Building Blocks for a Sustainable Future

The Economic Rationale for Investing in Ecosystems

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for birds • for people • for ever

An RSPB-Cambridge University study, published in *Science*

- What is the rate of ecosystem loss?
- What is the global economic value of the ecosystems we are losing?
- What is the economic cost of the losses?
- What would be the economic costs of effective conservation?
- What would be the economic benefits of effective conservation?
- Why don't we invest in an economically rational manner?
- What can we do about it?

The rate of ecosystem loss

- At least 7% of tropical forest since Rio
- Around one third of mangrove in last 20 years
- Around one third of marine vertebrates in last 30 years
- Around one half of freshwater vertebrates in last 30 years

The global economic value of ecosystem services - method

- Five case studies
- Four ecosystems
  - Tropical forest
  - Mangrove
  - Wetland
  - Coral reef
- Calculated the sum of private benefits, and local and global public benefits, before and after conversion, for each case study
- Extrapolated to global level

The global economic value of ecosystem services – results 1

- **Total economic value (TEV) before conversion ~ $38 trillion/yr**
- **Underestimates**
  - Net *marginal* benefits
  - Selected services and benefits
  - No non-economic values used
- **Conversion usually increases private benefits**
  - Profit
- **Conversion always reduces local and global public benefits**
  - Carbon sequestration
  - Recreation
  - Nutrient cycling
  - Biodiversity, etc

The global economic value of ecosystem services – results 2

- The loss of public benefits from conversion outweighs
  gains in private benefits by a very wide margin
- TEV lost upon conversion ~ average 55%
- Net value of global ecosystem services at least

The economic cost of ecoservice loss

- **At least an additional $250 billion/year, each year**
  - $250 billion in year 1
  - $500 billion in year 2
  - $750 billion in year 3
  - $1 trillion in year 4
  - etc

The economic cost of conservation: method & results

- **15% of land area**
  - Acquisition cost [including private opportunity cost]
  - Establishment cost
  - Management cost
- **30% oceans**
  - Establishment cost
  - Management cost
- **Conservation cost $45 billion/year**
  - Less than 1/20 global perverse subsidies
  - 1/16 of global defence budget
- **Current global spend outside US**
  - ~ $3.25 billion/year

The economic benefits of conservation

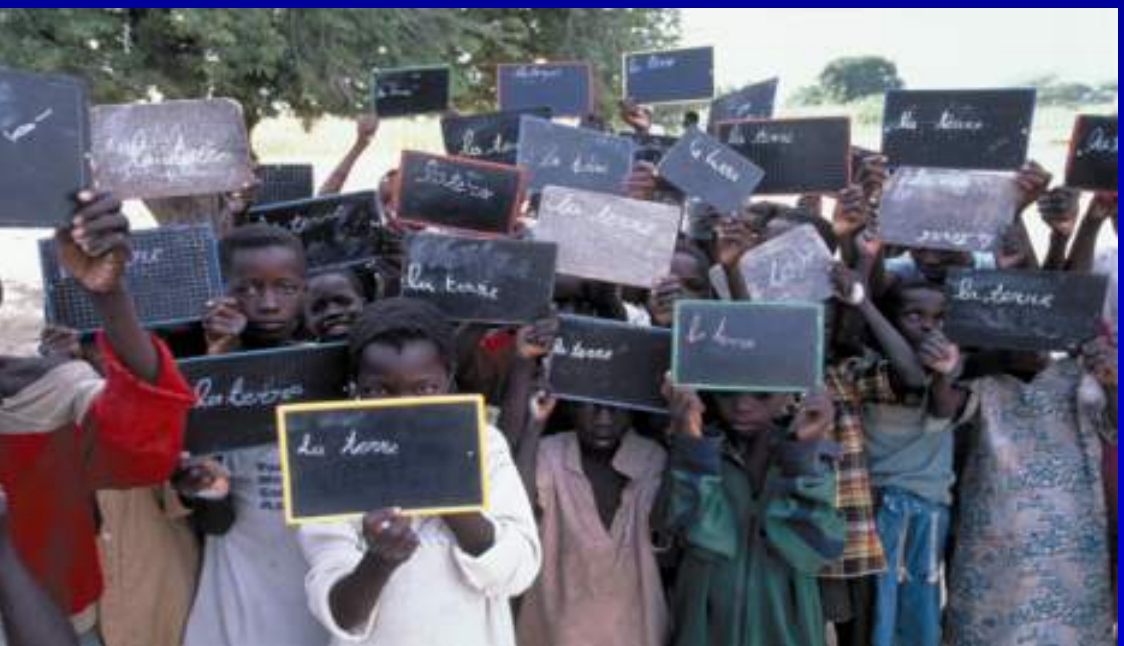
- $4.4 trillion/yr under strict protection
- $5.2 trillion/yr under sustainable use
- Benefit cost ratio of 100: 1

Why don’t we invest in ecosystems - 1?

- **Decisions based on flawed economic analysis of costs and benefits**
- **Market failures**
  - Limited time horizon, generally short
  - Limited geographical range, generally local
  - Limited range of goods and services considered
    - Publicly-owned, non-marketed goods not valued
- **Information failures**
  - Economic value of nature’s services unknown

Why don’t we invest in ecosystems - 2?

- **Intervention failures**
  - Perverse global subsidies of $1-$2 trillion per year
- **Economic theory accepts flaws**
- **Economic practice does little to correct them**



Conclusions of the study

- **"…at present, conversion of remaining habitat for agriculture, acquaculture, or forestry, often does not make sense from the perspective of global sustainability"**
- **"our relentless conversion and degradation of remaining natural habitats is eroding overall human welfare for short-term private gain"**
- **A powerful economic, as well as environmental, social and moral case for conservation**

Security implications of ecosystem and service loss

- **Large economic cost**
- **Probably underestimated economic cost**
- **Growing economic cost**
- **Unequally distributed economic cost**
  - The burden on the developing world
- **Superimposed on already unequally distributed wealth**
- **Magnifies existing causes of political instability/insecurity—poverty and income disparity—leading to further ecosystem loss**
- **If we focus spending on the symptoms of the problem the causes will only get worse**
- **Eventually the costs may become too high for anyone to bear**

Who should pay to conserve?

- Opportunity costs of conservation generally borne by developing countries
- Developed countries benefit
- EU and WSSD commitment to provide resources to halt biodiversity loss by 2010; MDGs
- UK (and other developed country) governments defer to GEF
- But GEF biodiversity allocation for 2003-6 only $1 billion against a $40-50 billion per year need

Recommendations

- **Gain a better understanding of the economic value of natural services and pay to maintain them**
- **Commitment, from developed countries, to provide developing countries with sufficient funding and support to conserve valuable ecosystems**
- **Reflect the value of natural services in economic activity, through:**
  - Taxes; subsidies; standards
  - The removal of perverse subsidies

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