



Adaptation to Climate Change

Selected Highlights

September 5th 2007 | ProClim Berne

Prof. Dr. Gonzague Pillet

IPCC SAR WGIII Principal Lead Author

Contents

Main statements

1 – Placing a higher value on ecosystem services

2 – Climate-economic breakthrough

Conclusions

Main statements

a) Climate Change

→ a **persistent** change in the average values of the natural variability of climate

as well as

→ a **persistent** change in the frequency and intensity of extreme events.



Main statements (cont.)

b) Adaptation

Adaptation | 2007 IPCC WG II

Climate Change Impacts, Adaptation, and Vulnerability

→ Climate variations like longer dry seasons and more uncertain rainfall are beginning to prompt adaptation measures.

→ **However, adaptation to current climate variability may prove insufficient for future changes in climate**

(→ uneven current adaptation and low readiness for increased exposure).

Main statements (cont.)

Adaptation | 2007 IPCC WG III | Mitigation of Climate Change

→ **Irrespective of the scale of mitigation measures, adaptation measures are necessary.**

Adaptation | 2007 WMO | Nairobi Work Programme

→ **“Adaptation is one of the main ways in which society can deal with climate change.”**

1 - Placing a higher value on ecosystem services

Adapting to climate change

The *emternality* side of CC



inflows | natural
goods & services



Metabolism

market inputs *market outputs*

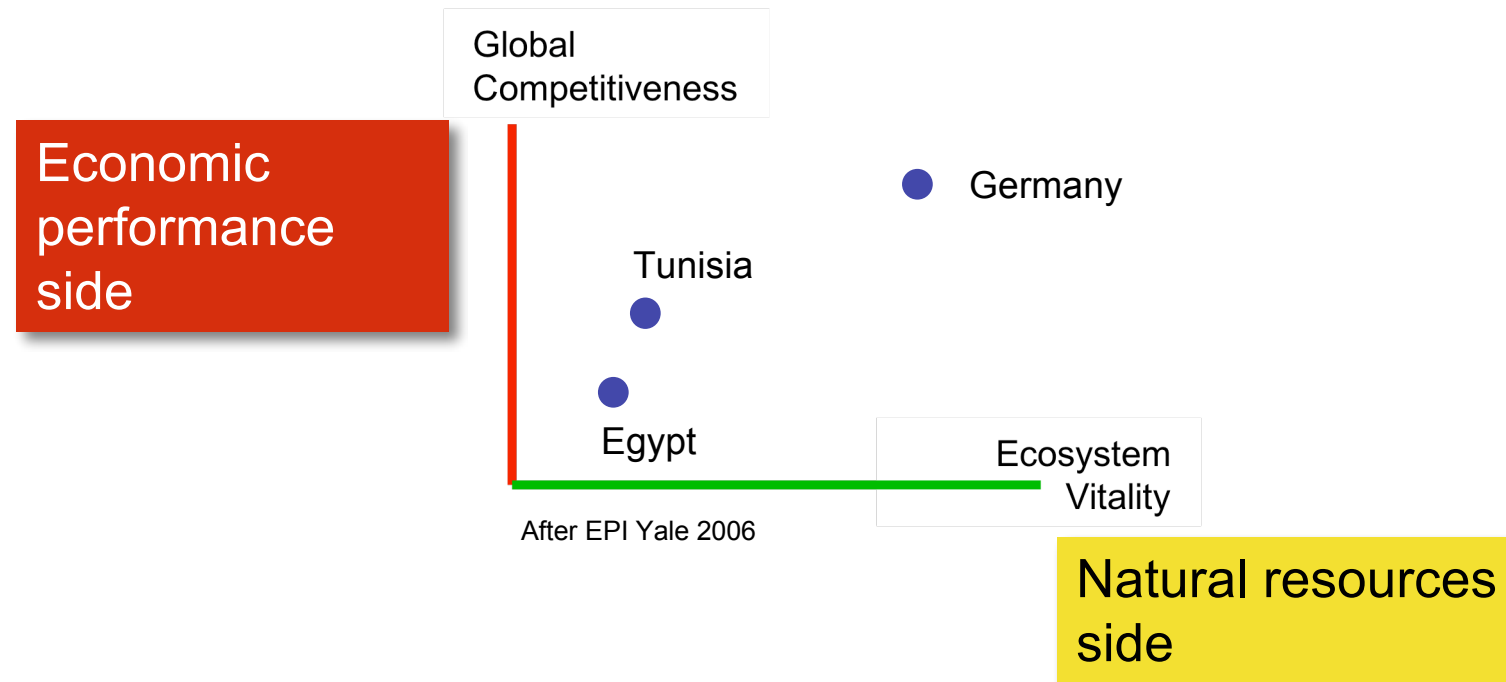
Mitigating GHG emissions

The *externality* side of CC



outflows |
environment-
economic impacts

1 - Placing a higher value on ecosystem services



1 - Placing a higher value on ecosystem services

→ **Value issue:** ecological non-use values
supplement economic use values

over time

present time

→ **Example:** land value Vs. Ecosystem value & vice versa

Value of world ecosystem services

EARTH	100%
forests	38.20%
wetlands	39.70%
lakes	13.80%
grasslands	7.30%
cultivated land	1.00%

Source: Costanza et al.

2 – Climate-economic breakthrough



gtz

Directing Principals

The Tunisian adaptation strategy

- ✓ Overcome short term crisis management through a risk adaptation strategy linked to climate change.
- ✓ **Integrate climatic volatility* with the agricultural and economic policies of the country.**
- ✓ Manage the socio-economic consequences striking the agricultural sector in an integrated manner between economic sectors.

*** Climatic ‘volatility’ is the economic expression of the variability of climate.**

2 – Climate-economic breakthrough

Integrate CC indices with economic variables

Market variables	Volatility
Euro USD	10%
Interest rate (10 years)	10%
Stock Exchange indices	17%
Fuel price (turbulence)	til 100%

Climatic indices	Volatility
Historic temperature in August*	10%
Average temperature toward 2030**	15%
Average temperature toward 2050**	27%
Year long precipitations****	30%
Interannual precipitations****	til 100%

* Europe 1802-2003

** Tunisia (1961-1990)

*** Tunisia (past century)

**** Europe (historically)

Conclusions

Adaptation to current climate variability may prove insufficient for future changes in climate.

Value issue: ecosystem services (externalities) must be fully addressed and valued.

Climate change indices must be integrated with economic variables



Thank you so much

pillet@ecosys.com

Ecosys[®]
Geneva