



Policy uses in developing countries: Where has NCA been useful?

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Date: October 15, 2015



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



WAVES Global engagement

1. **Policy Applications of NCA** and Methodology
Development of Ecosystem Accounting
2. Engagement with private sector initiatives
3. Communications



NCA in action



Wealth Accounting *and the* Valuation of Ecosystem Services

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Natural Capital Accounting in Action

Natural capital accounts show how natural resources contribute to the economy and how the economy affects natural resources. The accounts are an extension of National Accounts, integrating natural resources and economic analysis, providing a

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national policies and translate into action on the ground.

Great Barrier Reef

is as vast and complex as the Great Barrier Reef? Or any other human pressures over time? The application of natural capital methods to ecosystems and protected areas, currently being piloted in a network to do this. It could provide systematic data, comparable over time, to inform decisions by protected area managers and political decision makers on development and climate change contexts.

Natural Capital Accounting in Action

Australia's pilot ecosystem accounts for the Great Barrier Reef

How do you manage an area as vast and complex as the Great Barrier Reef? For any other landscape subject to different human pressures over time? The application of natural capital accounting and valuation methods to ecosystems and protected areas, currently being piloted in Australia, offers a useful framework to do this. It could provide systematic data, comparable over time, to inform decisions by protected area managers and political decision makers on development and climate change contexts.

In brief

- Australia is piloting ecosystem accounts for the Great Barrier Reef and its watersheds.
- Given that the Great Barrier Reef is a World Heritage Site, it is important to develop the accounting framework carefully and ensure indicators that matter most.
- The challenge of extreme weather connected to climate change poses acute risks for the Great Barrier Reef. Regional management based on data produced systematically in ecosystem accounts.

Assessing reef health, pressures and prospects

The Australian Bureau of Statistics is piloting a set of ecosystem accounts for the Great Barrier Reef and its watersheds. This work is testing the system of Environmental Accounting (SEA) for ecosystem accounts. SEA is a framework in which data is rich in detail and practical lessons for other countries. Australia's efforts in data and practical lessons for other countries. The first set of accounts, to be published in April 2016, will be directly applicable to reef management.

A World Heritage Site, the reef is thought to provide a habitat for over 1,000 fish species, 350 varieties of corals and rays, and

Natural Capital Accounting in Action

Sweden's carbon accounting informs its carbon tax policy

As Swedish policymakers put together a climate bill, they relied on economic models to pinpoint policies that would reduce greenhouse gas emissions while minimizing costs to GDP, employment and growth. At the heart of this analysis was Sweden's sector-by-sector accounting of economic accounts. The emissions and energy accounts enabled detailed modeling of alternative proposals, which led to a finely tuned policy package with significant cost savings.

In brief

- Sweden has been compiling CO₂ emissions accounts for all economic sectors since 1993.
- The accounts are integrated with other economic data, allowing the government to assess the impact of policy options on the economy and environment.
- The emissions accounts are used to inform the government's climate policy and to monitor progress towards its targets.

Integrating environment and economy

Integrating environment and economy accounts allows decision makers to see the full impact of economic activities on the environment and vice versa. This is crucial for developing policies that balance economic growth with environmental protection.

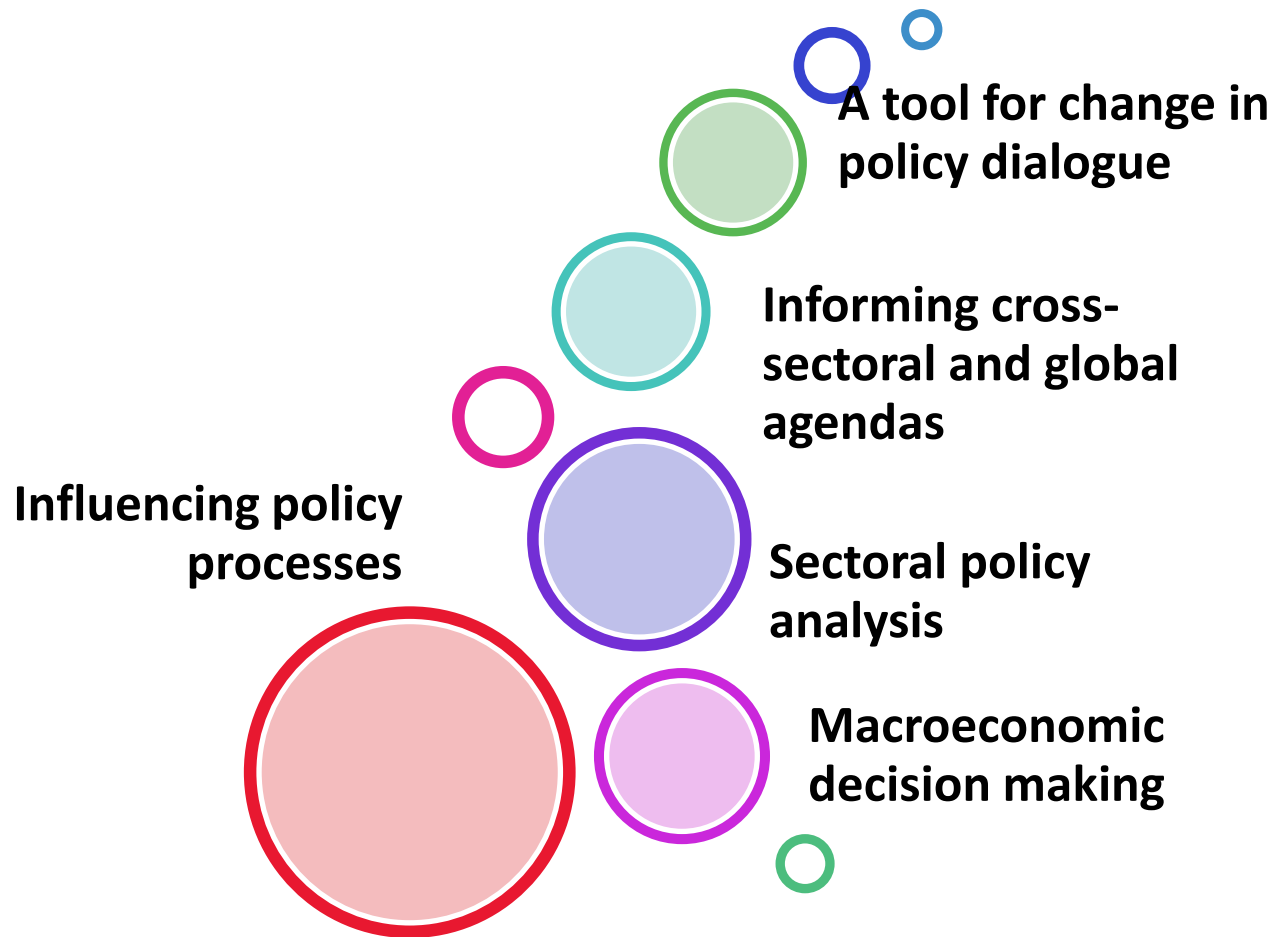


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24February2015

Five ways of looking at uses of NCA

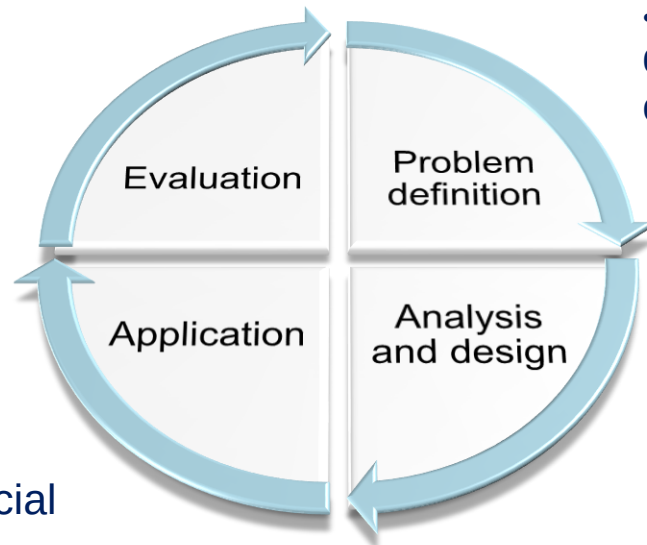


NCA influencing policy processes



The policy cycle and forests

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



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

- .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?

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

Guatemala forest policy

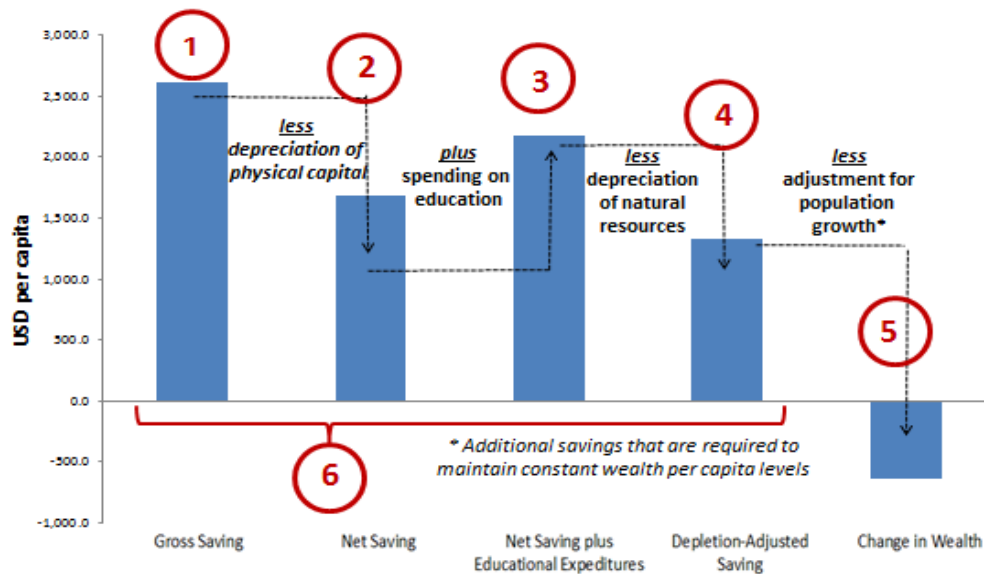


Source: URL-IARNA, 2014

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

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)

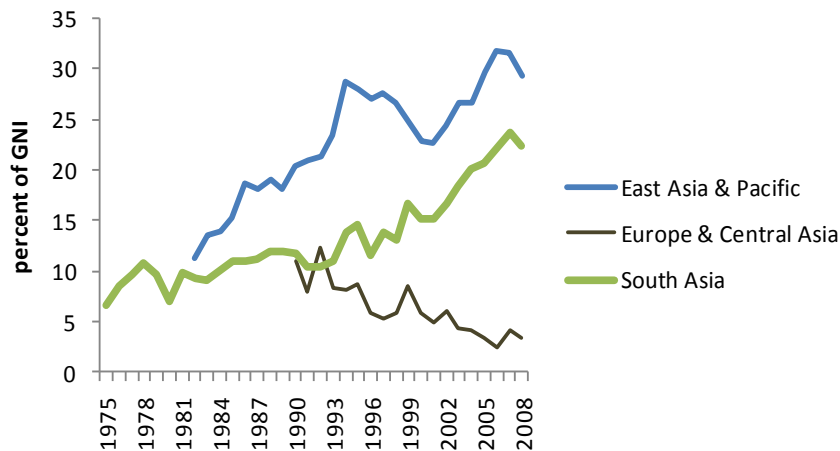
4b. Invest in the quality of natural resources (such as land)

5. Higher population growth rates dilute a country's total wealth.

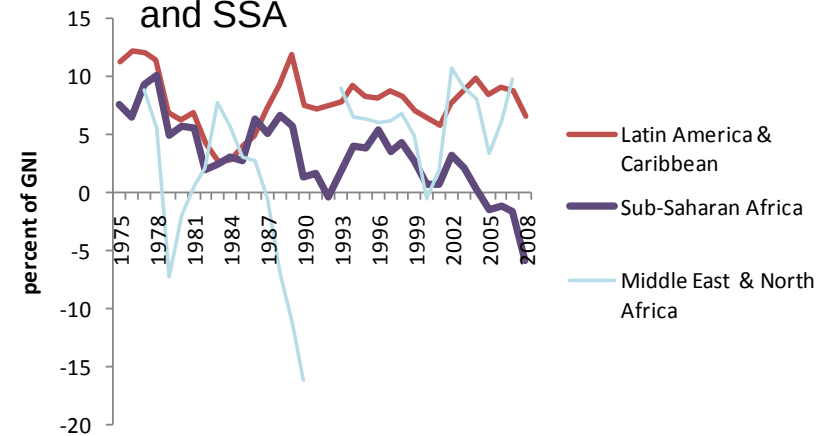
6. Increase total factor productivity

Is wealth growing or declining?

Genuine Saving Rates in EAP, ECA and SAR



Adjusted Net Savings in LCR, MNA and SSA

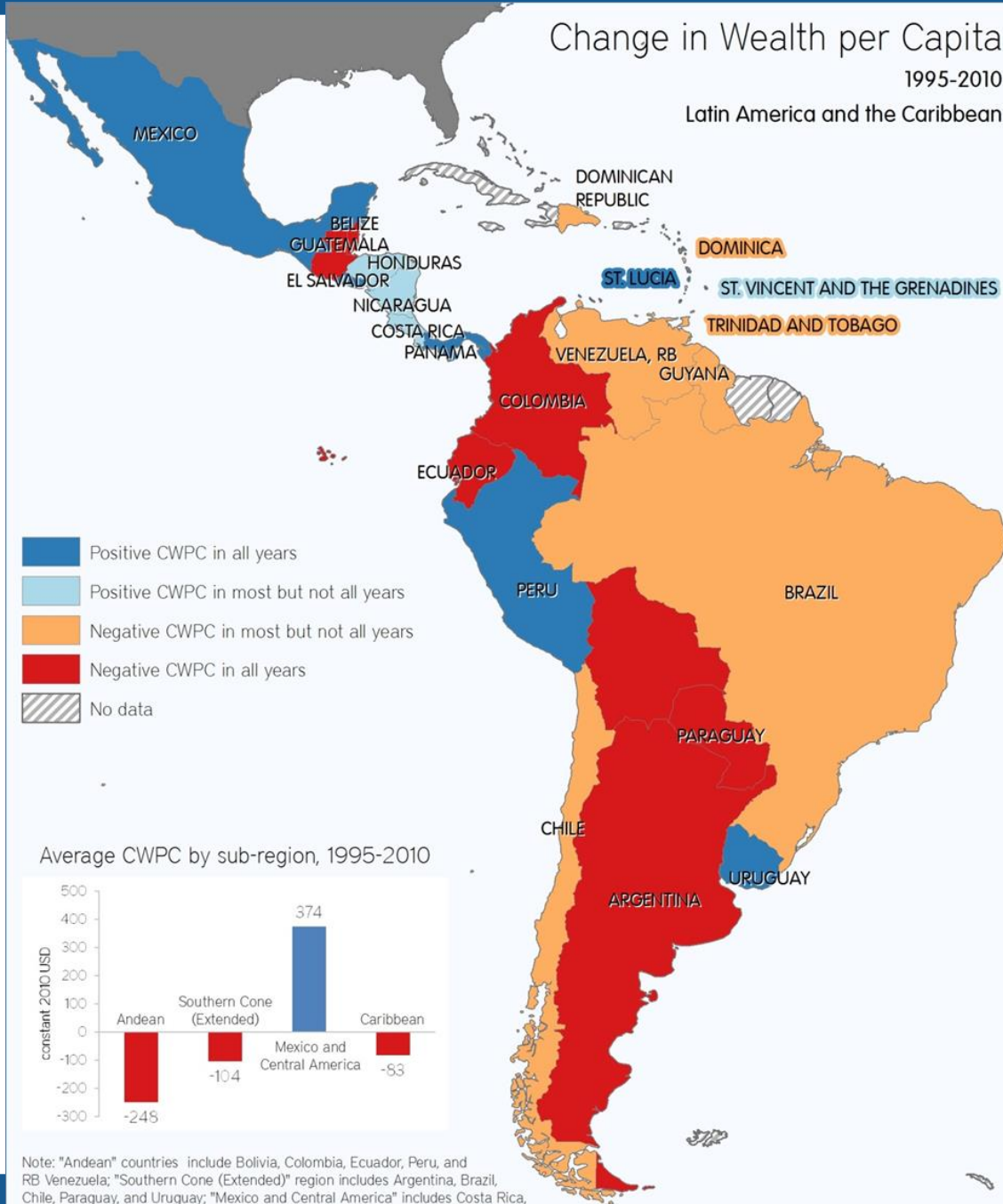


Wealth per capita in LAC

Change in Wealth per Capita

1995-2010

Latin America and the Caribbean



Note: "Andean" countries include Bolivia, Colombia, Ecuador, Peru, and RB Venezuela; "Southern Cone (Extended)" region includes Argentina, Brazil, Chile, Paraguay, and Uruguay; "Mexico and Central America" includes Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama, and El Salvador; "Caribbean" countries with data include Belize, Dominica, Dominican Republic, Guyana, St. Lucia, Trinidad and Tobago, and St. Vincent and the Grenadines. Data are for 1995, 2000, 2005, and 2010.

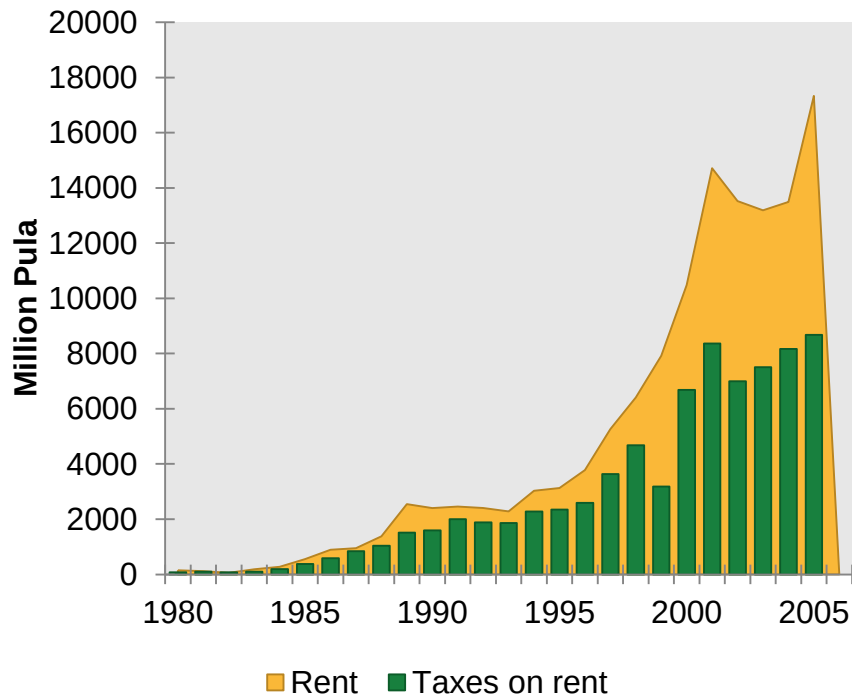


NCA and sectoral policy analysis



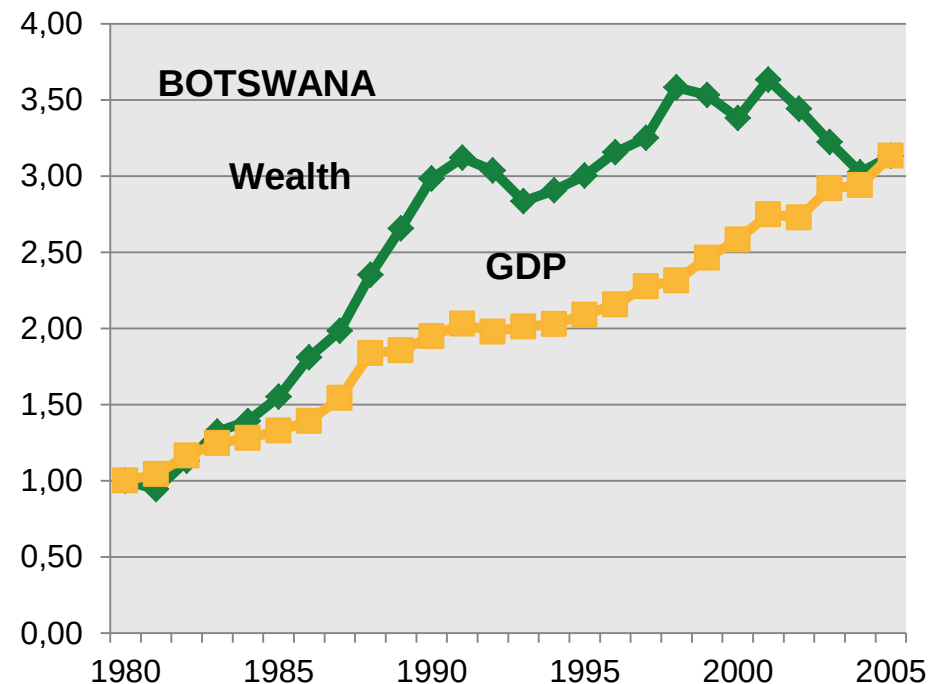
Mineral accounts – Botswana

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
Cultural	2.4 Carbon sequestration	6,014	6,014	6,023	6,884	6,060	7,250
	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:

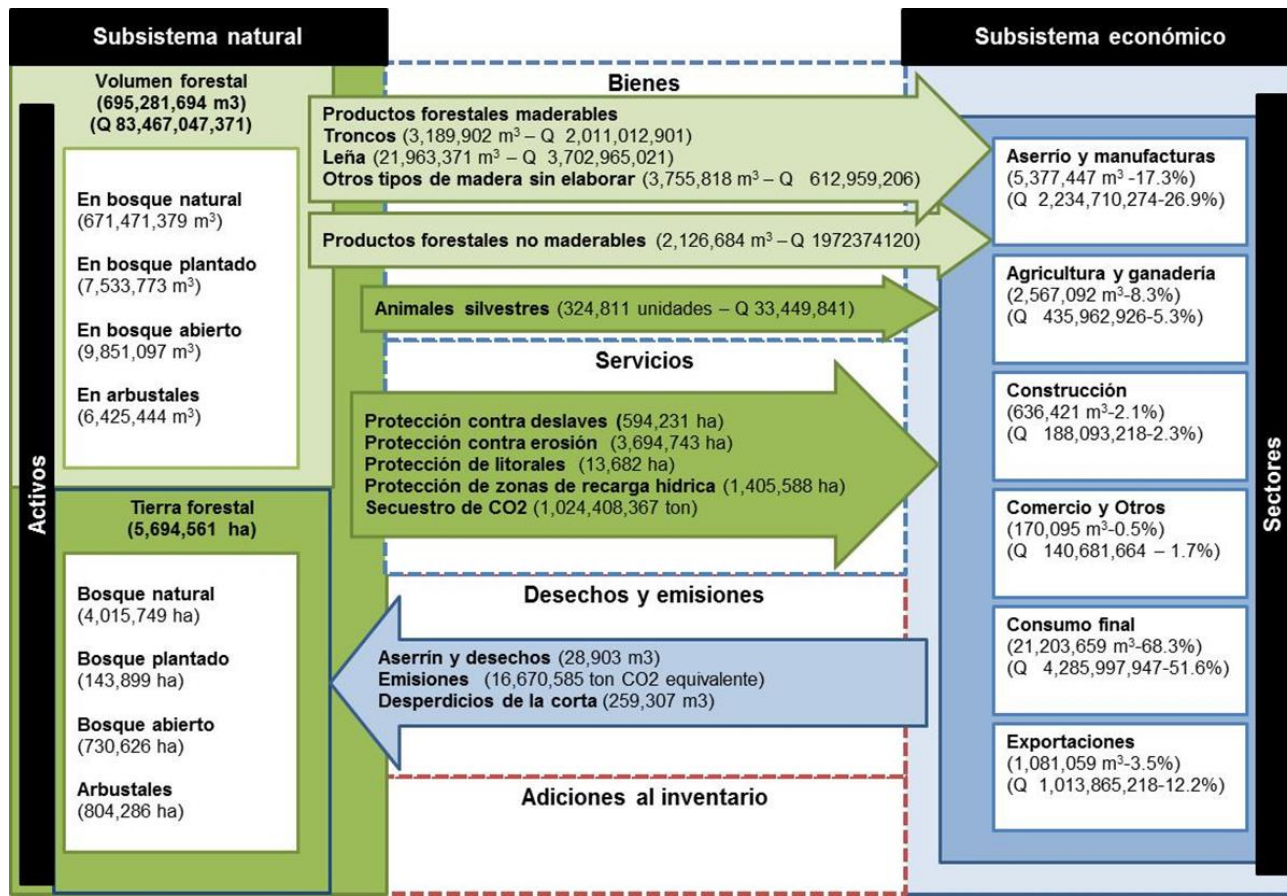
\$16,861 per ha--Coastal protection
from storms

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.

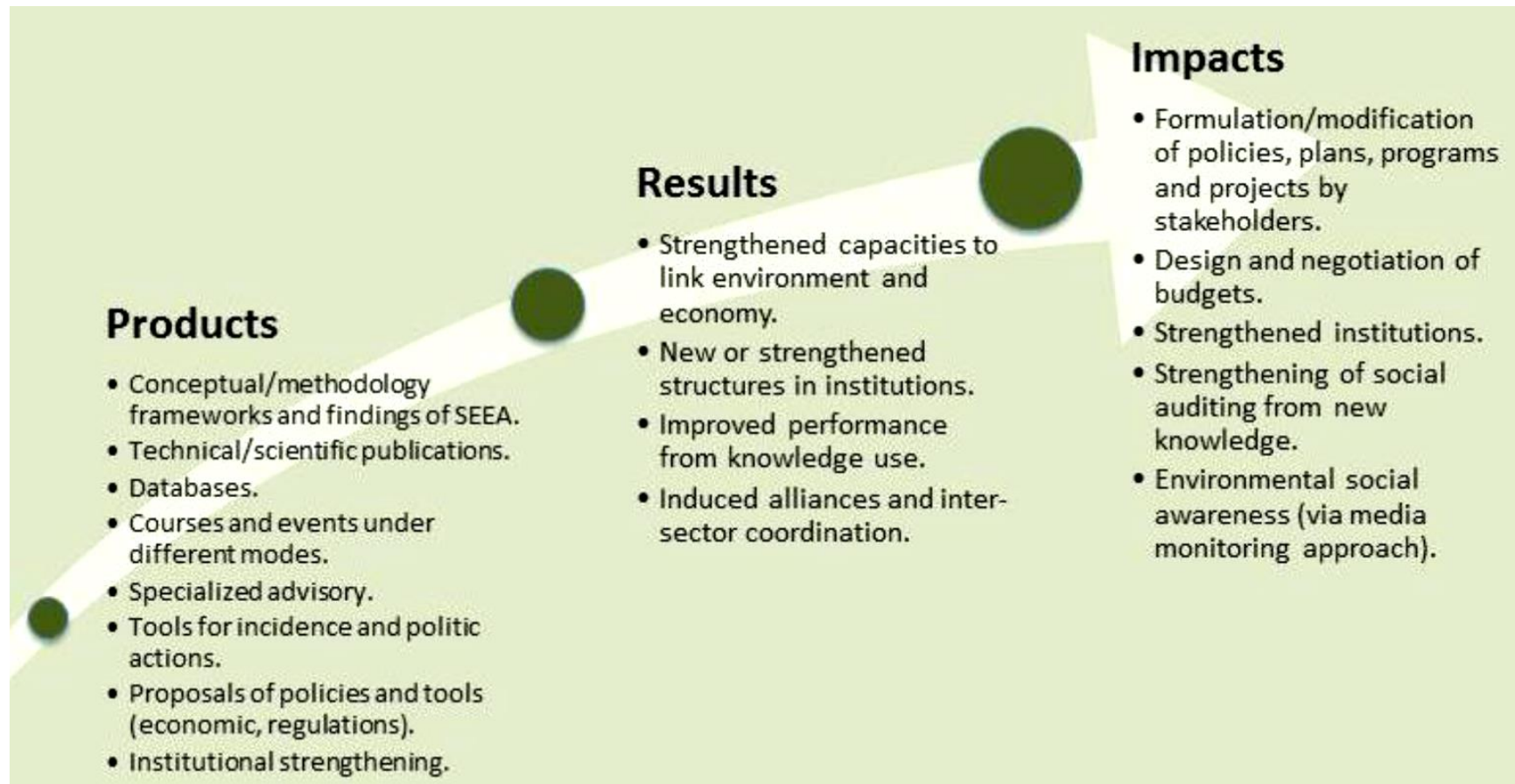
Difference in AAGR (%) from baseline

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

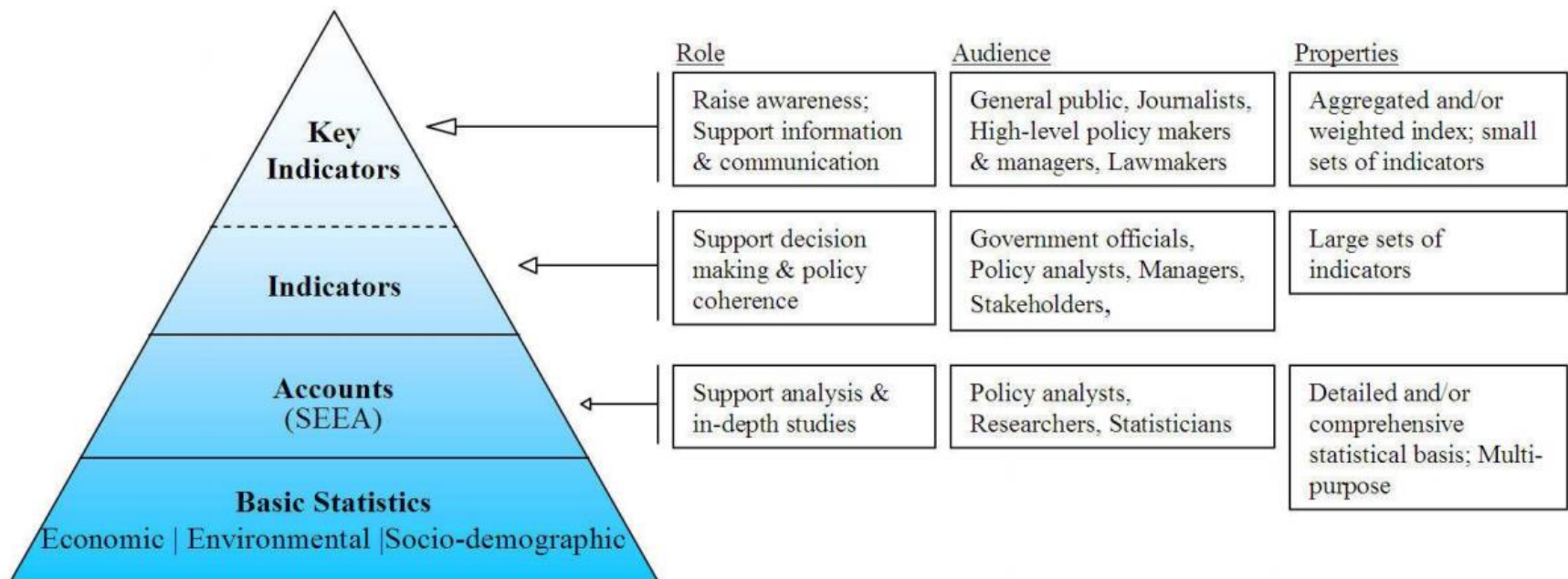
NCA as a tool for change in policy dialogue



NCA as a tool for change



From basic statistics to accounts to indicators



Thank you!

