

# The Economic Indicators

Adjusted Net Savings and the Cost of Environmental Degradation

Regional  
Workshop on

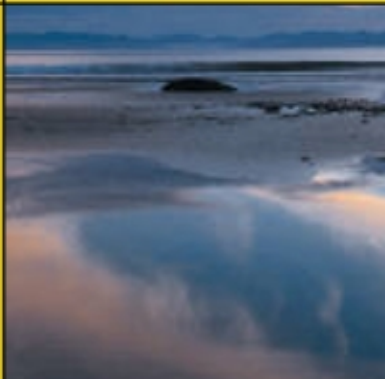
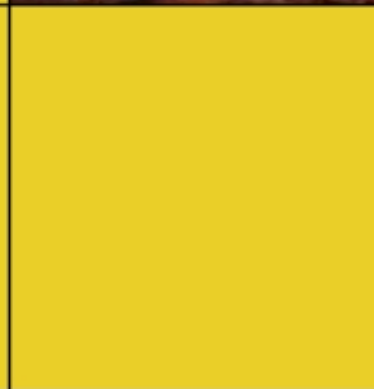
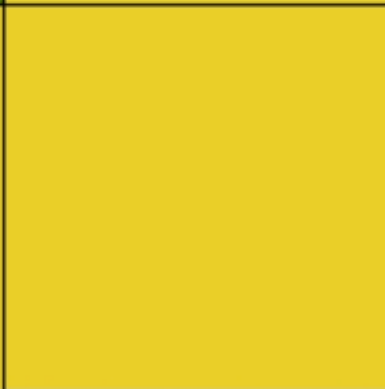
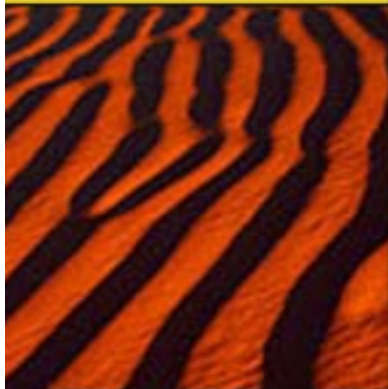
**Indicators for  
Sustainable  
Development  
Strategies and  
Policies in the  
Mediterranean  
Region**

Nice  
9-11 May 2005

**Giovanni Ruta**

Environment  
Department

The World Bank





# Why are we where?

- A practical step toward sustainability – from concept to numbers
- Wealth and changes in wealth
  - Adjusted net savings
  - Examples
- Scaling up the effort
  - Cost of environmental degradation
  - Examples
- Take-home messages



# Indicators:

The good the bad and the 'handsome'

- The good indicator
  - Measurable → data is available
  - Cost effective
  - Talkative!
- The bad indicator
  - Not changing over time
  - Not relevant for policies
- A 'handsome' indicator
  - Measures sustainability...
  - ... in a simple and crisp way

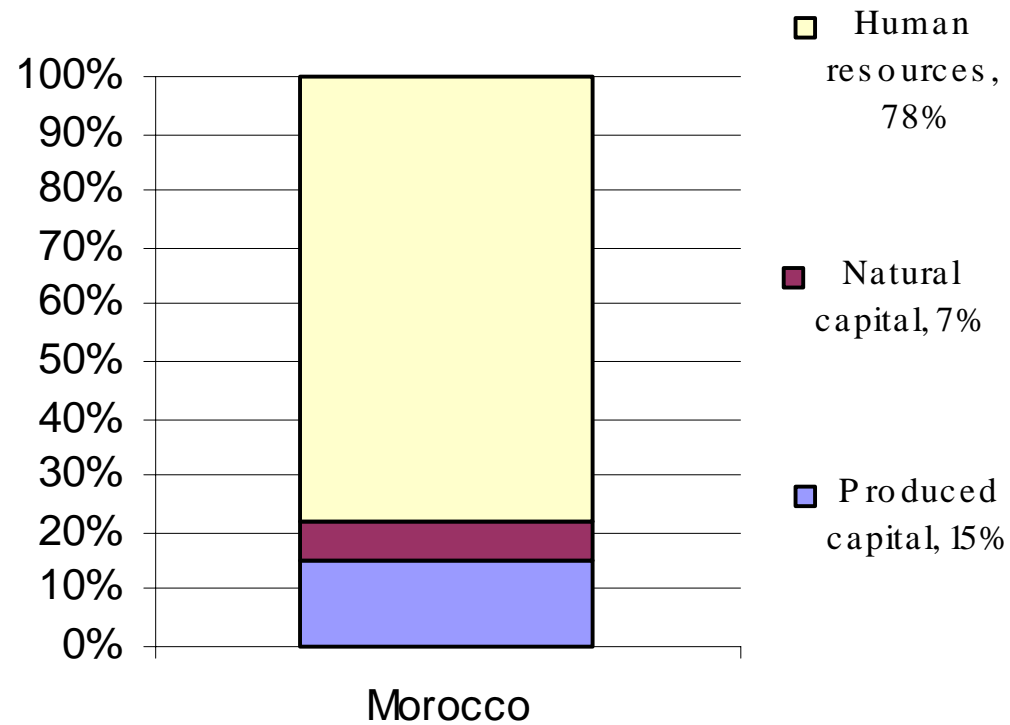


# One step back

- Sustainability
  - Many definitions
  - One simple idea
    - **Needs** of future generations depend on
    - **Opportunities** that depend on
    - **Assets!**

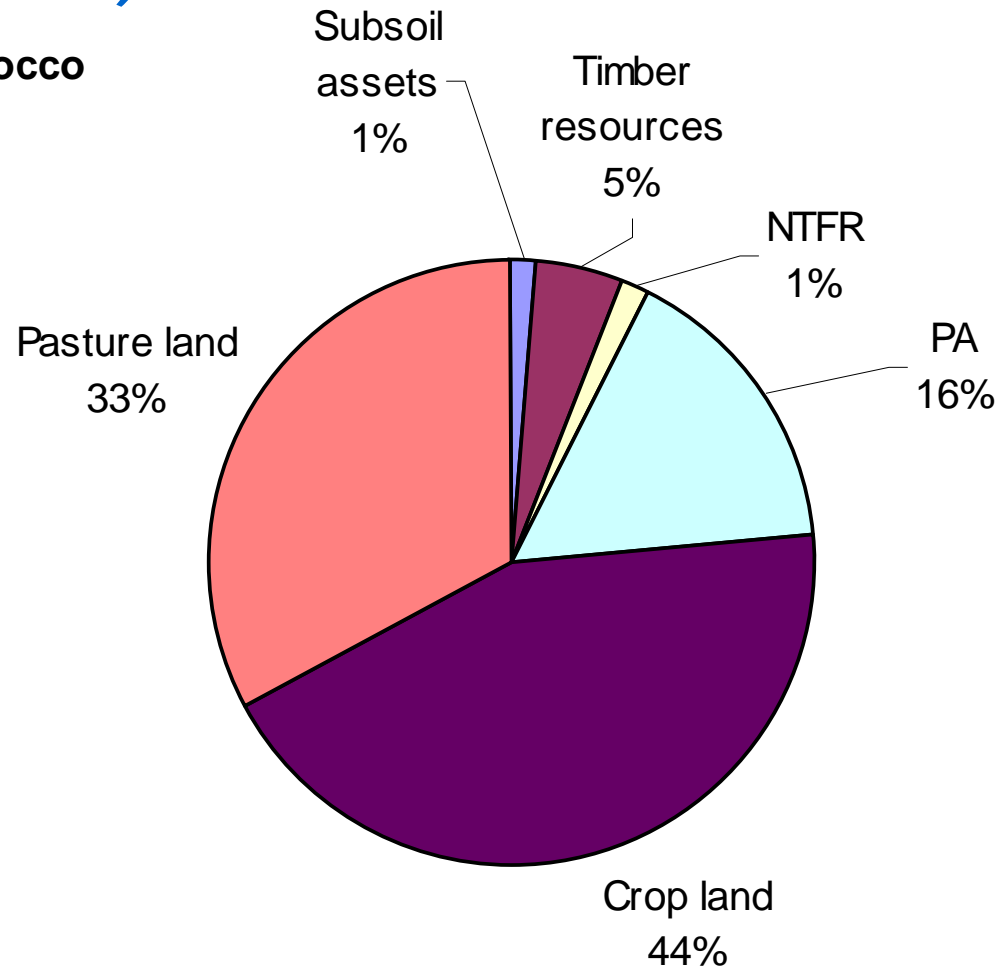
# Looking at assets (Morocco)

## Total wealth



# Components of natural wealth (Morocco)

**Morocco**





# Natural resources and national accounting

- Why focus on asset accounting?
  - To measure sustainability
  - To talk about environment and natural resources in the language of the finance minister
  - A useful conceptual framework: development as a process of managing a portfolio of assets



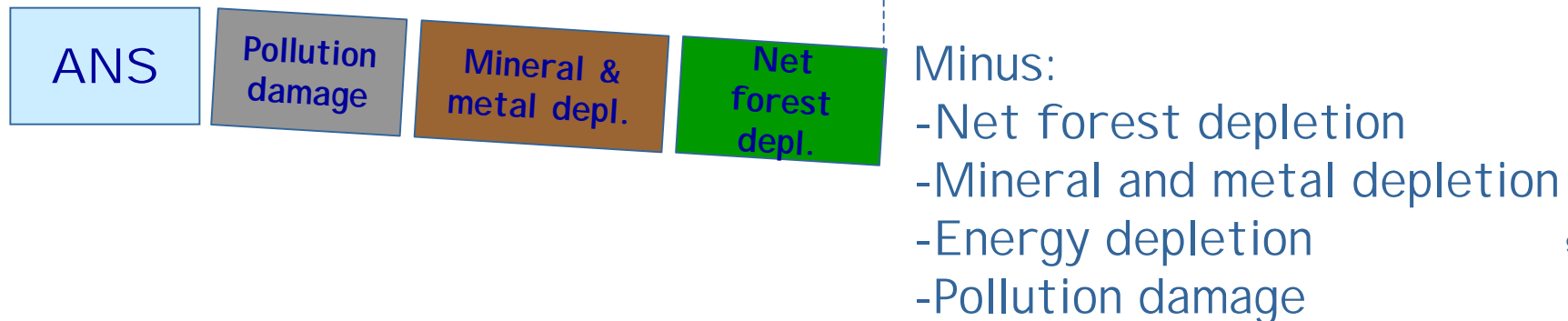
# Adjusted Net Savings (ANS)

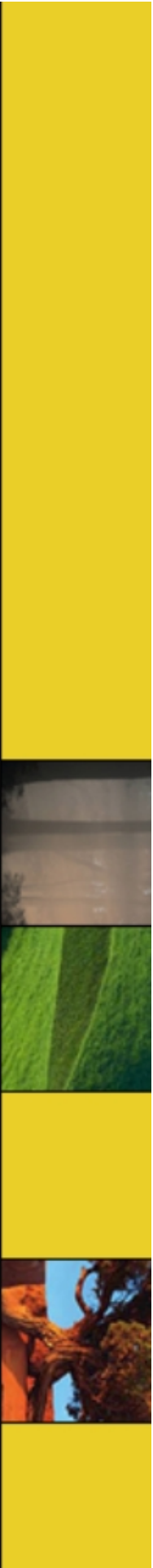
## Measuring changes in wealth

- Data for 150 countries
- Updated every year (1970-2003)
- It builds on traditional national accounts
- It combine changes in different types of assets
  - Produced capital
  - Human capital
  - Natural capital
- **A negative savings rate indicates wealth (opportunities) will decline over time**

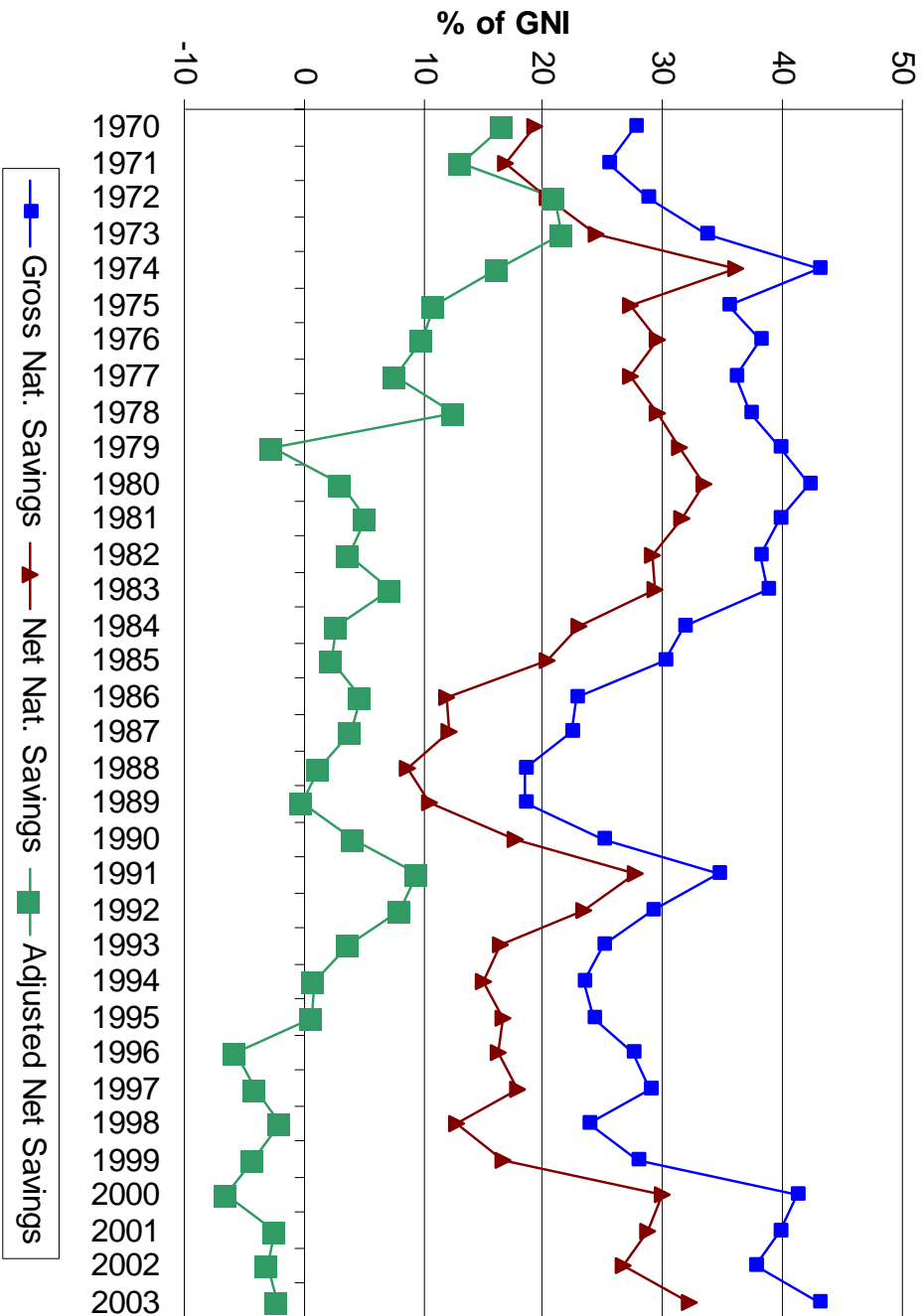
# Computing adjusted net savings

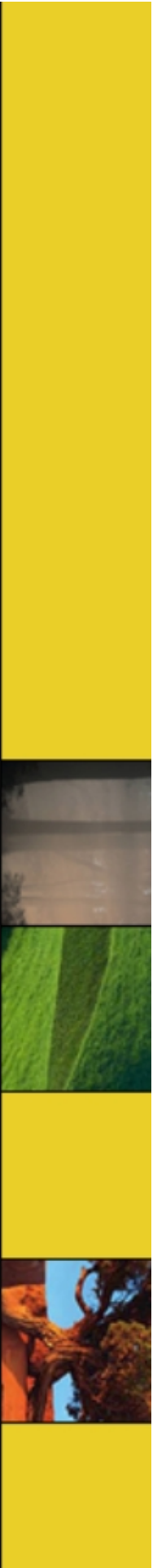
Gross National Income



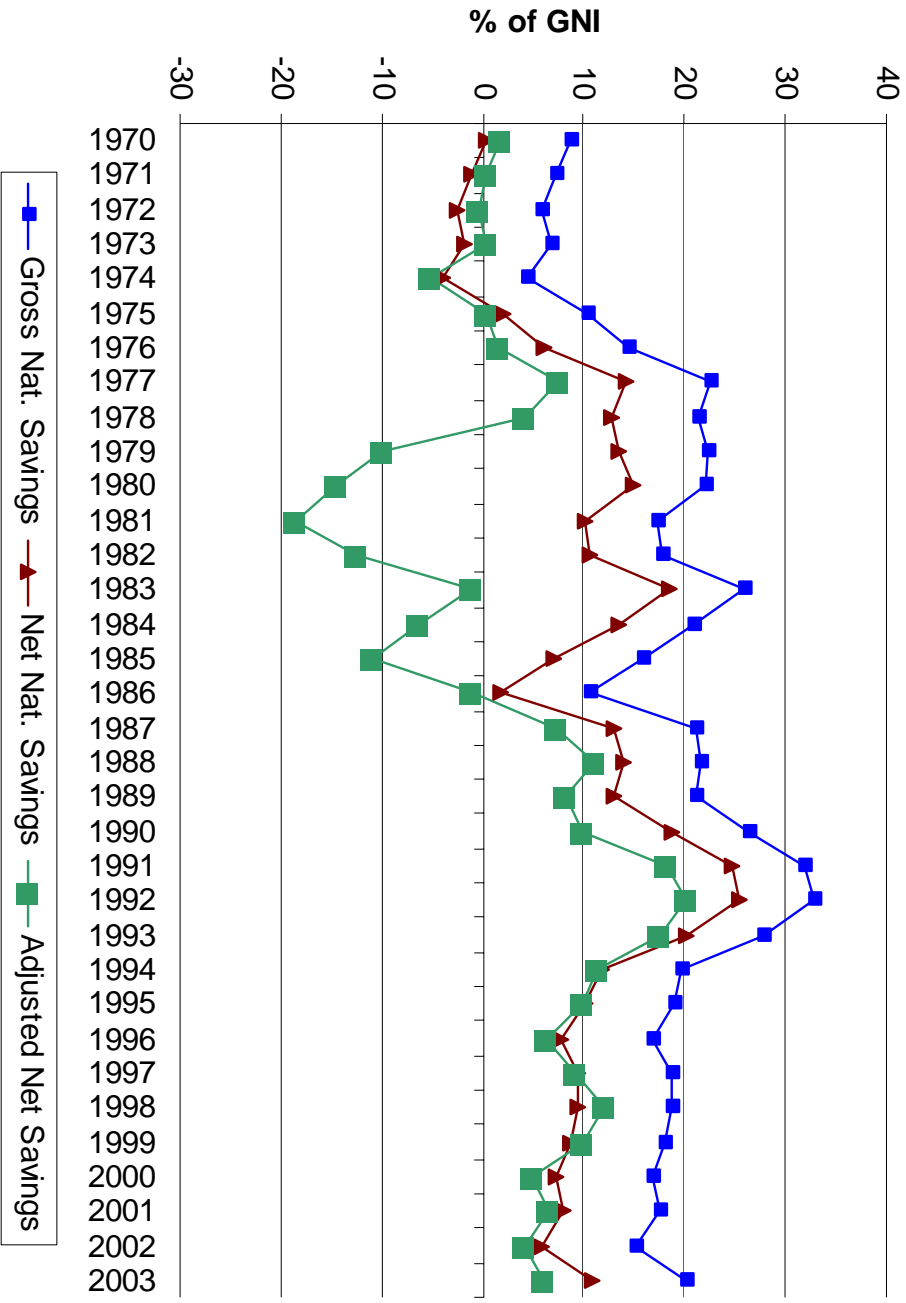


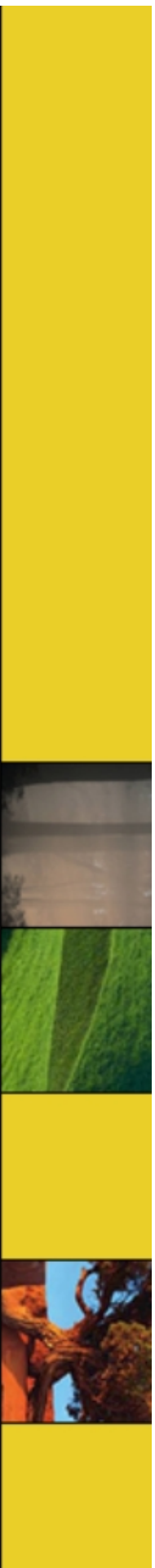
# Adjusted Net Savings (Algeria)



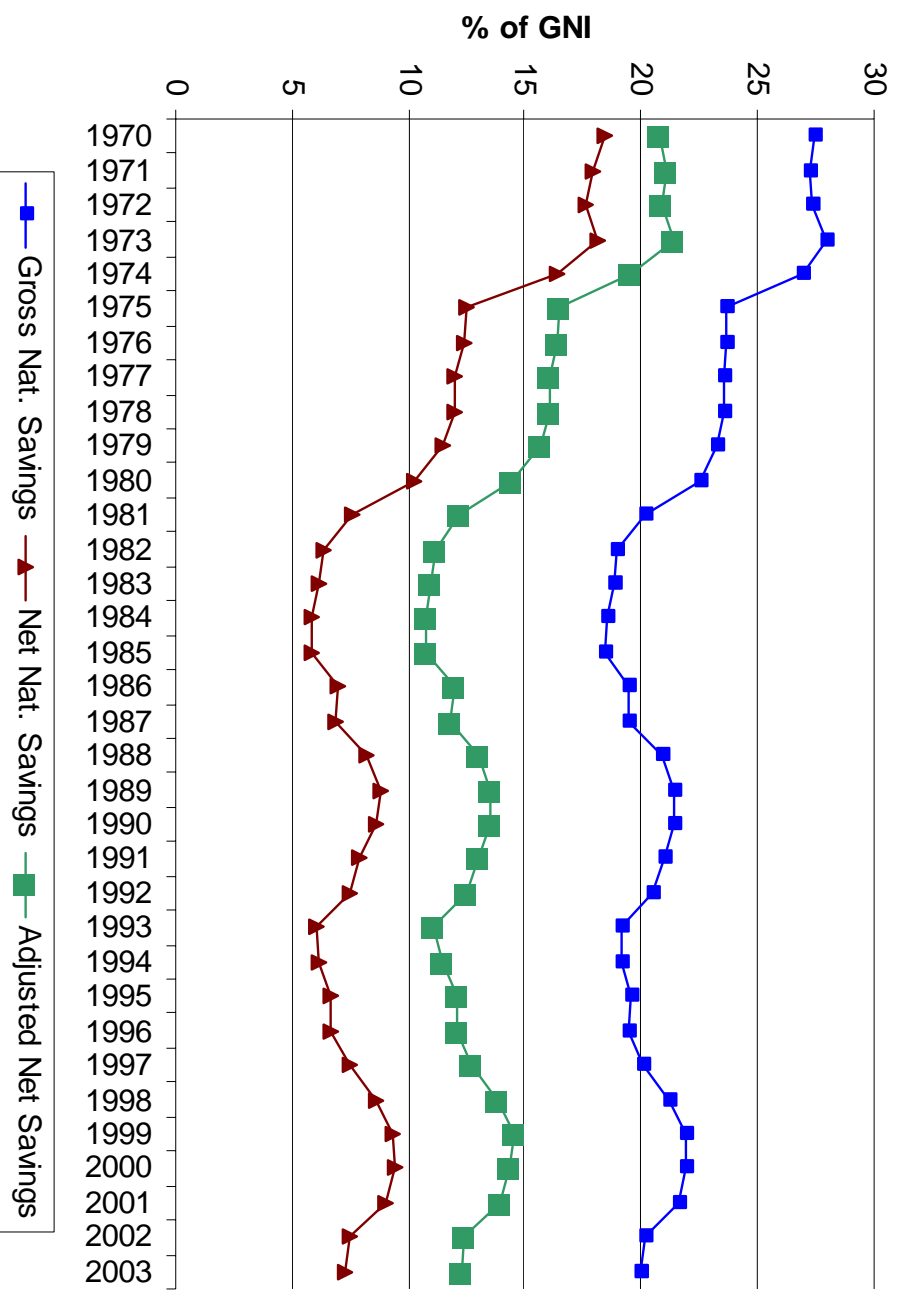


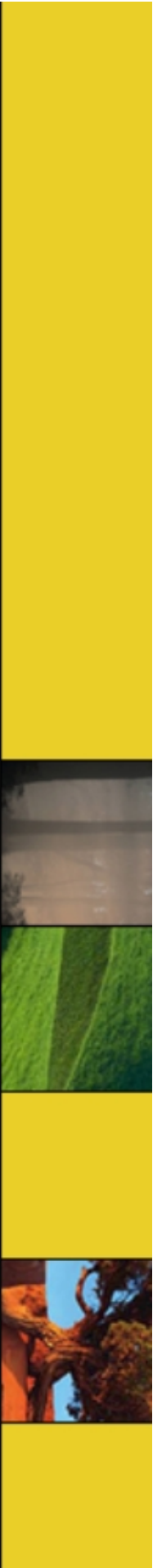
# Adjusted Net Savings (Egypt)



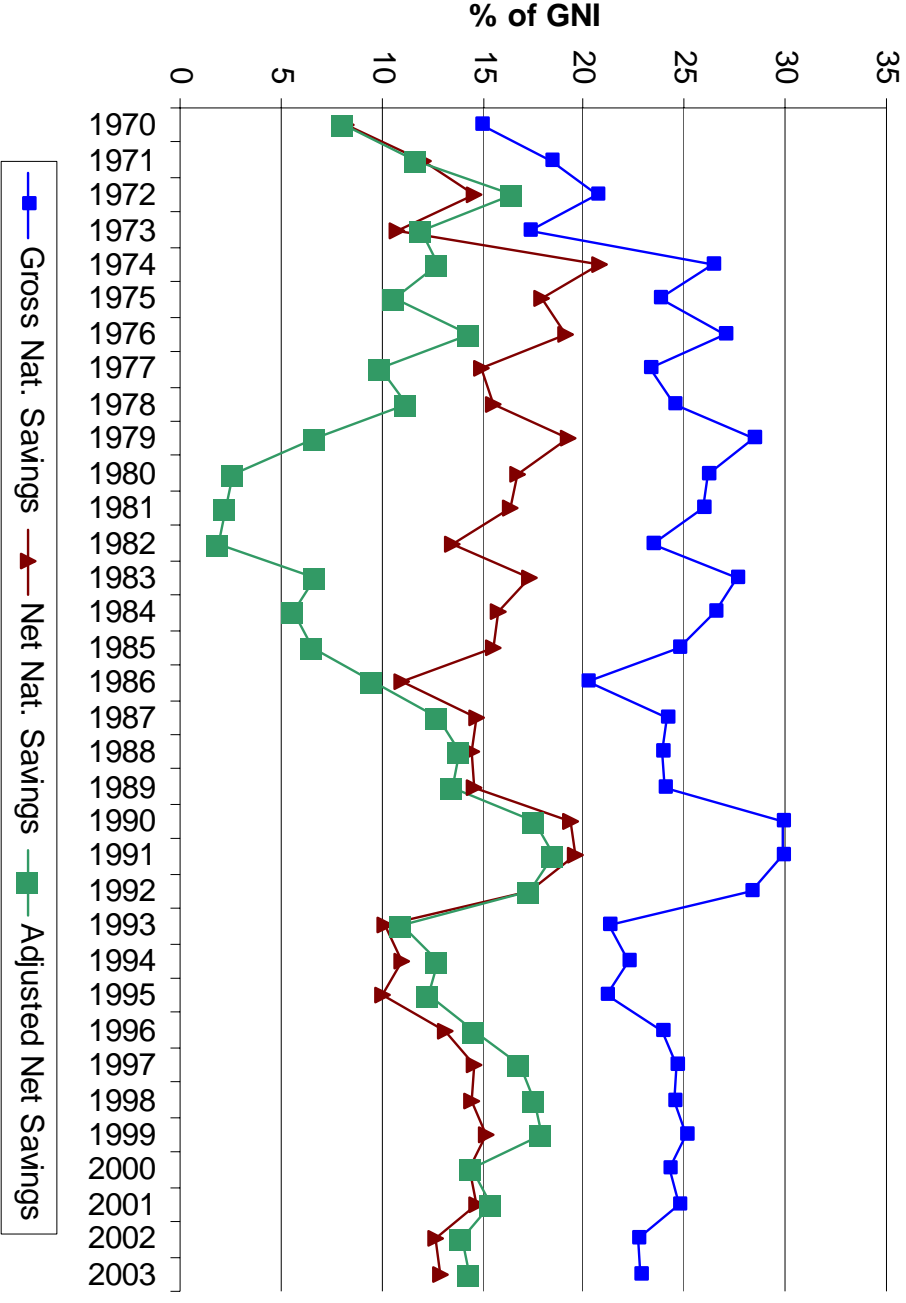


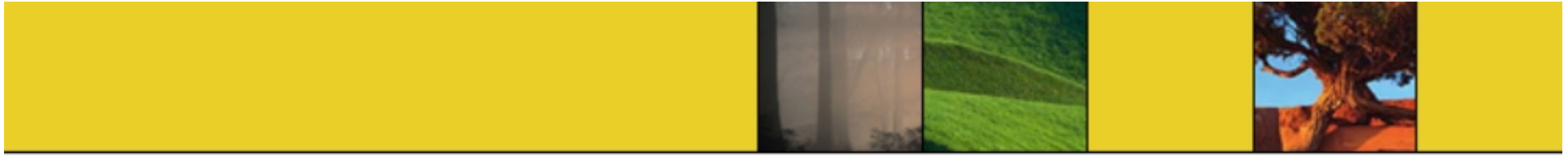
# Adjusted Net Savings (France)





# Adjusted Net Savings (Tunisia)



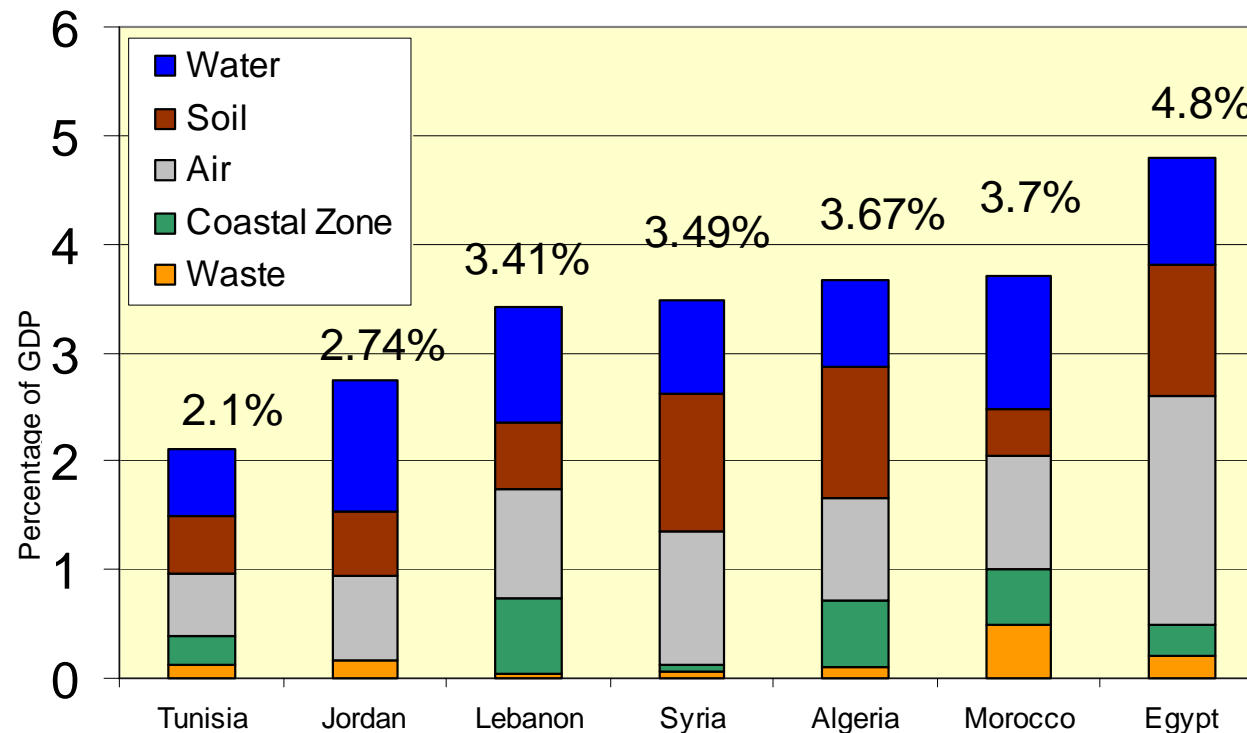


# The open agenda

- Water depletion
- Soil degradation
- Fisheries
- Environmental services (e.g. hydrological functions of forests)

# Good news from the field:

## The cost of environmental degradation diagnostics

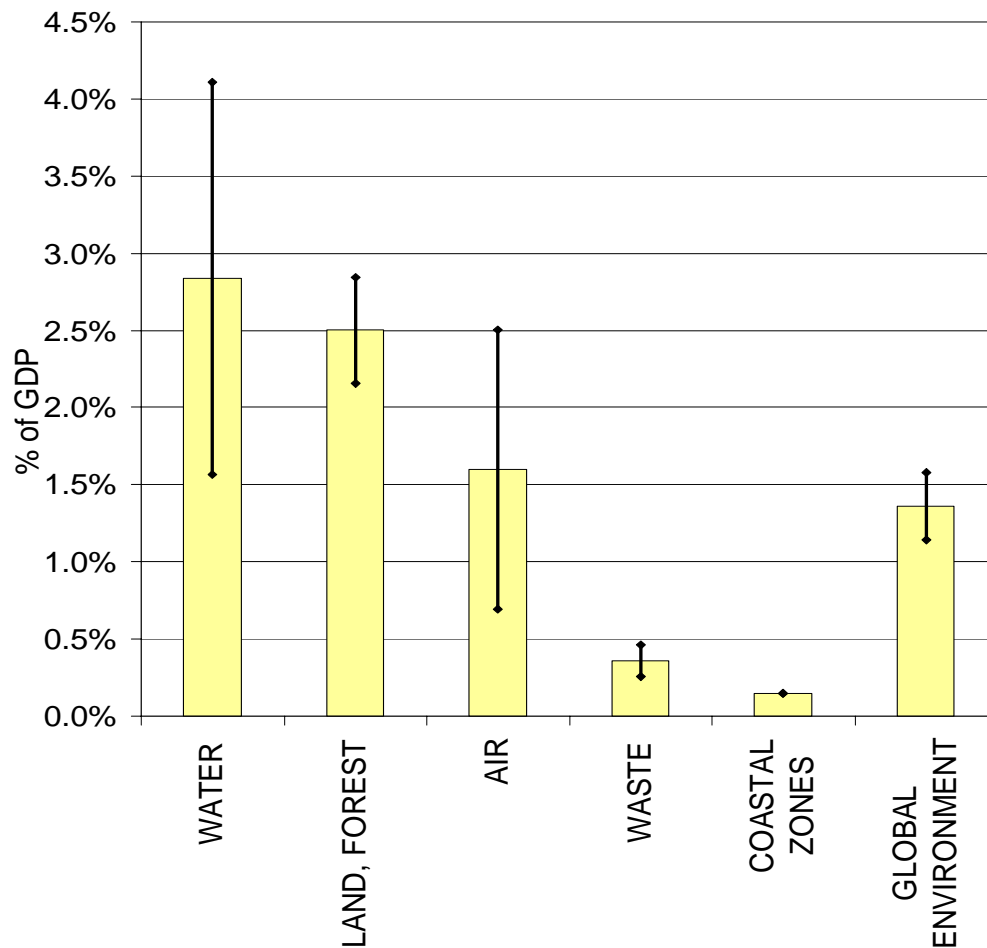




# The Cost of Environmental Degradation: what is the point?

- It allows comparison between various environmental categories (air, water, land, forest, waste etc.)
- It enables comparison with other economic indicators
- It enables comparison between the “benefits” and the “costs” of investing in natural resource management
- It raises awareness about environmental degradation beyond the environment audience
- It gives “environment ministers” a tool to discuss the importance of environmental protection using the same language as ministers of finance.

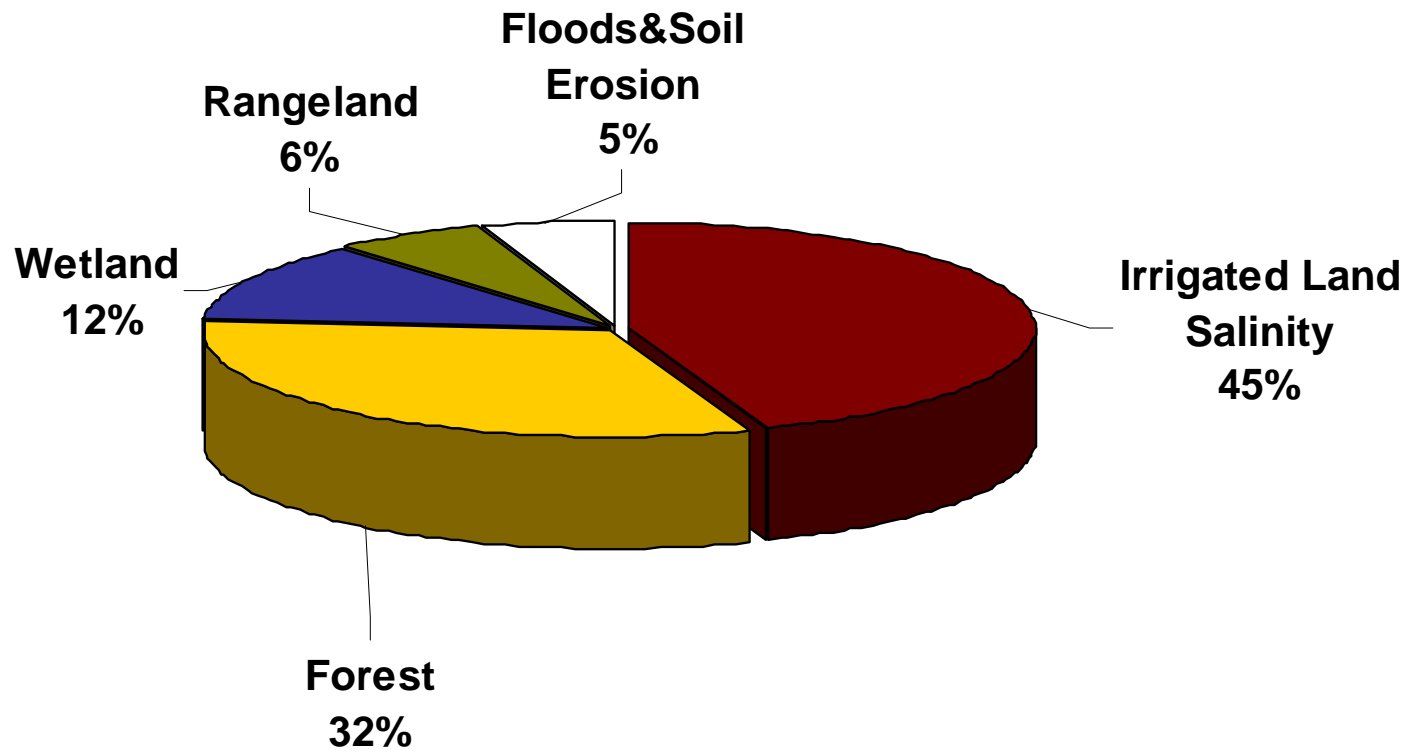
# Cost of environmental degradation (Iran)



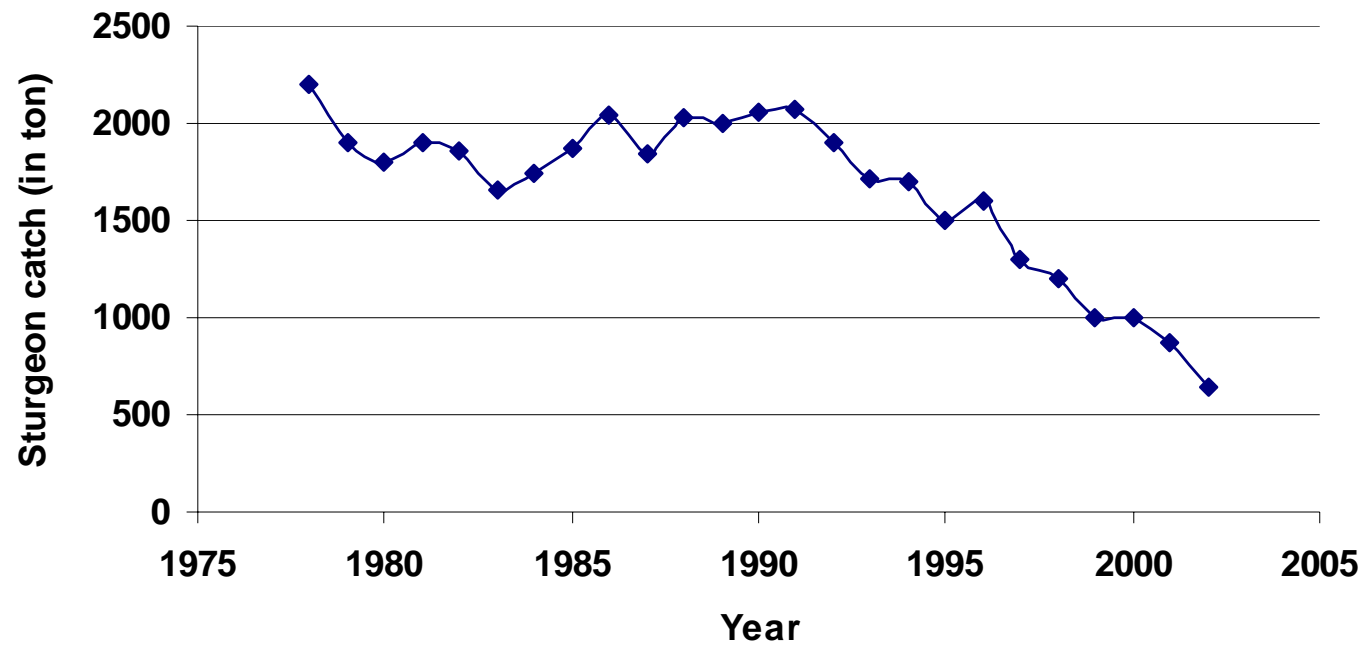
## Details

- Air
  - Health
- Water
  - Health
  - Productivity
- Land
  - Deforestation
  - Salinization
  - Wetland degradation
  - Pasture land erosion
- Coastal zones
  - Fisheries loss
- Solid waste
  - Health / Discomfort
- Global Environment

# Cost of LAND degradation (Iran)



# Cost of fishery degradation (Iran)





# Cost of fishery degradation (Iran)

- An average of 2,500 tons/year is used as the 'best estimate' of potential annual sustainable catch of sturgeon. Under this consideration, the loss of sturgeon catch for year 2002 would be 1,857 tons.
- This is equivalent to a loss of 278 tons of caviar. At an average export price of \$533/kg, this will result in a loss of around US\$ 148 million
- Numerous sturgeon hatcheries were created as mitigation for lost spawning habitat. 85 percent of Iranian sturgeon catches are related to fingerlings release. The production cost of each fingerling is US\$ 0.50. With an average annual release of 22 million, this would result in a total cost of US\$ 11 million.



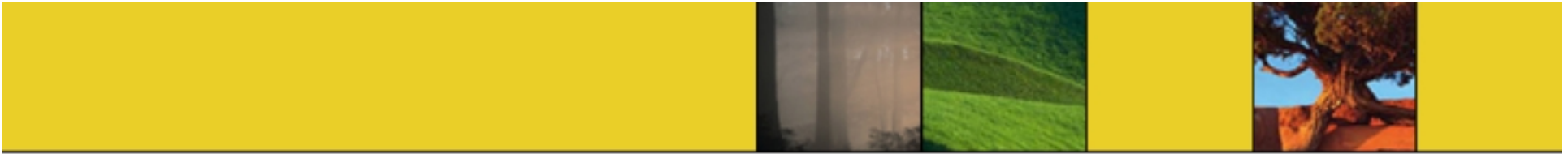
# Comparing ANS and COED

- ANS

1. An attempt to measure sustainability
2. Broad scope (measures changes in different types of wealth)
3. High coverage / Cost effective
4. Many missing issues

- COED

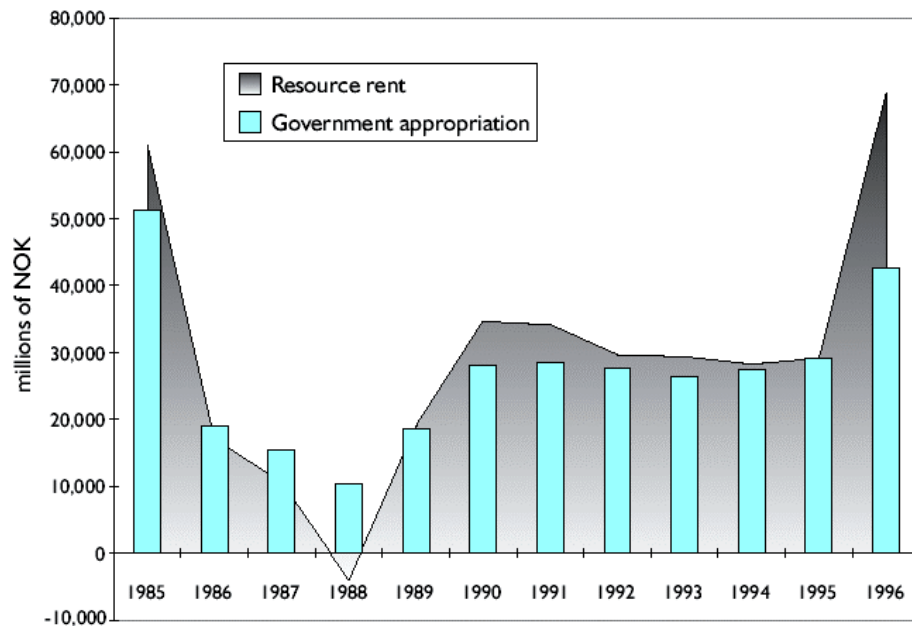
1. Measures the burden to the economy
2. A magnifying lense on environmental issues
3. Still very costly
4. Very comprehensive



# Take home messages

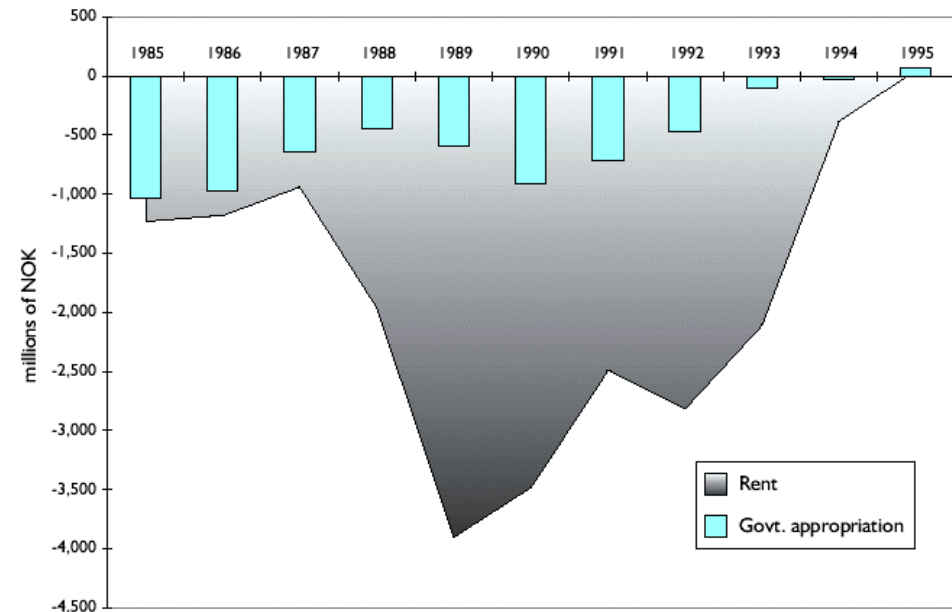
- Natural resource degradation can impose a heavy burden on society
- Environment is not a sector but a theme across sectors
- Environmentalists can speak the language of non-environmentalists
- Economic-based indicators inform the process of asset management (e.g. fiscal policy, price reforms, concessions)
- Conservation is not a hobby... it is business

# Rents from natural resources in Norway



- Oil and gas sector is a major source of public revenues

- Subsidies may be associated with large costs to the economy



Source: Norwegian Central Bureau of Statistics 2000.



Thank you

Questions?

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