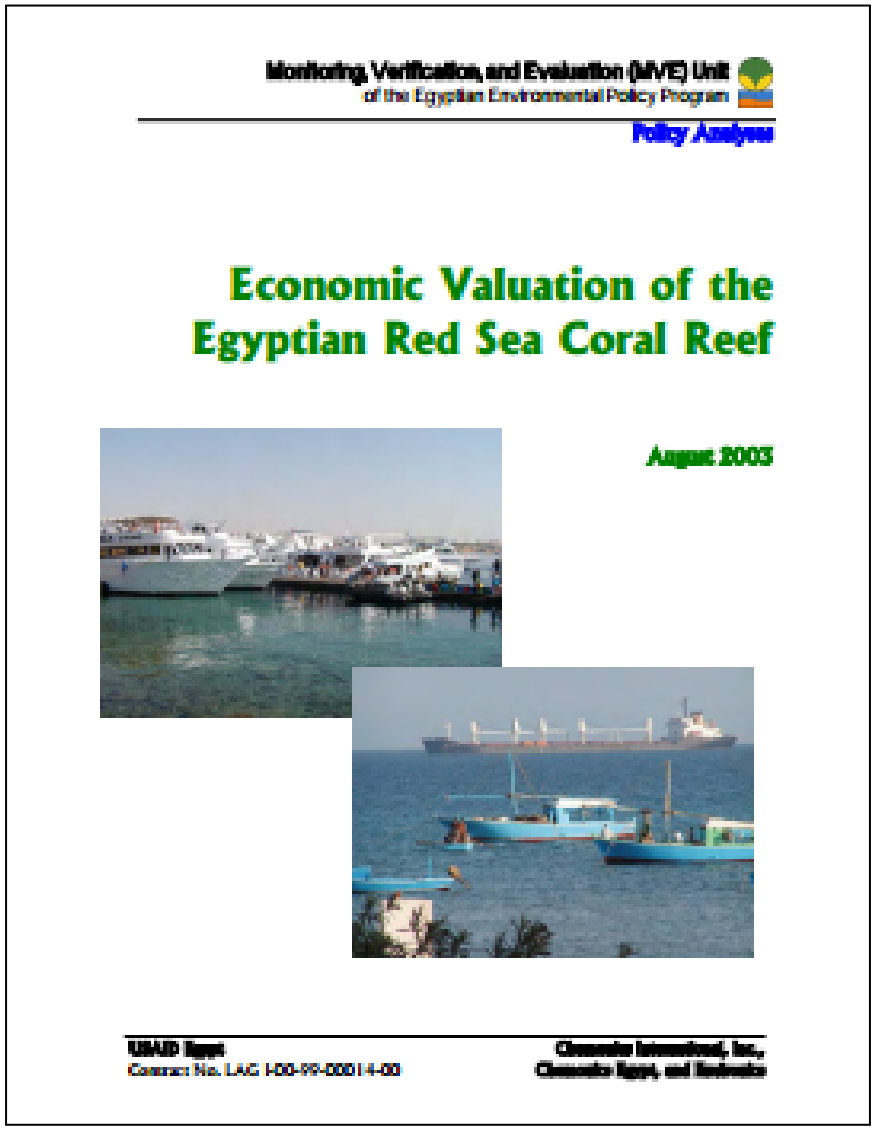

Economic valuation reveals the hidden benefits of societal investments in biodiversity protection…


…which leads to better economic and policy decisions

Steps in Assessing Protected Area Values

1. Clearly define the context
2. Choose which benefits and services are included
3. Choose valuation method, indicators;
4. Gather data
5. Analyze benefits
6. Communicate the results to key decision makers
7. Identify and implement policy and economic instruments

Case study: Red Sea Coral Reefs of Egypt



Step 1: Understand the context

In 2000, a total of 5.1 million foreign tourists visited Egypt.

Around half of these came to enjoy the Red Sea and Gulf of Aqaba coastlines.

Step 1: Understand the context: What is the problem that valuation will solve?

61% of the coral reefs of Egypt were seriously at risk from human impacts…

…and over 40% of dive sites have less than 30% coral.

Coastal Development

Ship groundings, ballast and pollution

Commercial and artisanal over-fishing

Step 2: Identify the ecosystem services

STEP 2: Choose ecosystem benefits and services that:

- Are associated with key national goals, such as **poverty reduction**
- Are **easy to measure**, have clear indicators and available data
- Are **easy to communicate** to key stakeholder groups
- Have the **highest economic values**
- Are the most important benefit **across an entire** ecosystem or protected area system

STEP 2: Choose ecosystem benefits and services

In 2000, a total of 5.1 million foreign tourists visited Egypt.

Around half of these came to enjoy the Red Sea and Gulf of Aqaba coastlines.

Step 2: Choose the ecosystem services

- Tourism
- Fisheries
- Research
- Biodiversity
- Bio-prospecting

STEP 3: Choose the valuation method for each ecosystem service and choose indicators

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- Tourism
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- Travel cost method
- Contingent valuation
- Net present value
- Benefit transfer
- Market value/price
- Change in productivity

STEP 3: Choose valuation method for each ecosystem service and **choose indicators**

Ecosystem service	Potential Indicator
Food security	• Average protein intake per person
Health	• # and % of people using medicinal plants
Fisheries	• List and volume of annual catch • # of people employed • Total $US added to economy
Disaster mitigation	• Hectares of avoided erosion • # of people protected from flooding
Water supply	• Volume (cubic meters/second) from PAs • Hectares irrigated • Energy in megawatts from hydropower

Step 4: Gathering data

Step 4: Gathering data -- surveys

Annex 5: Snorkelers and Divers Questionnaire for the Marsa Alam Area

To be filled in by interviewer:
location of interview.....
live aboard/ resort and name.....
date of interview.....

1. Visitor's recreational behavior

1- During the past year, how many times did you visit this location?
1. Once 2. Twice 3. 3-4 times 4. more than 4 times

2- How many times did you visit other natural areas in Egypt?
1. None 2. Once 3. Twice 4. 3-4 times 5. more than 4 times

3- How many times did you visit other natural areas in other countries?

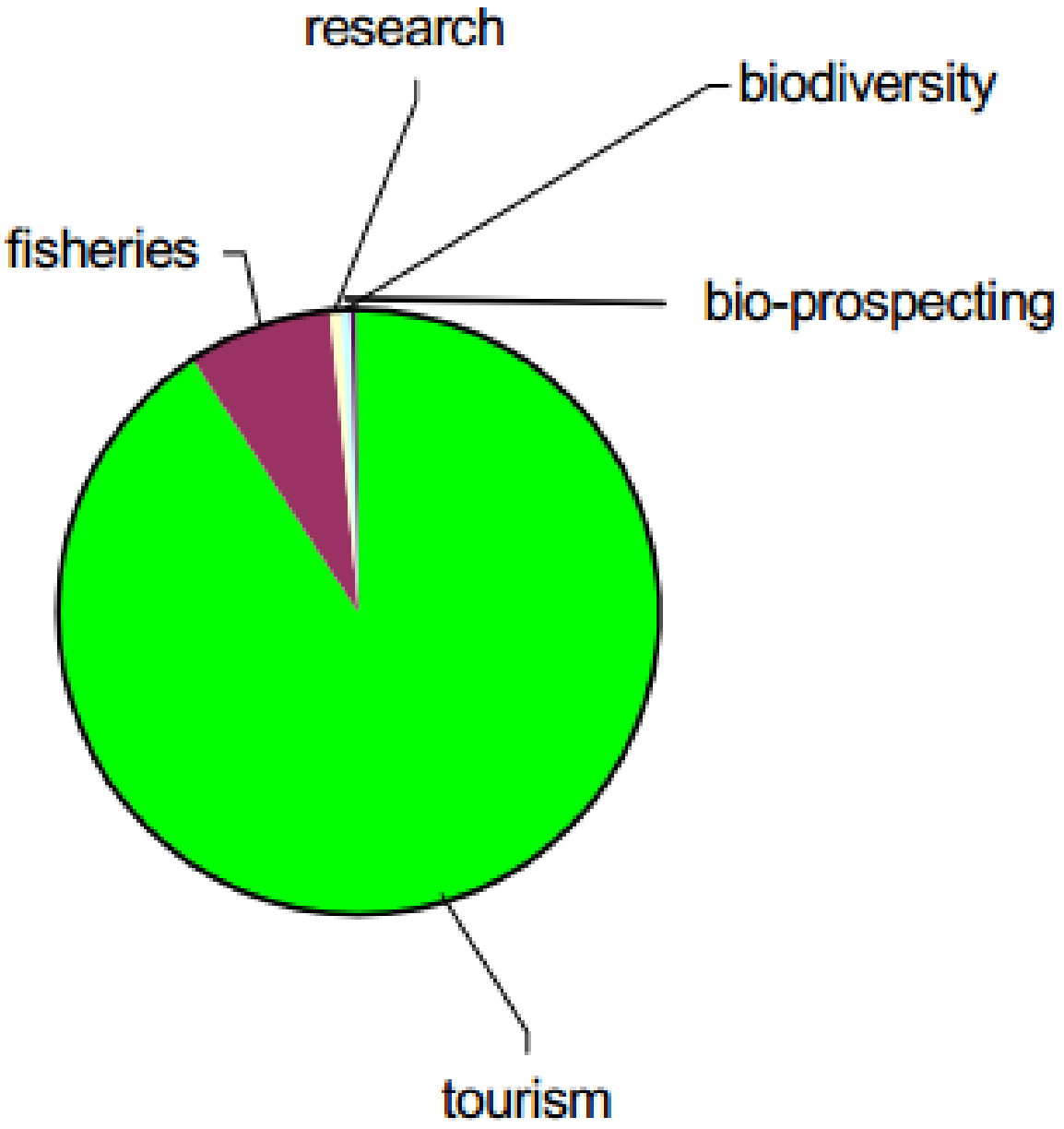
1. None 2. Once 3. Twice 4. 3-4 times 5. more than 4 times

4- What is the main purpose of your natural areas vacation?
1. Diving 2. Snorkeling 3. Desert Activities
4. Relaxation 5. All of the above 7. Other ……..

STEP 5: Analyze benefits

Sharm el Seikh: 36.2$ from reef-based tourism

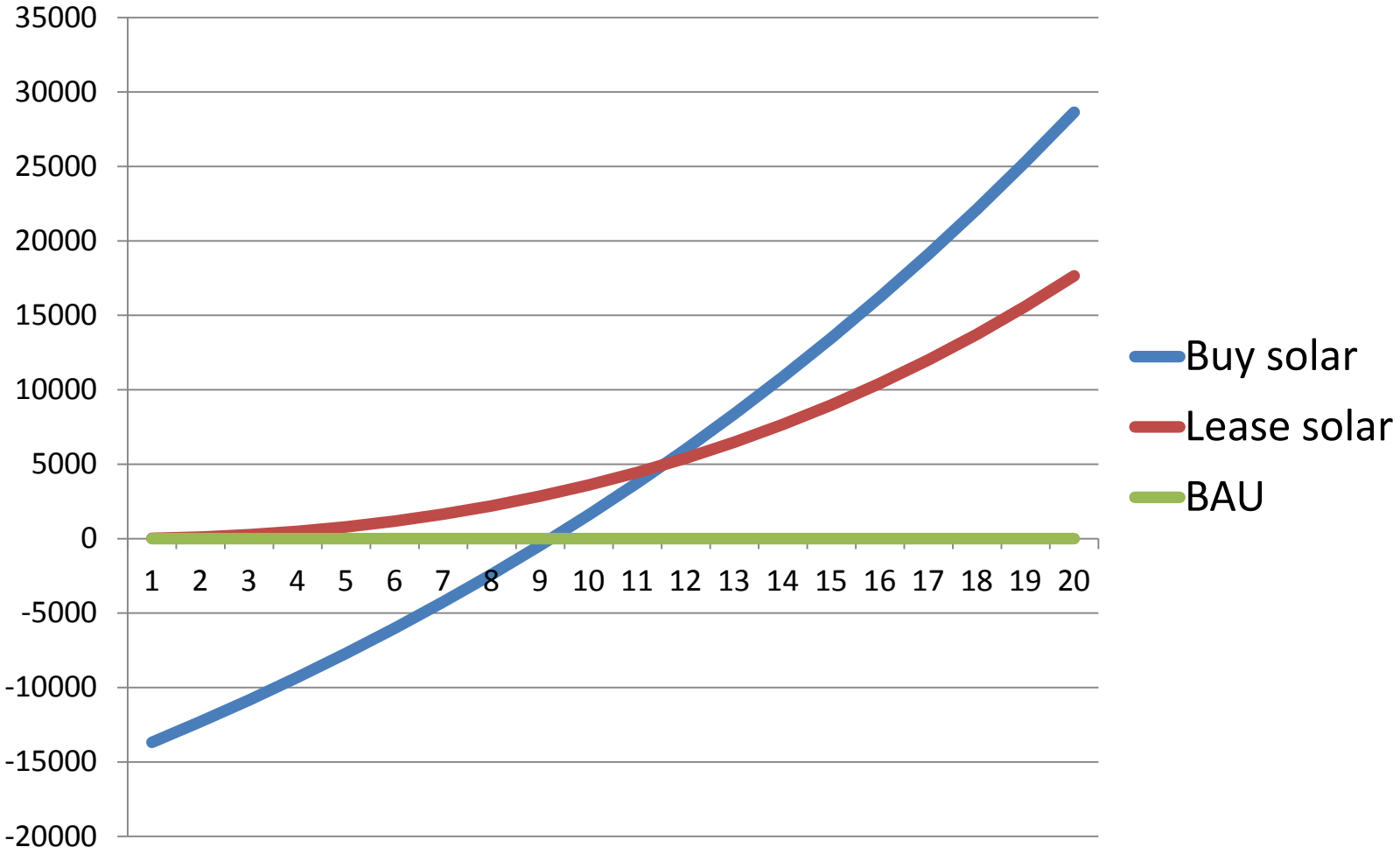
Step 5: Analyze benefits



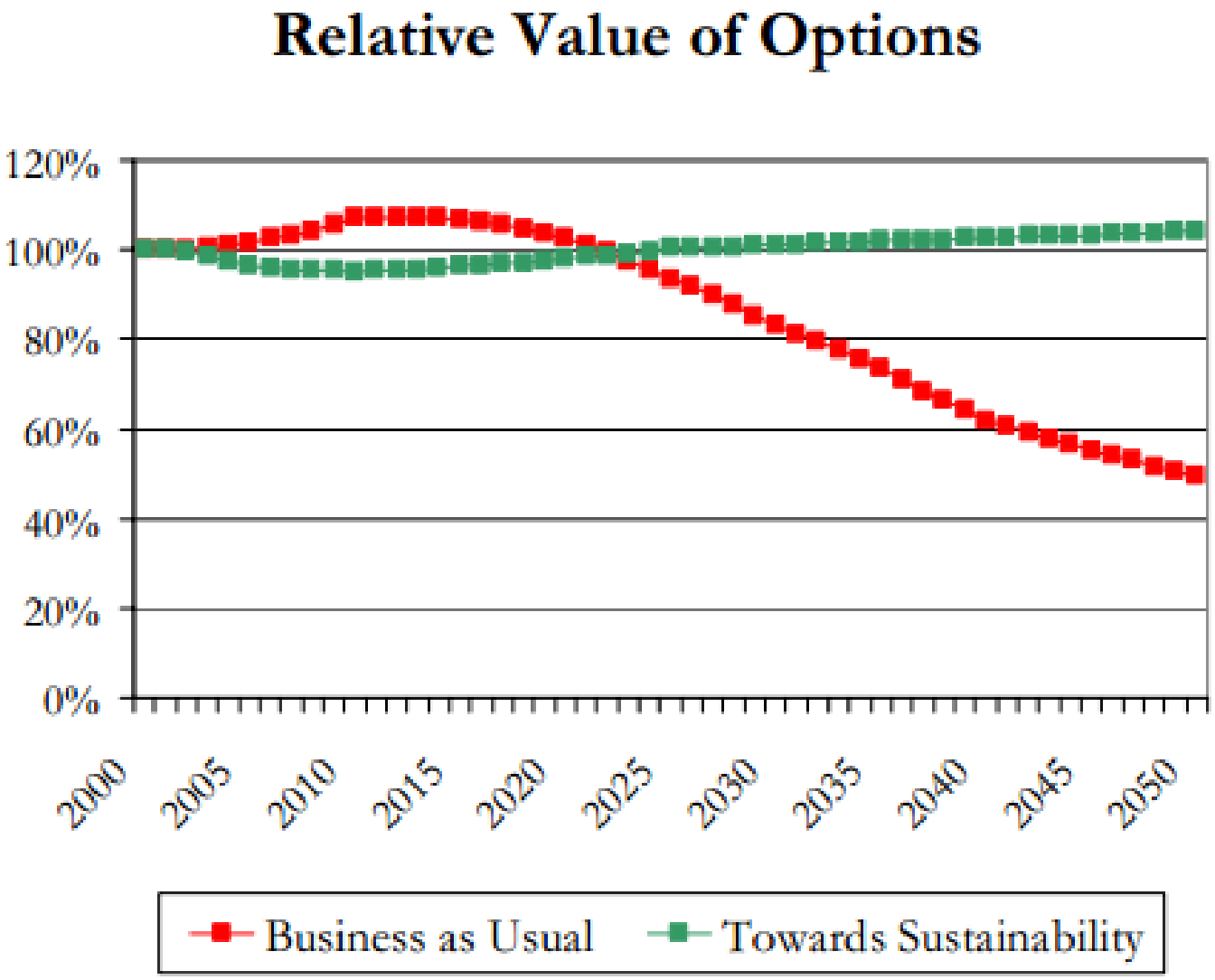
Total value of reef-based tourism was $116 mm (2000)

….but we need to analyze benefits over time

Solar photovoltaic (PV) system



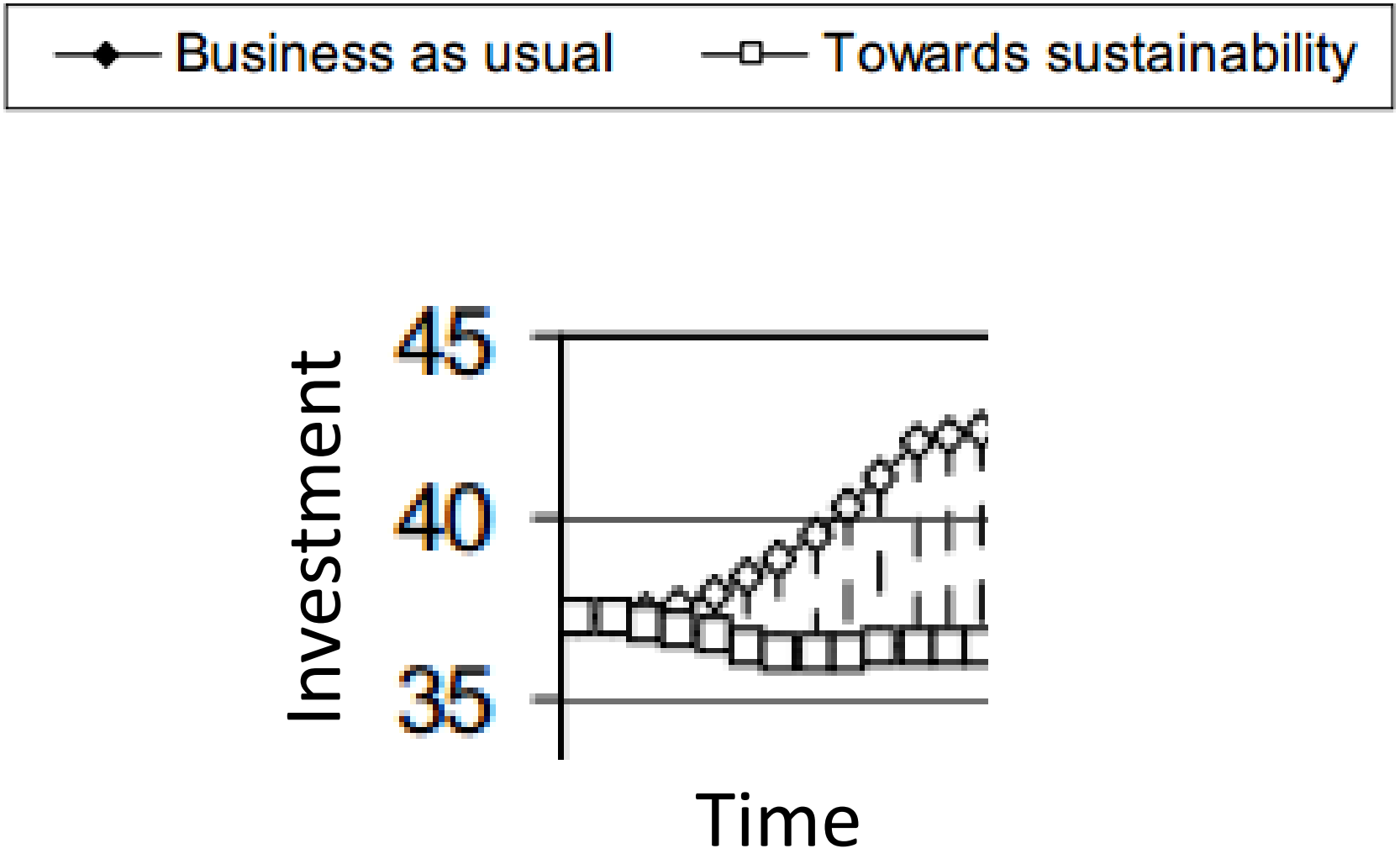
20-year savings by buying solar: **$28,647**



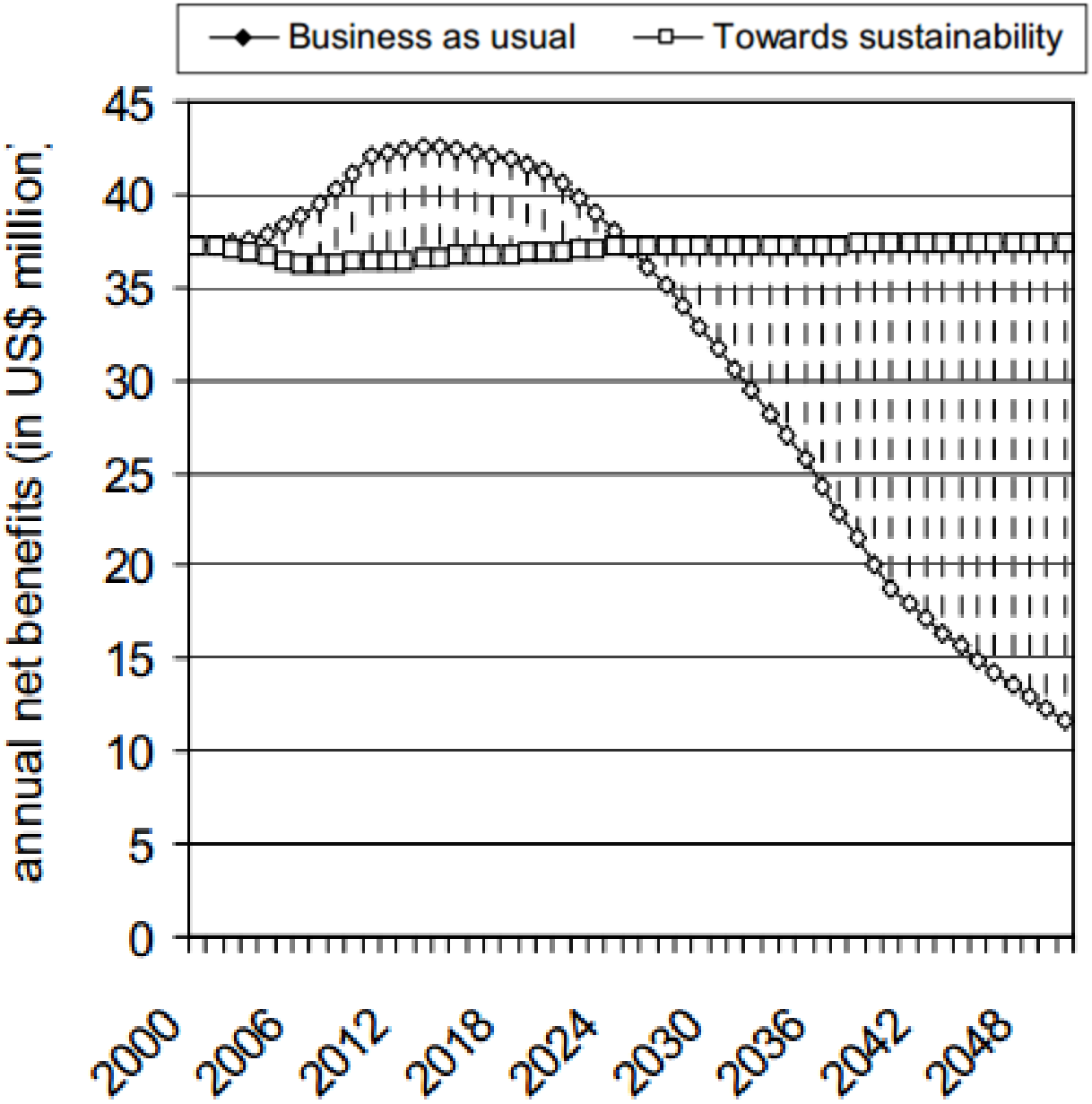
The shorter the time horizon, the larger the incentives for unsustainability

Step 5: Analyze benefits

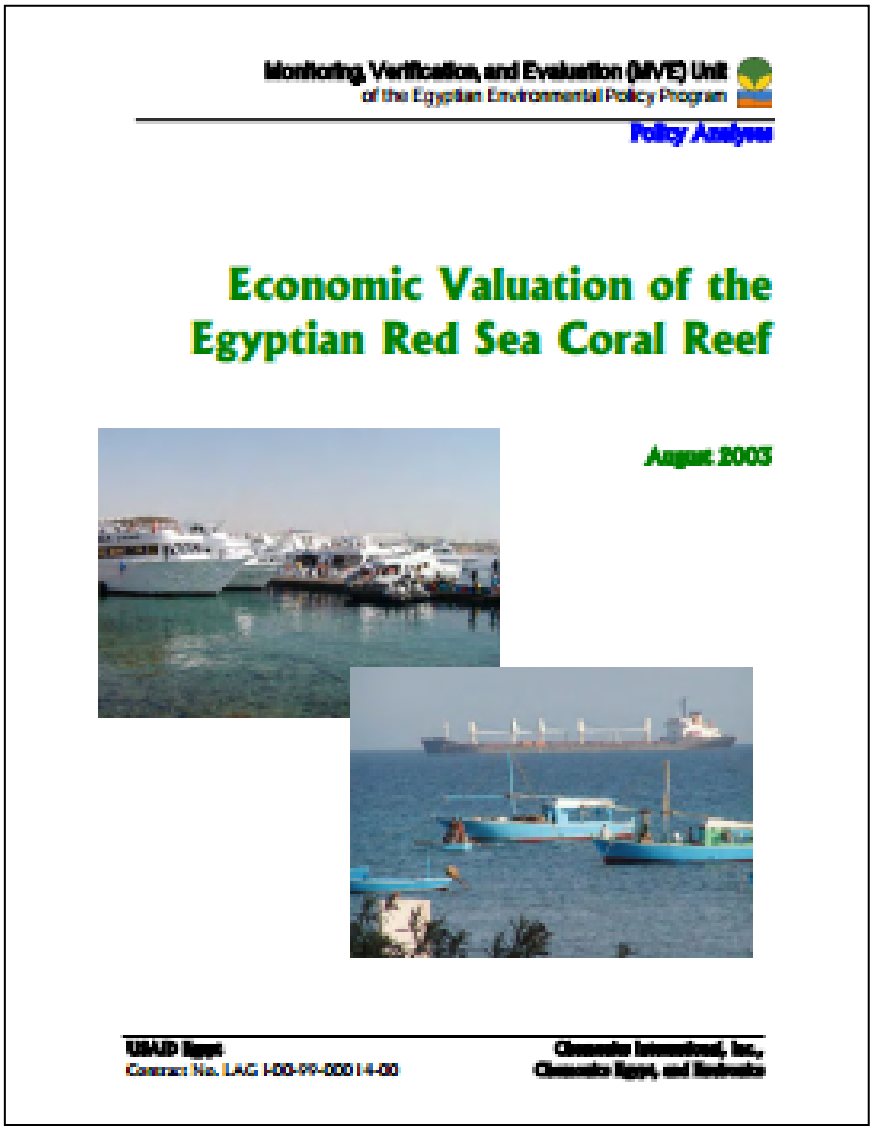
Sharm el Seikh costs and benefits



Sharm El Sheikh



STEP 6: Communicate the results



Report

STEP 6: Communicate the results

Simple

Powerful

Actionable

Surprising

Targeted

Iconic

Concrete

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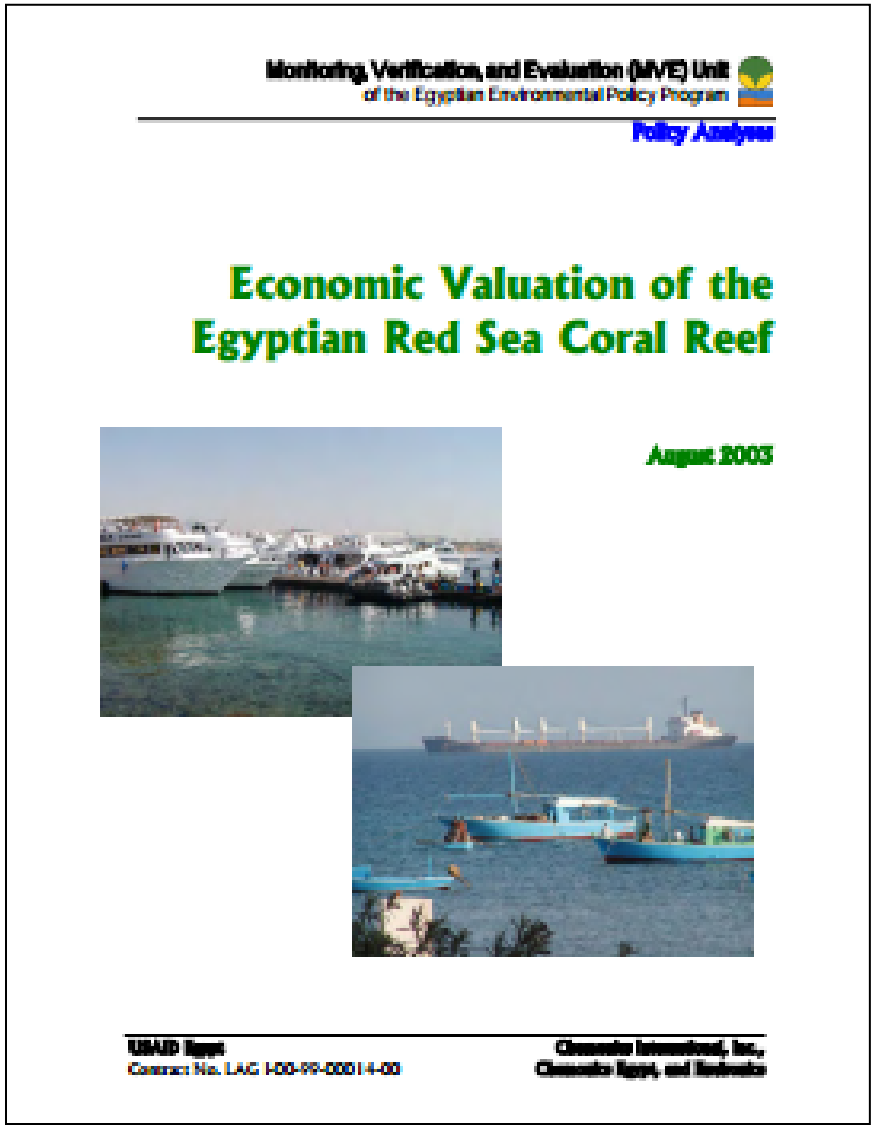


Report

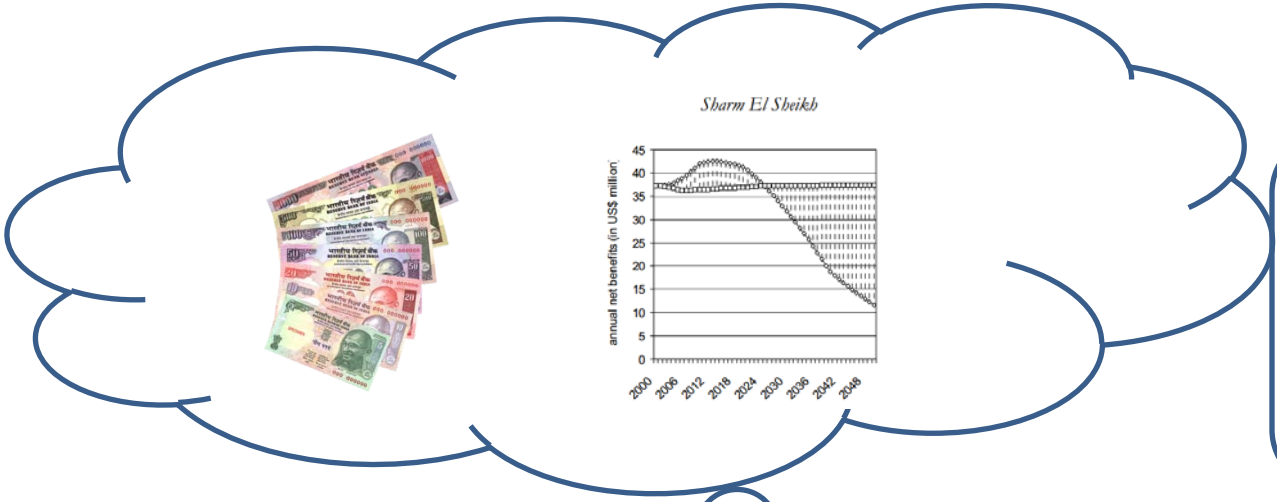
STEP 6: Communicate the results

Valuation aims to place protected areas into economic decision-making frameworks…

STEP 6: Communicate the results

…in other words, to place protected areas on the radar screen of major decision makers…

STEP 6: Communicate the results



…and to help them understand the full costs and benefits over time….

STEP 6: Communicate the results

…in order to make better societal decisions.

Step 7: Establish mechanisms for integration

1. **IDENTIFY and ASSESS** the full range of ecosystem services and people affected

2. **ESTIMATE and DEMONSTRATE** the value of ecosystem services

3. **CAPTURE** the value of ecosystem services and seek **SOLUTIONS**

TEEB. 2010. The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature.

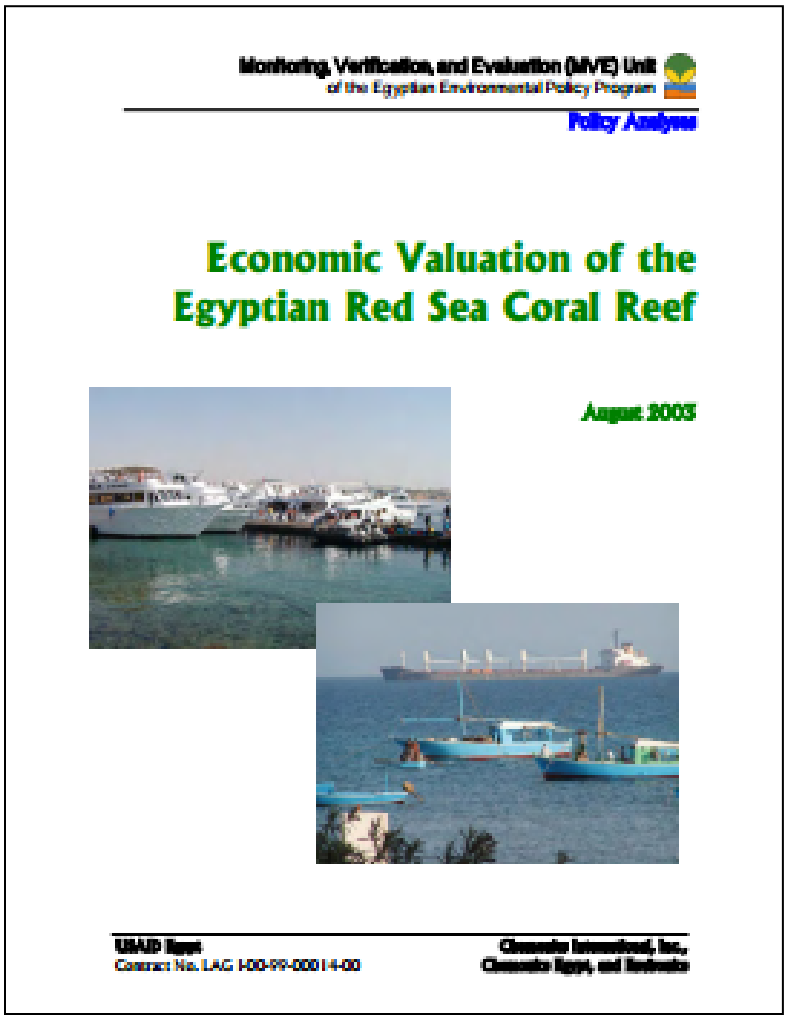
Step 7: Establish mechanisms: Creating or modifying policies and plans

- Reform or create policies, plans, laws
- Create protected areas, buffer zones, corridors
- Modify management plans and practices
- Incorporate into strategic environmental assessments (SEAs)
- Incorporate into spatial and land-use planning

Step 7: Establish mechanisms: Economic instruments, education, partnerships

- Public-private partnerships
- Market-based certification
- Voluntary best practices
- Economic valuation
- Payments for ecosystem services
- Communication, education
- Biodiversity offsets

Step 7: Establish mechanisms for economic and sectoral integration



- **Change management practices**
  - Limit the number of divers
- **Change economic instruments**
  - Increase diving fees
- **Change sectoral practices**
  - Ballast practices
  - Coastal development mitigation

Exercise

1. What is a protected area problem in your region that valuation can help to solve?
2. What are the ecosystem services that are most important and feasible to include?
3. What is the best mechanism for communicating the value of protected areas?
4. What are the most important mechanisms for integrating the protected area values?