



Evaluating Economic Policy Instruments for Sustainable Water Management in Europe

Water Abstraction Charges and Compensation Payments in Baden-Württemberg (Germany)

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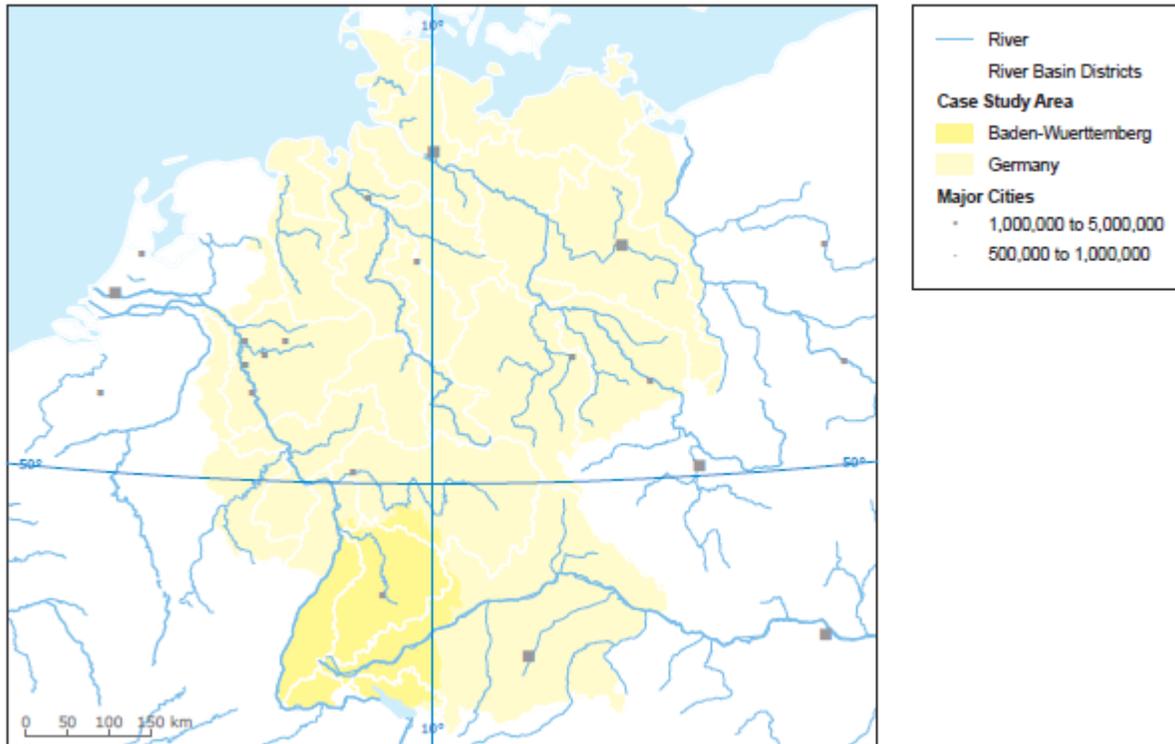


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1. Structure of the Presentation

- Background
- Problem definition
- Solution: the policy mix
- Environmental outcomes
- Economic linkage within the policy mix
- Conclusions

2. Background



Background:

- Location of case study: Baden-Württemberg
- Around 11 million inhabitants
- One of the wealthiest *Länder* in Germany
- ~ 50% of land used by agriculture

3. Problem Definition

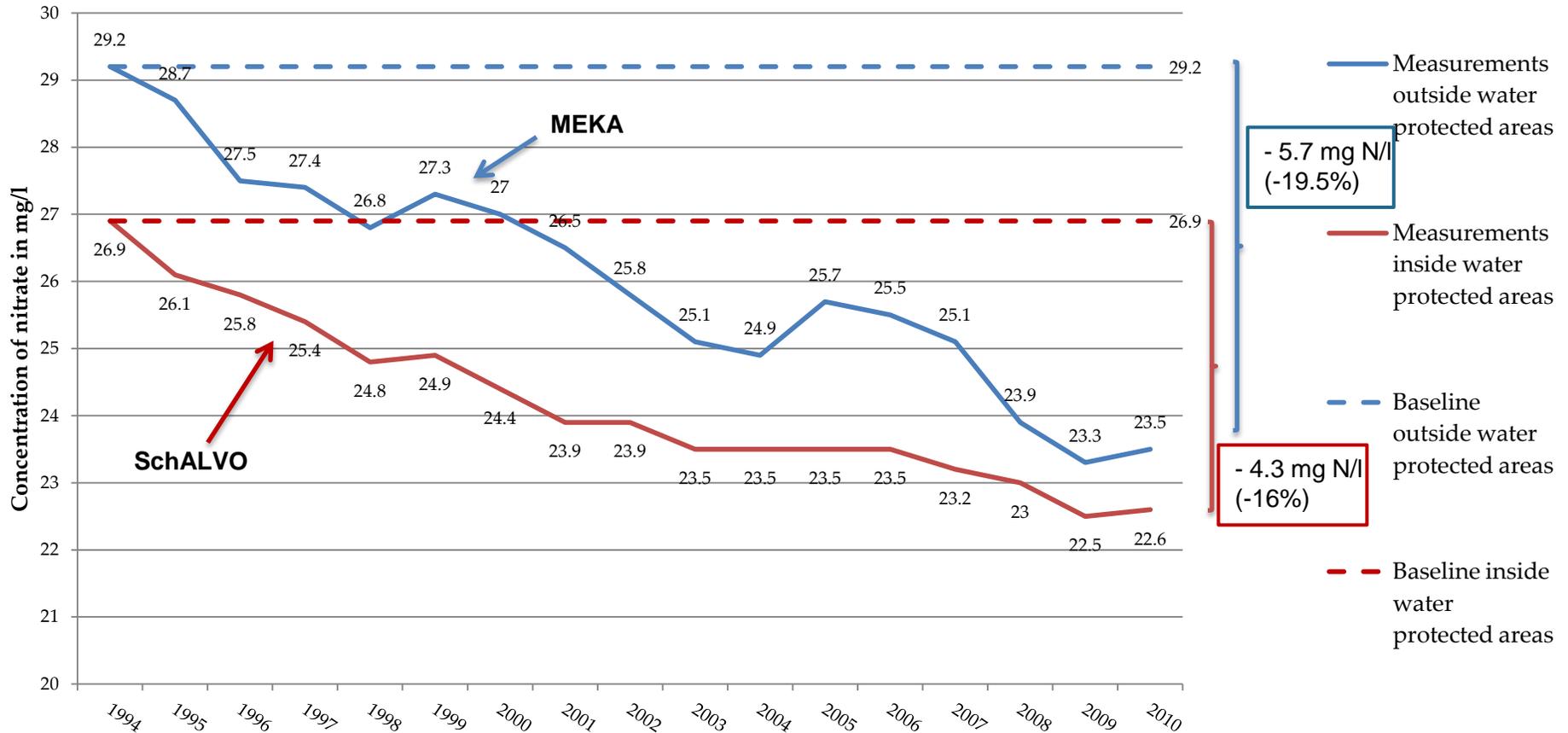
- Since the 1970s: problems relating to groundwater quality from agricultural diffuse pollution
 - Two legislative changes in 1986
 - Tightening of nitrate concentration thresholds for drinking water
 - Compulsory compensation payments to farmers restricted in agricultural practices
 - Problems:
 - Required decrease diffuse pollution from agriculture
 - Voluntary agreements unfeasible
- Needed: Centralized action and compensation payments

... But where would the money come from...?

4. Solution: The Policy Mix

1. Regulation on Protected Areas and Compensatory Payments (SchALVO) – *within water protected areas* (1988)
 - Monitored via samples of soil nitrate levels
2. Water abstraction charges – *levied on actual water abstracted* (1988)
 - Designed as funding for SchALVO (among others)
 - But: revenues legally not permitted to be earmarked for SchALVO
 - → “Re-marketed” as EPI with its own objectives
3. Market Relief and Cultural Landscape Compensation (MEKA) – *outside of water protected areas* (1992)

5. Environmental Outcome – SchALVO vs MEKA



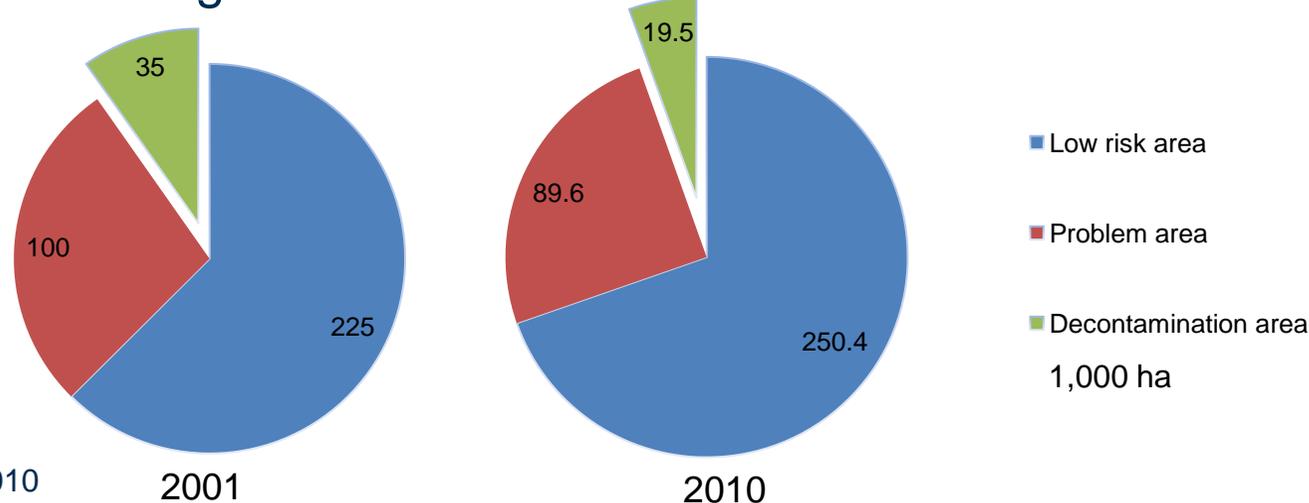
The voluntary MEKA program led to an additional **1.4 mg N/l** decrease



6. Environmental Outcome – SchALVO amendment

- SchALVO amendment (2001): focus on decontamination areas (> 50 mg N/l)
 - Average nitrate reduction in all areas:
 - 3 mg N/l (1994-2001)
 - 1.3 mg N/l (2001-2010)
 - Decontamination area (> 50mg N/l):
 - Nitrate levels decreased by 5.6 mg N/l (~10%) (2001-2010)
 - Affected area decreased by ~ 44% (2001-2010)
 - Low risk areas (< 25mg N/l):
 - Constant nitrate levels (2001-2010)

→ Success in targeted nitrate reductions



7. Economic Linkage within the Policy Mix

- Since the SchALVO amendment in 2001:
Abstraction charge revenues > compensation payments
 - Water abstraction charges:
 - 40% paid by energy sector; 31% by public water supply
→ against abstraction charges
 - Implementation process:
 - Constitutional complaints by industry → rejected by courts
 - 2010: amendment of water abstraction charges
 - Potentially reduced treatment costs for public water supply
- Increased acceptance

8. Conclusions

- Voluntary agreements not feasible in Baden-Württemberg
- Combination with abstraction charge made financing feasible
 - Posed challenges regarding policy implementability
- MEKA and SchALVO considerably reduced nitrate levels
 - MEKA: greater decrease in overall N levels
 - SchALVO: targeted reduction of nitrate in areas of high nitrate concentrations
 - Higher monitoring levels and fines for non-compliance would have improved nitrate reduction
 - Market incentives (increasing food prices, biofuels) exceed incentives offered by MEKA program jeopardizing its success
 - EU Renewable Energy Directive
 - Atomic Energy Act



Thanks!

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