



Local adaptation to climate change: agenda-setting and implementation in small municipalities

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- **Research Question & Methods**
- **Governance of local adaptation: state of the art**
 - Literature review
 - Barriers and success factors
- **Case studies**
 - Case selection & design
 - Results
- **Conclusions & outlook**

Research question ...

Adaptation is also a local concern but policies covered the most come from national governments (NAS) and major cities (London, Rotterdam...). What about adaptation in small municipalities?

Why do small municipalities address climate change adaptation?
What are municipal adaptation policies about?

- Step 1: literature review
- Step 2: case studies ...
- Step 3: single case and cross case analyses focussing on success factors and barriers of local adaptation

Findings summarised in journal paper

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Success factors of local adaptation

- Size matters:
 - Number of inhabitants is a crucial factor for implementation (almost linear correlation): small municipalities usually not interested in adaptation
 - Adaptation in small municipalities is mostly reactive, incremental and sometimes happens unknowingly
- National influences can help but they are rare:
 - Top-down requirements: e.g. National Indicator 188 in UK
 - National funding of local adaptation coordinators (NO, SE, DE)
- Active municipal actors & adaptation managers (sometimes due to involvement in research projects)
- Networking and feedback loops with other municipalities (SE, GB)

Barriers of local adaptation

- Future climate impacts highly uncertain (in particular at local level)
- Lack of communication between science and policy-making
- Disinterest/lack of problem awareness
- Weak adaptive capacities (mainly regarding staff and budgets)
- No national support for municipalities
- Weak political leadership (with regard to climate change)

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Case selection & design

- Difficult to find small municipalities active in adaptation
- Failed field access #1: dozens of European experts were not able to suggest suitable municipalities ...
- Failed field access #2: 9 national & regional adaptation programme managers in DE stated: small municipalities do not participate ...
- Successful field access: research project on climate change policies in Bavarian municipalities
 - Munich University of Applied Sciences (project lead: Prof. Bausch)
 - Comprehensive survey of 1.840 Bavarian small municipalities
 - Survey identified a few municipalities with adaptation measures already implemented...
- Case studies on 11 small & active Bavarian municipalities (1.800-18.000 inhabitants), mainly based on 21 semi-structured expert interviews with municipal officials

Findings on agenda setting

- Adaptation/mitigation: no consistent distinction, often confusion
- Trigger for adaptation measures: reactive to impacts
- Most common impacts: torrential rain (10x) & floods (7x), drought (6x), summer heat (5x), insect calamities (5x), declining snowfalls (5x)
- Uncertainties: not relevant for municipalities because their adaptation is reactive
- Support: 6 of the 11 municipalities did not use any professional support
- Controversies related to adaptation: none or related to property (e.g. when retention areas are expanded)

Findings on implementation

- Adaptation measures: flood protection (16x), heat management (8x, e.g. with planting trees) → BUT: what is 'real adaptation' also taking possible future developments into account?
- Clear responsibilities for adaptation: no
- Role of strategic planning: 4x irrelevant, 5x thematic and 2x integrated adaptation strategies
- Role of NAS: only one interviewee knew German NAS & regards it as relevant
- Support: too much informational support (overload criticized & used rarely); lack of financial support

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Conclusions and outlook

- Literature agrees that small municipalities widely ignore adaptation
- Survey of Munich UAS found that a few small Bavarian municipalities take adaptation seriously
- Our findings confirm the literature rather than the survey because most measures “labelled” as adaptation in the survey turned out to be isolated and reactive measures that serve primarily other purposes (e.g. flood protection as reaction to recent floods)
- Why do small municipalities ignore climate change adaptation: problem pressure is weak and adaptive capacities (including funds) are lacking
- Supporting local adaptation effectively is a complex challenge because local problems are diverse and top-down approaches unpopular; most promising: funding local adaptation coordinators

Thanks for your attention!

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