# Where has been (is) NCA useful?

*Presentation prepared for the IDB Infrastructure and Environment Sector*

*Juan Pablo Castaneda, GENDR, World Bank*

Turkey, March 9, 2015

WAVES

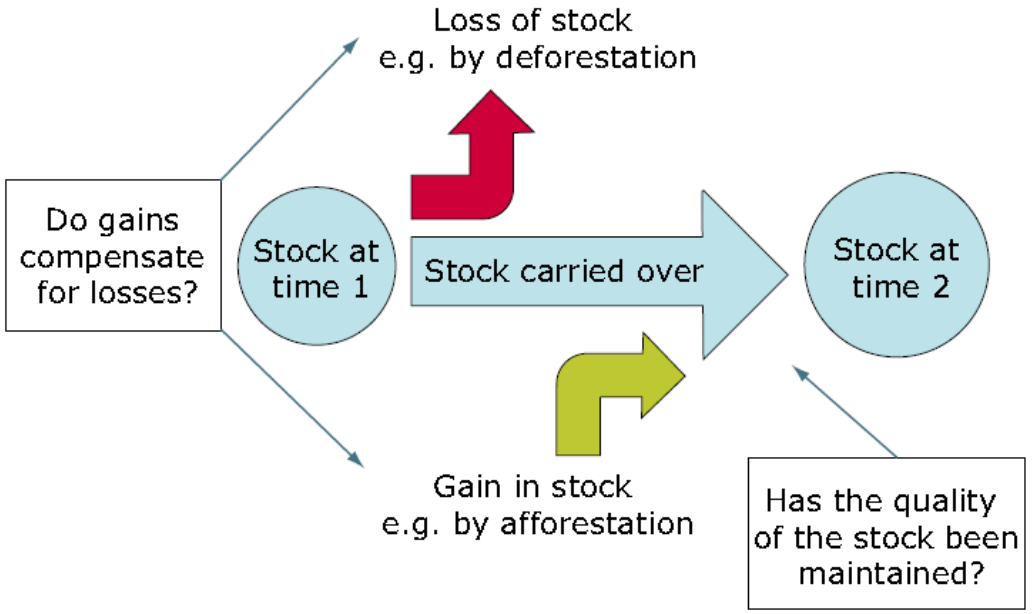
Wealth Accounting and the Valuation of Ecosystem Services
**www.wavespartnership.org**

WORLD BANK GROUP

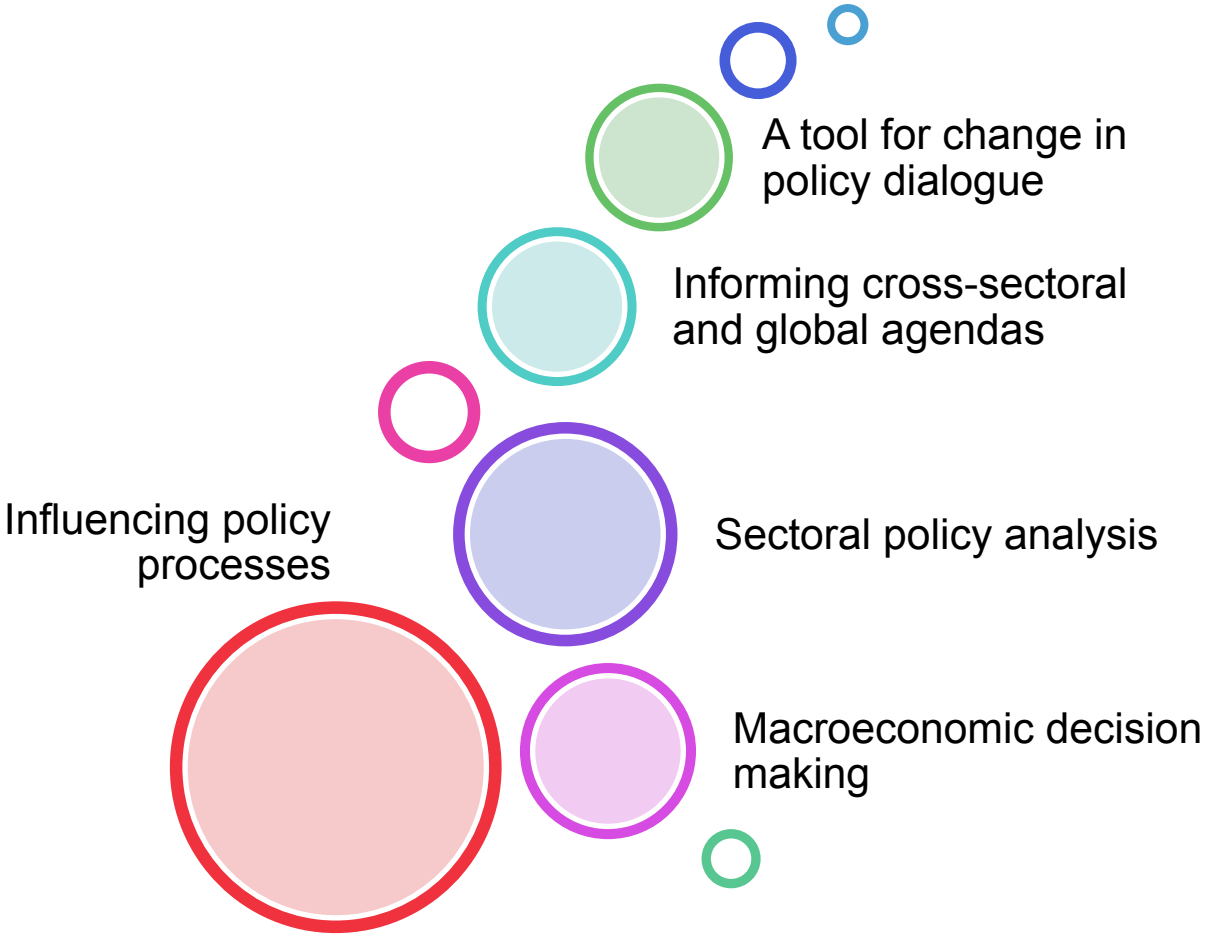
# A short response…

**Scorekeeping** of the sustainability of the system

**Management** of the different assets



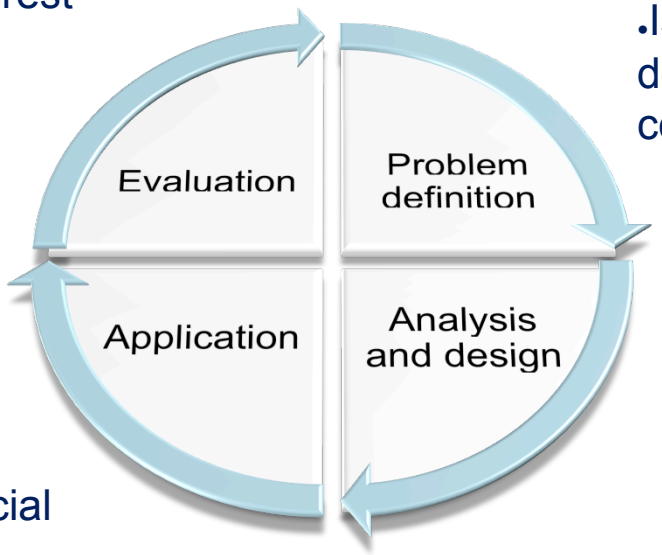
# A longer response…
# Five ways of looking at uses of NCA



# NCA influencing policy processes

# The policy cycle and forests

- Is the policy contributing to sustainability?
- What is the impact of non-forest policies?




- What is the real contribution of forests to the economy?
- What are the linkages between forest and other sectors?
- Is economic growth causing degradation of the resource and could limit future growth?

- How to better allocate financial resources?
- What is the distribution of benefits?

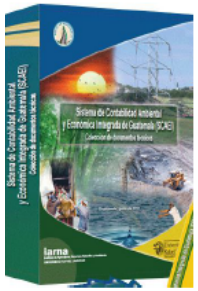
- What are the tradeoffs?
- Who are the stakeholders?
- What are the priorities?
- Local aspects to be considered?

# Guatemala forest policy

SEEA

Forest account

Sectoral studies





Deforestation modelling

Financial tools

Institutional strengthening

National strategies

20 %
Annual budget increase

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National Forest Institute restructure

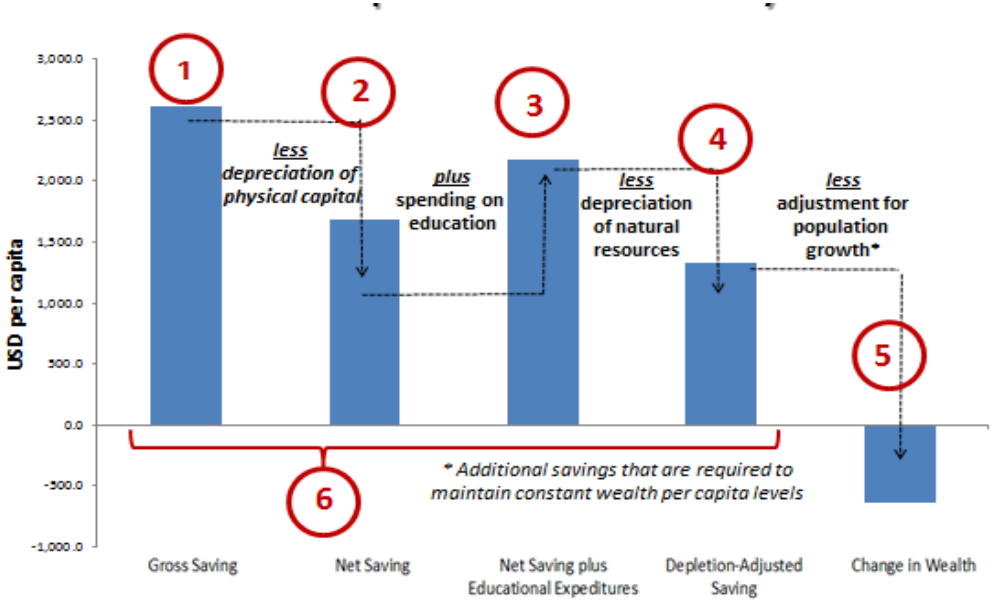
Illegal logging control national strategy

National strategy of fire wood use and production

Source: URL-IARNA, 2014

# NCA and macroeconomic decision making

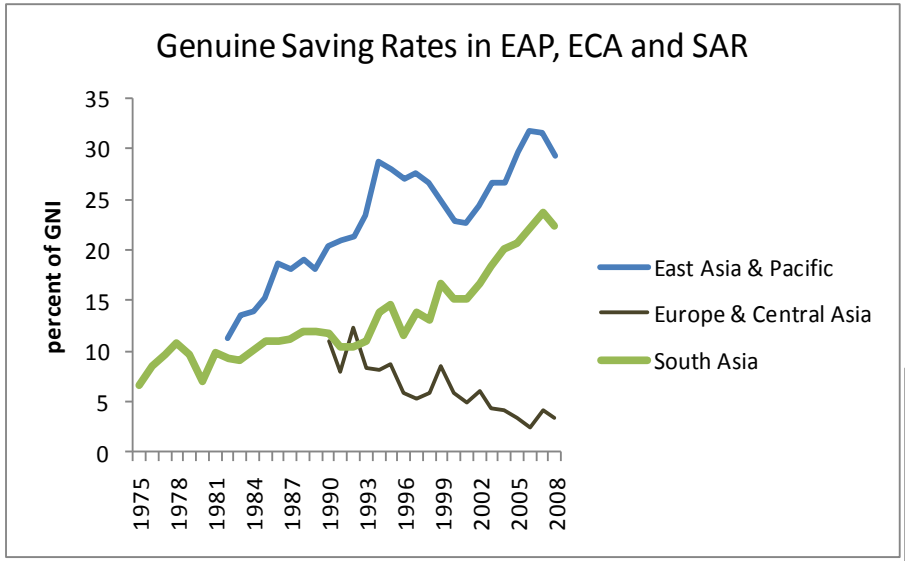
# Improving sustainability in terms of total wealth

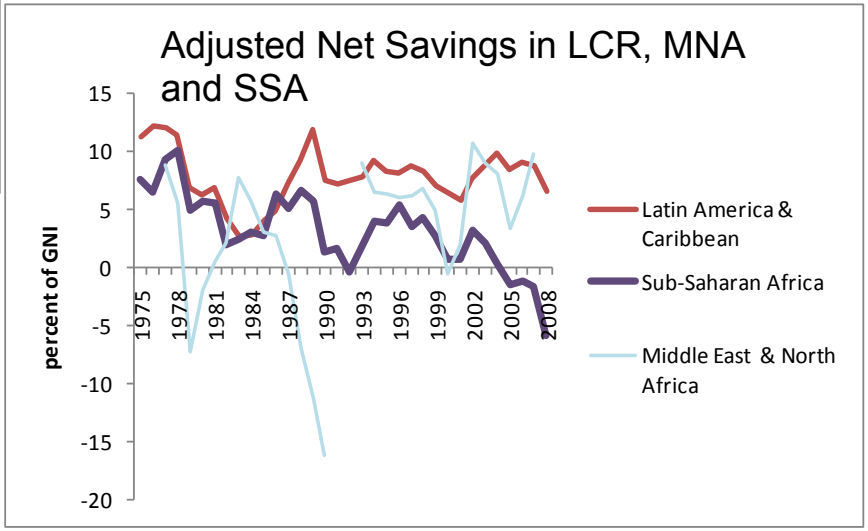



1. **Increase the level of savings**
2. Improve the quality of physical/built capital (with longer economic lives)
3. Increase spending on education and innovation
4. 4a. Invest in the quantity of natural capital (some new resources, such as in mining and fossil fuels, can be discovered and the stock expanded)

   4b. Invest in the quality of natural resources (such as land)
5. Higher population growth rates dilute a country's total wealth.
6. Increase total factor productivity

# Is wealth growing or declining?



# Norway – Sovereign Wealth

## Arguably no other country has embedded natural capital thinking as deeply into its economic policies as Norway:

Norway intentionally sets aside large parts of the rent from the exploitation of its oil reserves

By doing so, it has created the largest sovereign wealth fund in the world – worth $740 billion

This fund is used by Norway to invest in financial and produced assets around the world

These assets are intended to provide a source of income for future Norwegians when their oil resources have been depleted

This is a “textbook” example of the integrated management of all national assets to ensure long term sustainability

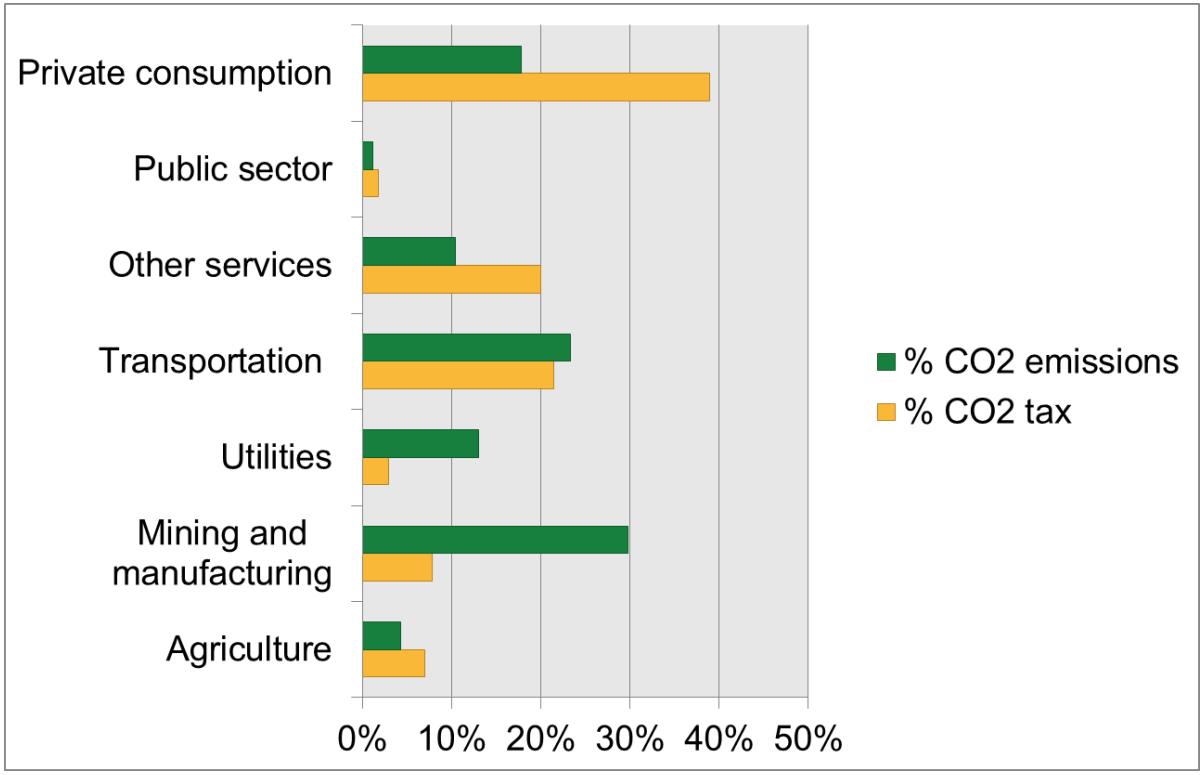
# Germany – Sustainable development strategy

## Environmental accounts play a major role in informing the German National Sustainable Development Strategy

Of the 21 indicators in the strategy, 3 are derived directly from the German environmental accounts and another two are based on a combination of environmental and national accounts data

At the request of the Federal Government, the Federal Statistical Office conducts an analysis of how the indicators have changed since the last report and of the progress made in achieving the specified goals

# Sweden: Taxes on emissions



# Australia: The impacts of water reform

## Benefits from Water Policy Reform:

## Pricing Reform

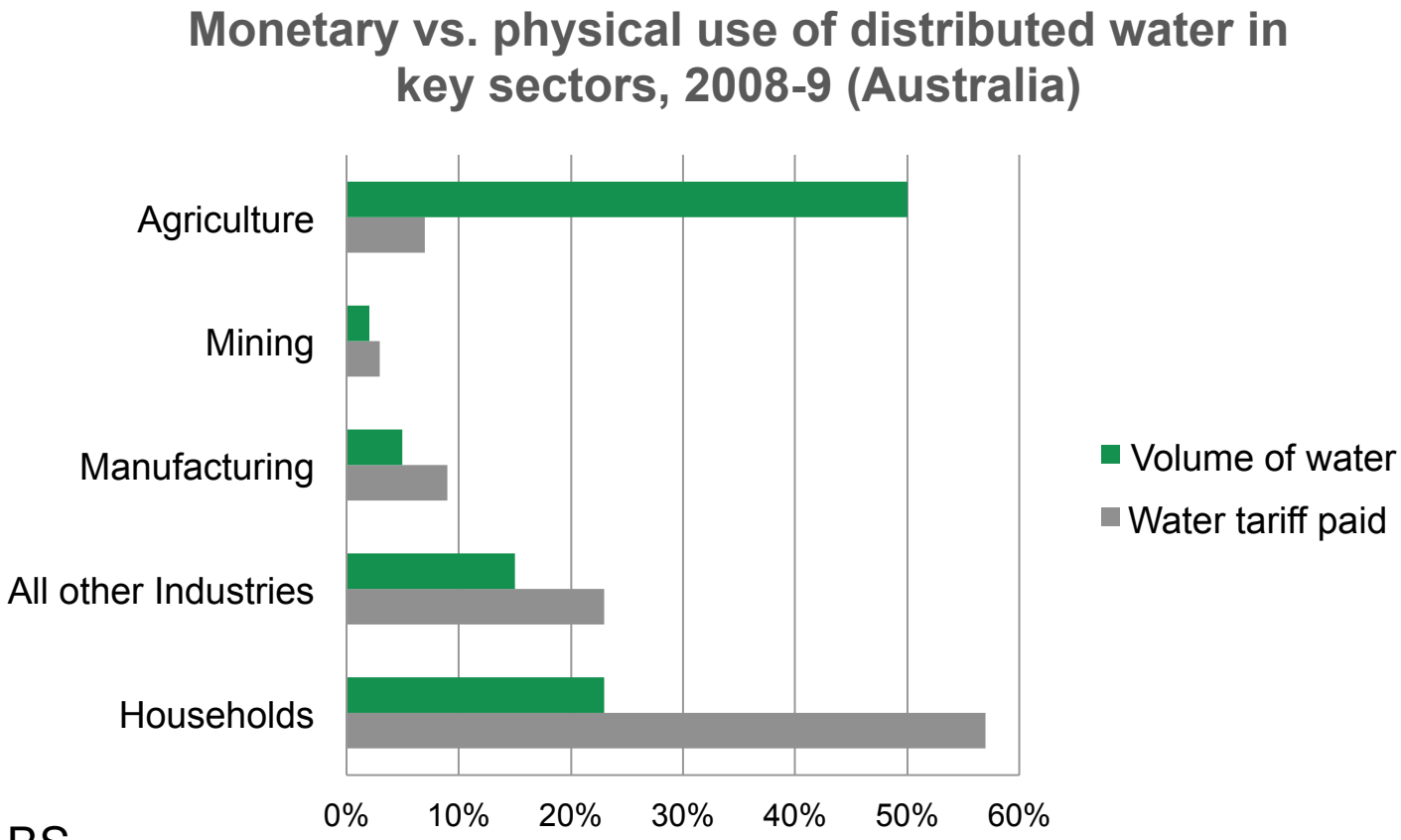
**Murray-Darling River Basin Australia**

**Based on historical water use & price data, simulated impact on GDP of doubling water prices and the expected increases in water use efficiency (WUE) of 1-2%**

| | Increase in GDP, A$million | |
|---|---|---|
| | 1% increase WUE | 2% increase WUE |
| Irrigated agriculture | -24 | 78 |
| Dryland agriculture | -51 | -112 |
| Food and fibre processing | 44 | 97 |
| Other industries | 262 | 410 |
| Total impact on GDP | 253 | 521 |

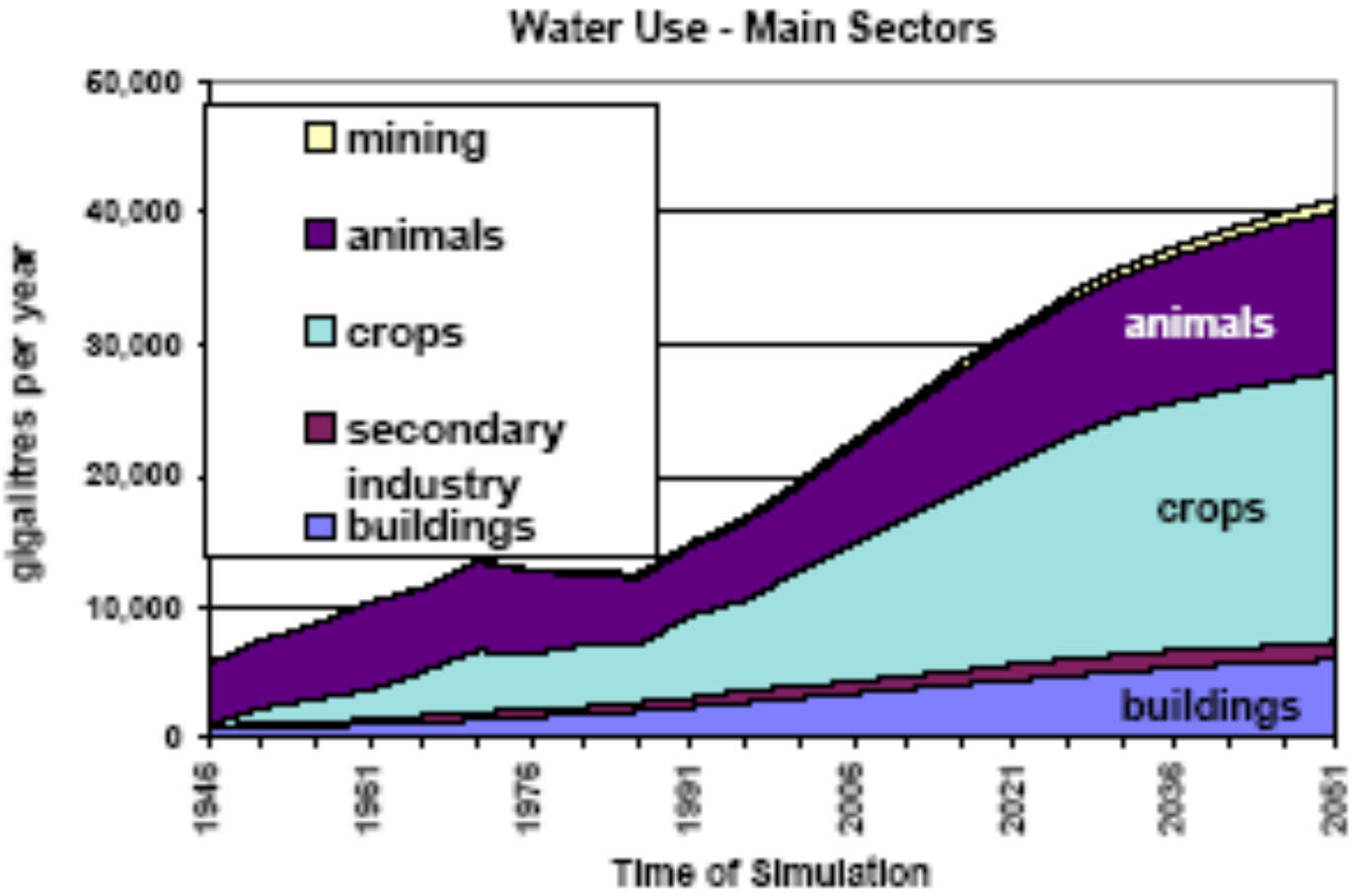
# NCA and sectoral policy analysis

# Australia:
# Who uses water and who pays for water?



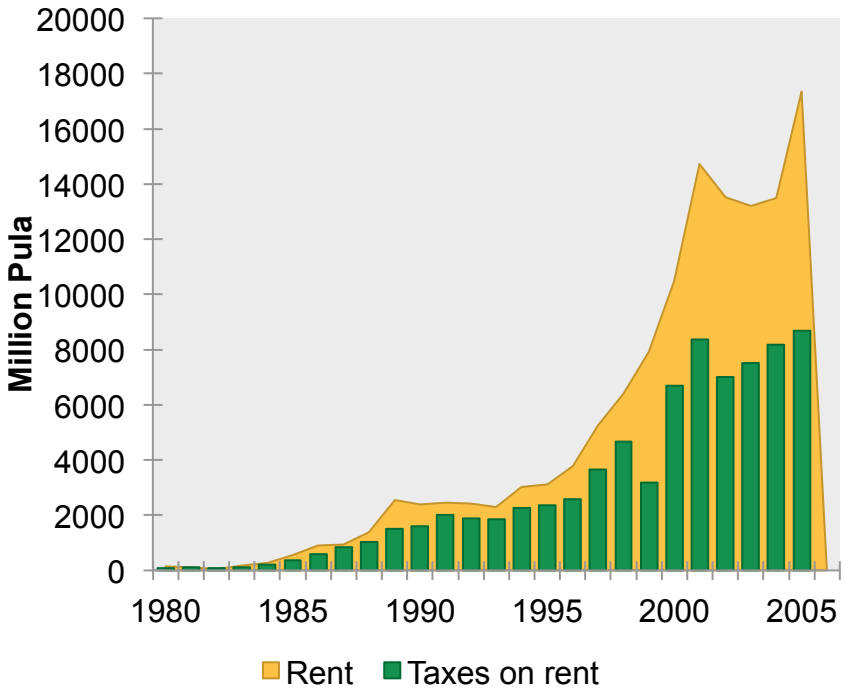

Source: ABS

# Australia: Protecting future water demands



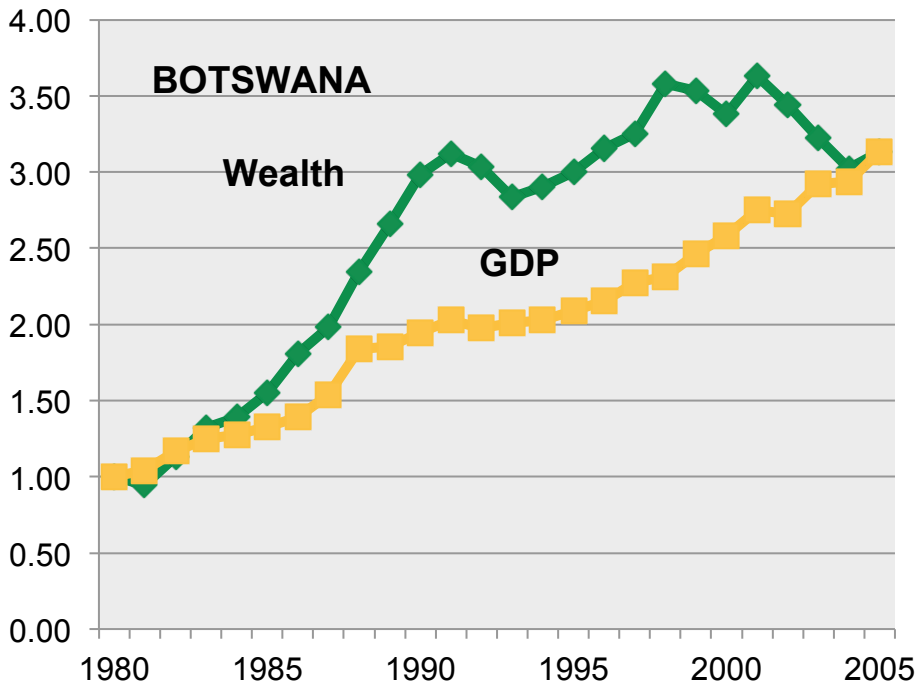
# Mineral accounts – Botswana

## 1. Botswana government recovers mineral revenues ("rent")




## 2. The investment of mineral revenues builds wealth and income

(index of real, percapita growth in wealth, GDP)



# Vietnam: The value of forests

**Account 1: Economic value of forest services**

Unit: billion dong

| | Indicators | 2010 | | 2011 | | 2012 | |
|---|---|---|---|---|---|---|---|
| | | 2010 constant price | current price | 2010 constant price | current price | 2010 constant price | current price |
| Provisioning | **1. Tangible values - Forest products** | **14,948** | **14,948** | **16,161** | **18,844** | **17,602** | **22,611** |
| | 1.1 Timber | 6,549 | 6,549 | 7,601 | 8,614 | 8,507 | 10,549 |
| | 1.2 Firewood | 3,704 | 3,704 | 2,921 | 3,289 | 3,880 | 4,810 |
| | 1.3 Bamboo and other similar things | 2,478 | 2,478 | 2,483 | 2,796 | 3,469 | 4,603 |
| | 1.4 Food | 248 | 248 | 205 | 239 | 299 | 396 |
| | 1.5 Other NTFP | 1,969 | 1,969 | 2,951 | 3,906 | 1,447 | 2,253 |
| Regulating | **2. Tangible values - Forest environmental services** | **8,328** | **8,328** | **8,284** | **9,395** | **8,729** | **10,547** |
| | 2.1 Tourism/recreation | 36 | 36 | 44 | 46 | 48 | 60 |
| | 2.2 Watershed protection | 81 | 81 | 254 | 282 | 949 | 1,172 |
| | 2.3 Coastal protection (a) | 2,197 | 2,197 | 1,963 | 2,183 | 1,672 | 2,065 |
| | 2.4 Carbon sequestration | 6,014 | 6,014 | 6,023 | 6,884 | 6,060 | 7,250 |
| Cultural | **3. Intangible values** | **…** | **…** | **…** | **…** | **…** | **…** |
| | 3.1 Landscape values (a) | … | … | … | … | … | … |
| | 3.2 Forest biodiversity protection (a) | … | … | … | … | … | … |
| | 3.3 Cultural values (a) | … | … | … | … | … | … |
| | **Total economic value** | **23,276** | **23,276** | **24,445** | **28,239** | **26,331** | **33,158** |

(a) While it is possible to assign values to these items, estimates are not yet available.

**DATA SOURCE: GSO, MARD, VAFS**

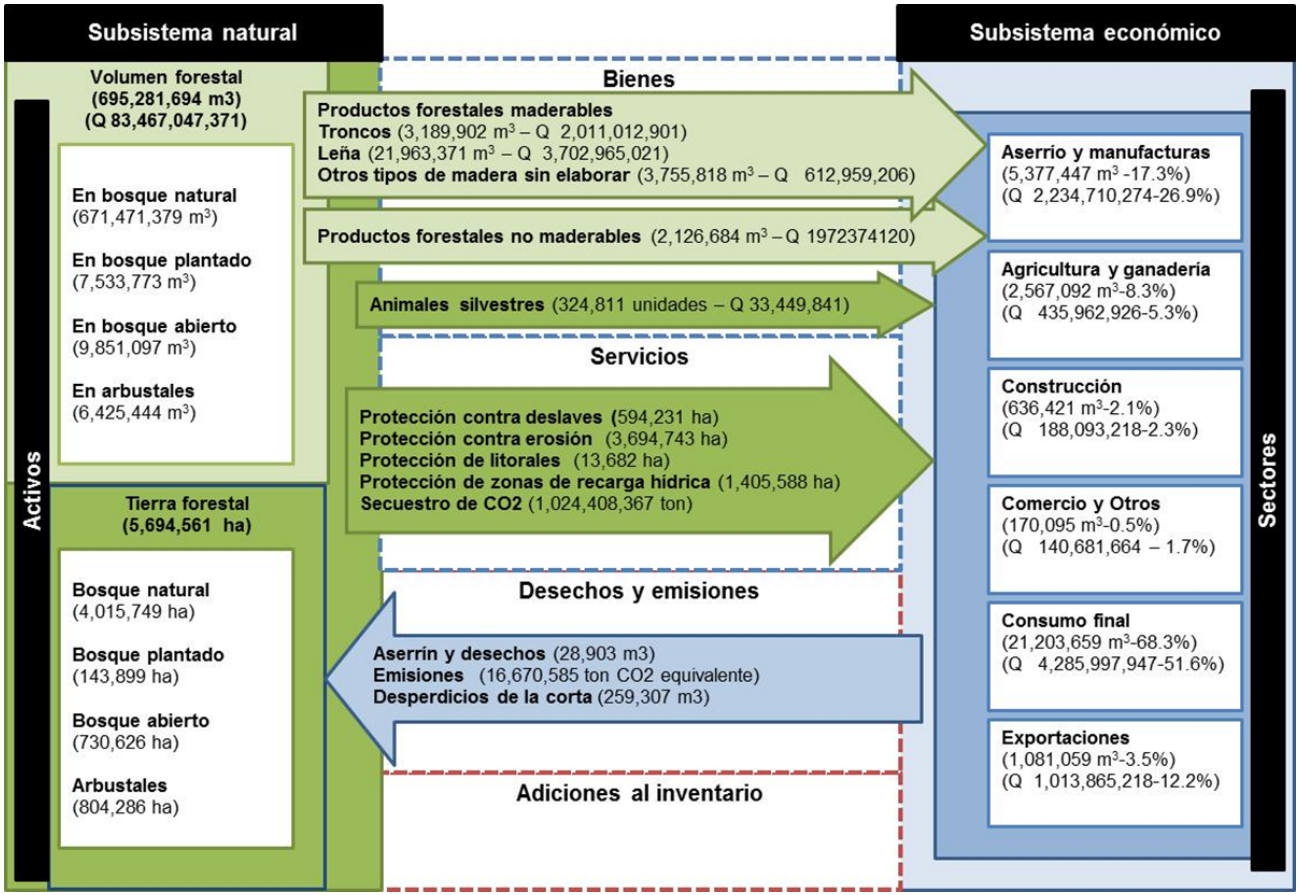
# Thailand: Making informed decisions

**MARKET value of mangrove:**
**under current use**
**$864** per ha (timber and non-timber)

**Additional NON-MARKET value:**
**$16,861** per ha--Coastal protection from storms

**MARKET value of mangrove:**
**if converted to shrimp farm**
**$9,632** per ha (shrimp)

# Guatemala: The forest economy



# NCA and cross-sectoral / global agendas

# Bangladesh: Climate change impacts on food security

Results:

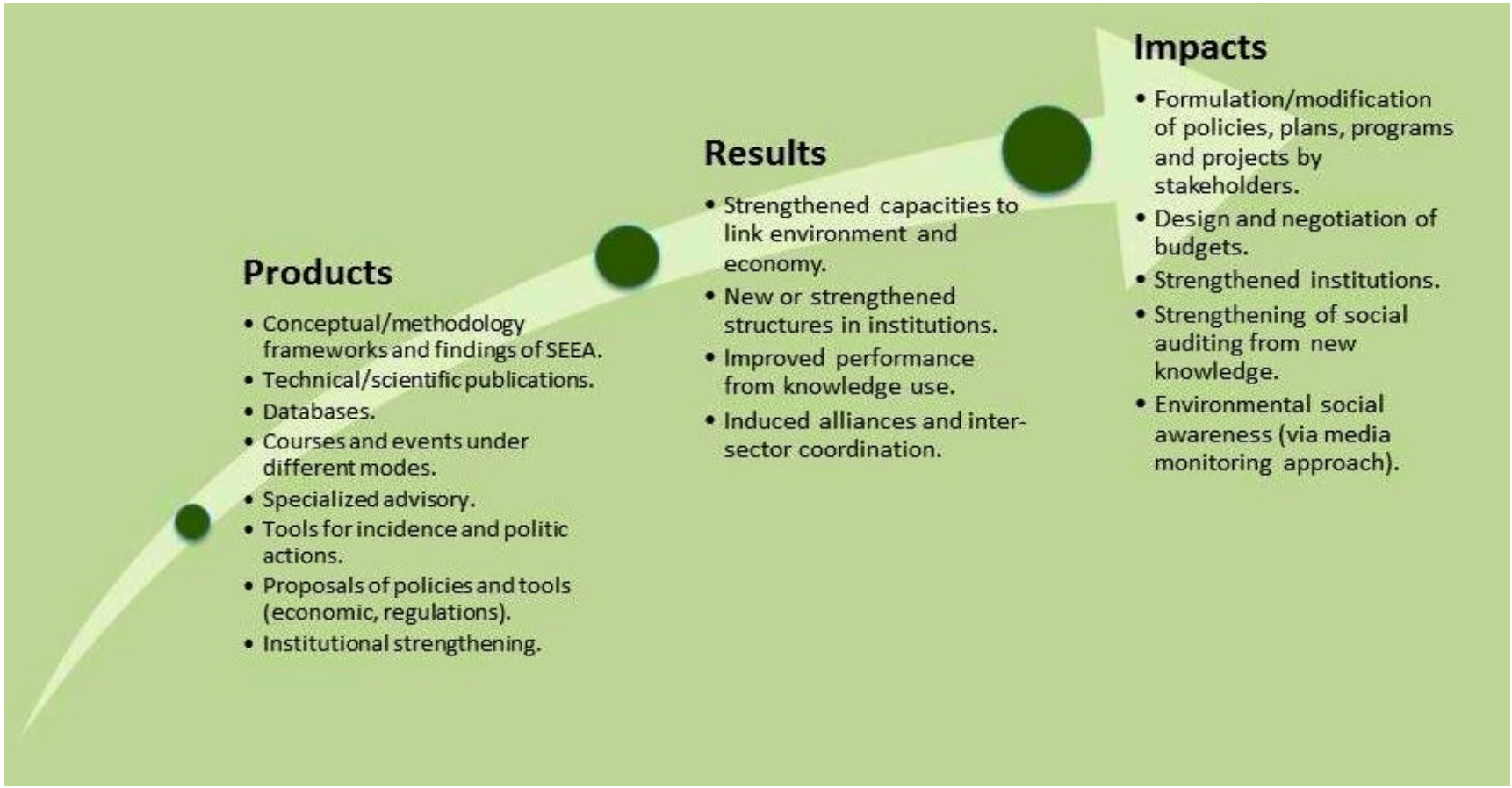
- National-level impacts were small reducing GDP by 0.11% or US $81.2M in 2030.
- Caloric consumption was 17% less; some households remained food insecure.
- Factor reallocation to manufacturing.
- Greater dependence on agricultural imports.

Difference in AAGR (%) from baseline

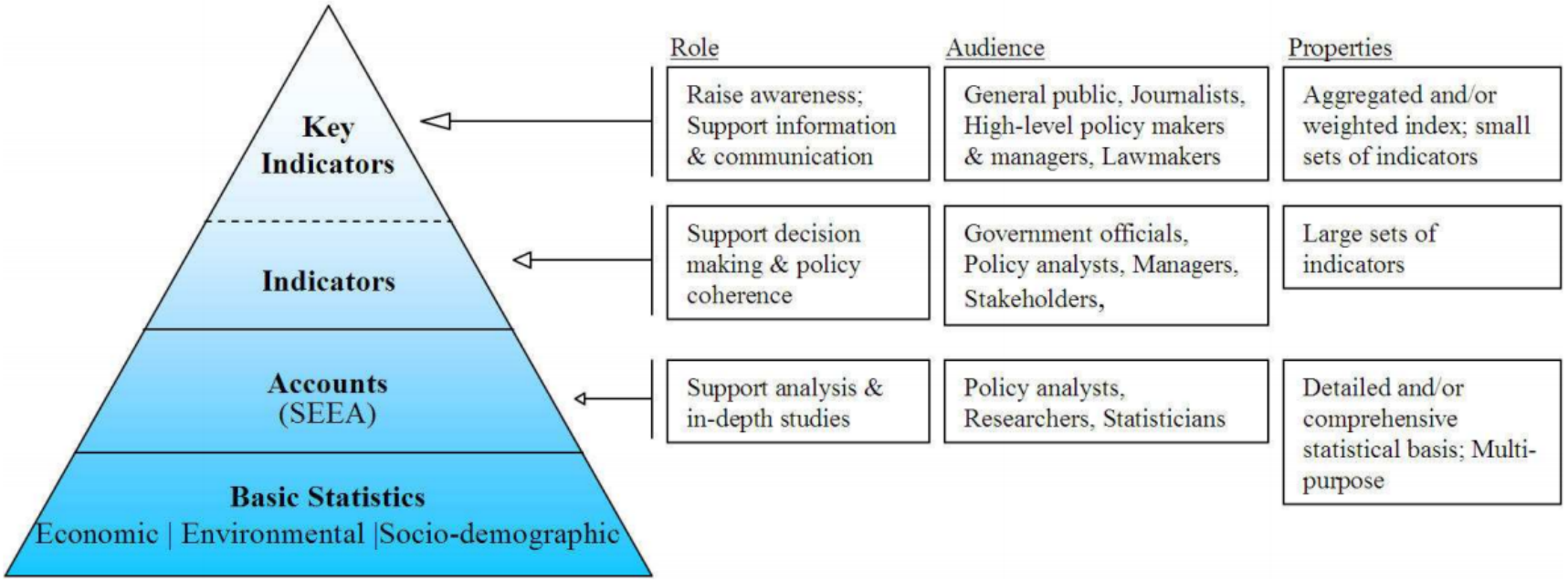
| Indicator | Sealevel rise | Paddy yield | Wheat yield | Joint impact |
|---|---|---|---|---|
| Private consumption | -0.0036 | -0.0130 | 0.0001 | -0.0165 |
| Fixed investment | 0.0057 | 0.0071 | 0.0001 | 0.0129 |
| Exports | 0.0125 | 0.0168 | -0.0001 | 0.0293 |
| Imports | 0.0120 | 0.0162 | -0.0001 | 0.0282 |
| GDP | 0.0001 | -0.0049 | 0.0001 | -0.0047 |

# NCA as a tool for change in policy dialogue

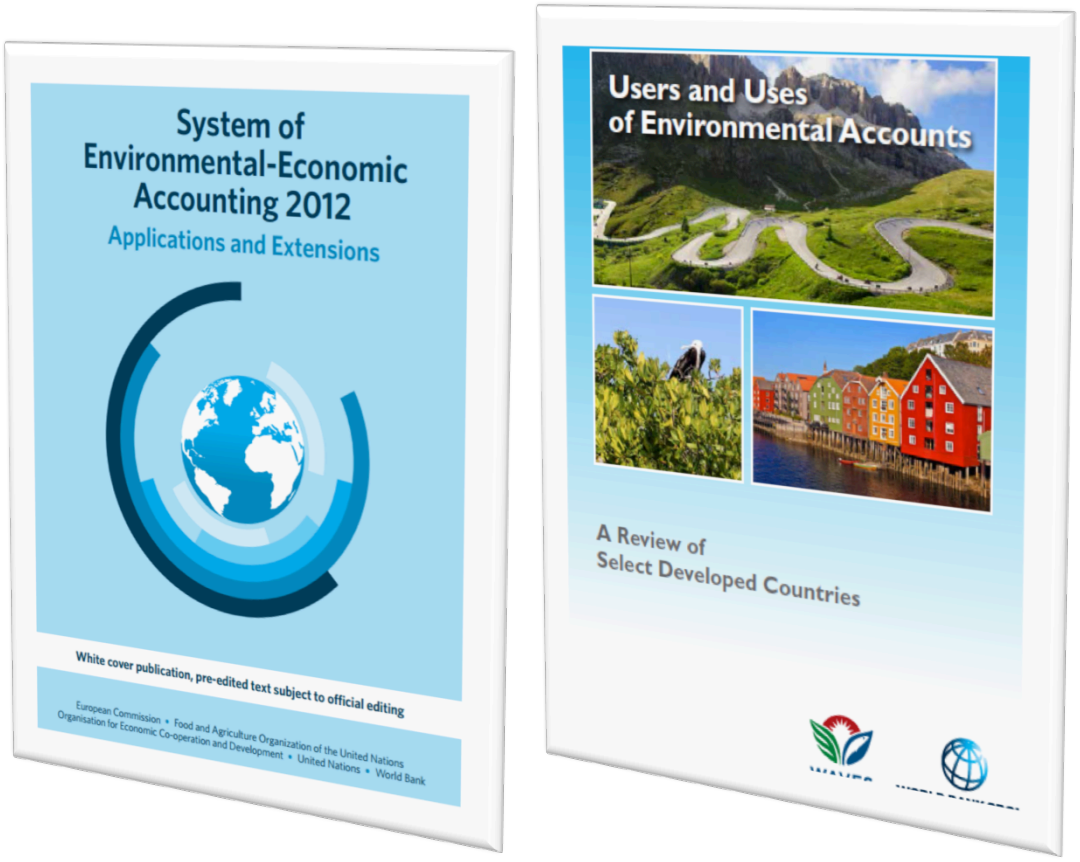
# NCA as a tool for change



# From basic statistics to accounts to indicators



# Thank you!


System of Environmental-Economic Accounting 2012
Applications and Extensions
White cover publication, pre-edited text subject to official editing
European Commission • Food and Agriculture Organization of the United Nations
Organisation for Economic Co-operation and Development • United Nations • World Bank
Users and Uses of Environmental Accounts
A Review of Select Developed Countries