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Water quality policies at the crossroads between common targets and decentralized enforcement

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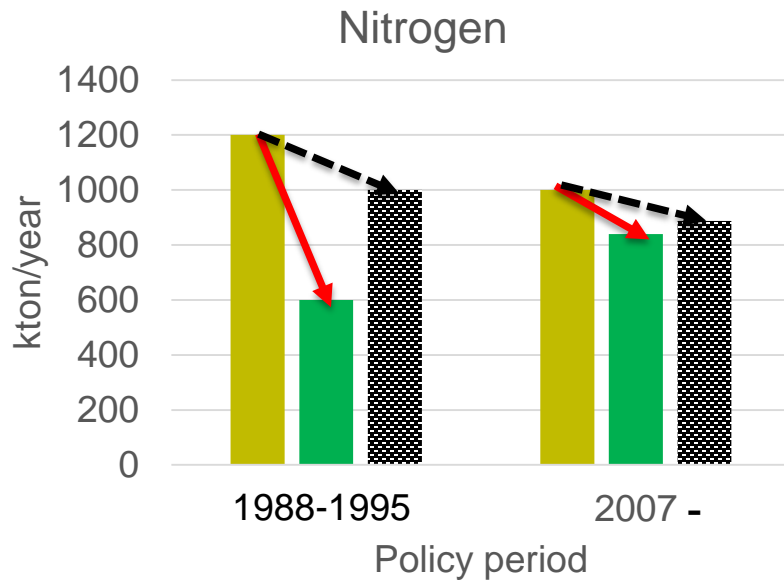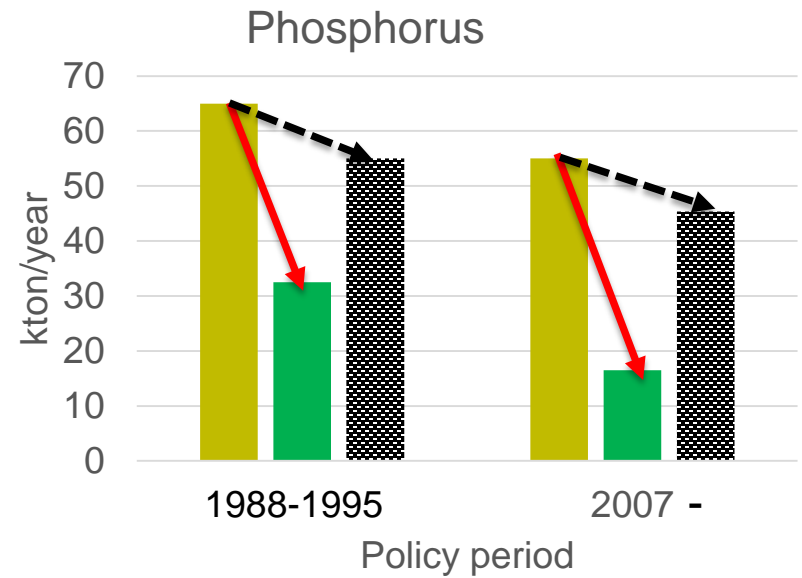
Background

- Eutrophication of the Baltic Sea is a known problem since the 1960s

- First nutrient reduction targets
  - Agreed in 1988/90
  - Target year: 1995.

- Second set of targets (the Baltic Sea Action Program)
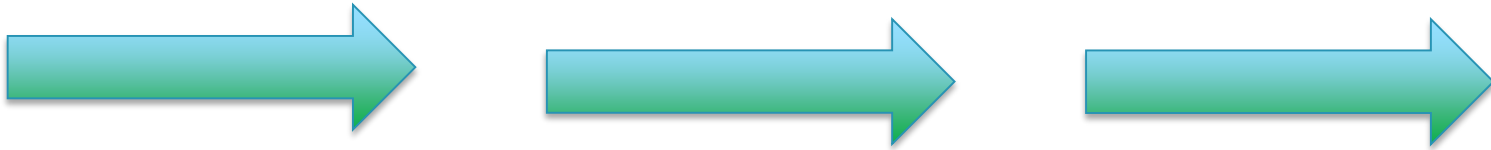 - Agreed in 2007

NASA, bearbetning av Mati Karhu

Loads and targets

Research question

- Why have targets not been reached?

- What determines the implementation of nutrient abatement measures?

Policy processes in the Baltic Sea countries

- The Baltic Sea catchment includes 14 countries, 9 cooperate through HELCOM

Goals for reductions and measures

International goals agreed upon within HELCOM.

Goals become "binding" when adopted at national level

Policy instruments

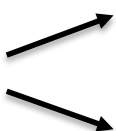EU directives: minimum emission or recipient standards

EUs Rural Development Programs: subsidies which require national co-funding.
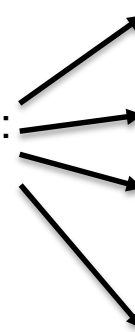
National or regional instruments

Implementation

Actual control and enforcement is carried out by regional or local governments

Empirical approach

Goal choice:
→ "Goal + policy instrument"
→ "Goal + no instrument" or "no goal"

Policy instrument choice:
→ Legislation
→ Subsidies
→ Both legislation and subsidies
→ No instrument

Implementation level choice

Factors affecting the choices

On country level:

Income   ⟶   Afford administration, subsidies, monitoring

Institutional capacity   ⟶   "Experience and skills"

Number of measures implemented   ⟶   Cost-effectiveness, economies of scale

On measure level:

Nitrogen or phosphorus (or both)   ⟶   Inland or sea problem in focus

Technology or management (or both)   ⟶   Investment costs or labour cost

Data

Measures:

- Implementation of 25 agricultural measures to reduce N and P leakage in 9 countries around the Baltic Sea (Salomon and Sundberg, 2012) → 225 observations.

- Apply to 2011 situation

Countries:

- GDP/capita (World Bank)

- Regulatory quality index (World Bank)

- Averages 2000-2010

Results

GOALS

- **Higher income** increases the odds of a goal (1% → 3.7 times)
- Measures that **reduce both N and P** have 5 times higher odds than if only P is reduced

INSTRUMENTS

- Higher probability of **legislation** (w/o subsidy) if **regulatory quality** is higher (2-3 times)
- Higher probability of **subsidy** (w/o legislation) if the measure **reduces both nitrogen and phosphorus** (3-27 times)

IMPLEMENTATION

- **Higher level of implementation if**
- **Subsidies** are available
- The **country implements more measures**

Discussion

- Income and institutional capacity has the expected effects
- National policy makers like to "kill two birds with one stone"
- Higher implementation with subsidies - possible explanations:
  - Regulations weakened when implemented at the local level
  - Larger resources devoted to monitoring and enforcing of Rural Development programs.
  - Targets set lower for subsidized measures.
- Economies of scope in implementation of several measures