
Urban adaptation: Challenges, strategies and capacities

Anne Jensen (AU), Eliška Lorencová (CG), Xin Li (UoL),
Mark Zandvoort (Deltares), Marjolijn Haasnoot (Deltares),
Bjørn Bedsted (DBT), Margaretha Breil (CMCC), Filipe Alves
(FCCUL), Oliver Gerbhardt (UFZ), Anders Branth Pedersen
(AU), Helle Ørsted Nielsen (AU)

Outline

- Introduction: Objectives and methods
- Analytical perspective: Urban adaptive capacity
- 8 urban case studies
- In conclusion: Key areas for adaptive capacity in the case cities

Introduction

- Cities' size, multiplicity and scope of activities

 - Crucial position for managing impacts

 - wide differences in how well cities are equipped to manage these challenges

- RQ

Why are some cities more able to manage impacts of climate changes than others

Which cocktail of factors drive or trigger adaptation in particular cities

Introduction

- Using a case study approach where all are cases of urban adaptation and examine
 - How and what are the main drivers and triggers of adaptation and the adaptive strategy
 - Which adaptation options and pathways are considered/assessed
 - What are costs/benefits of adaptation
 - How and what adaptive actions are implemented and what are the main drivers of implementation
- Using mixed methods:
 - Economic assessment, qualitative interviews, policy document analysis, action research

Analytical perspective: Adaptive capacity

- Adaptive capacity

‘the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change’ (Ivey et al, 2004)



IPCC: ability of a human-environmental system to adjust to climate change, moderate potential damages, take advantage of opportunities, and/or cope with consequences (IPCC, 2001)

- Conditions that potentially reduce vulnerability to climate impacts and enhance the ability to cope

Adaptive capacity, cont.

- *A potential to adapt to climate change – short, medium and long term, multiple scale*

Ability to carry out means that reduce vulnerability to (future) impacts of climate change (Adger et al, 2006)

Policy learning and social learning

Process and outcome/output

- *Comprise ability to:* (Tinch et al, 2012)

Absorb and recover from stresses

Alter exposure to CC risks

Acknowledge and take advantage of new opportunities

Adaptive capacity, cont.

- Interaction of multiple urban processes and factors

(Smit and Wandel, 2006)

Perception of adaptation and experience with climate impacts

Knowledge: how, which and potential lacks

CPI: inclusion, coherence, priority, reporting; policy learning

Access to resources: financial, technological (Adger et al. 2004)



Adaptive capacity, cont.

Organisation: sectorial, networks with other decision makers and social actors

Leadership: policy agenda, visibility, priority, flexible

Institutional environment: policy culture and tradition, complexity (Ivey et al, 2004); other policy levels (Næss et al, 2005),

Participation: extent, who are positioned as stakeholders



8 urban case studies

- Prague
- Venice
- Cascais
- Leeds
- Jena
- Rotterdam
- Copenhagen
- Madrid



8 urban case: Anticipated impacts

	Prague	Leeds	Rotterdam	Copenhagen	Madrid	Venice	Jena	Cascais
Surface flooding	YES	YES		YES			YES	YES
River flooding	YES	YES	YES		YES		YES	
Sea level rise flooding			MAYBE	YES		YES		MAYBE
Heat waves / heat island effect	MAYBE			MAYBE	YES			YES
Drought		MAYBE			YES			

8 urban case: Governance structure

	Prague	Leeds	Cascais	Rotterdam	Copenhagen	Venice
Spatial planning /strategy	Ad hoc for adaptation	Urban Strategy,		Delta programme , Strategy	Urban Strategy Cross sector planning	(urban plan)
Participation	Very limited	Cross council collaborations	Stakeholder citizen led imitative	All stakeholder involved in decision making process	Participation processes and conflicts	No participation
Decision making process	Top-down decision making process	Top-down and bottom up		Interactions between stakeholders at different levels	Top-down and bottom up	Conflicts between city and state level decision makings
Policy framework and policy culture	CBA, CBE	ESS, CBA		Policy integrations ESS Consultations	(Policy integration) ESS, CBA Consultations	Autonomous actions
Management structure	City hall representative; water managers	Climate change officers and team	Council of environment, agenda 21, harbour government		Urban growth with adaptation Municipality, Water managers	

Tentative key areas of adaptive capacities in case cities

Level of CPI

- Development of strategies and systematized measures
- Strategic adaptation objectives reflected in urban plans and e.g. building regulations

Position and integration of knowledge

- Eco-system services, adaptation pathways
- CBA, CBE, ...
- Integration of stakeholders, creating ownership



Institutional environment

- Formal structures, clear directions from NAS
- Experiential planning – flexible



Tentative key areas of adaptive capacities in case cities

Policy culture and framework

- Strong/weak tradition for involving social actors (stakeholders/citizens)
- Collaboration across sectors
- Creating ownership for adaptive action, deliberation on initiatives, autonomous actions by citizens, communities

Managerial ability

- Decision making/implementation takes place among other pressing issues
- Leadership across sectors/urban policy areas



Tentative key areas of adaptive capacities in case cities

Financial resources

- Allocation, funding

Technological innovation and resources

- Clean tech growth, entrepreneurship, innovation programs, on the budget
- E.g. separation of rain water and sewage systems, green infrastructure



Networks (professional and governance)

- Formalised or incremental; intra-city, inter-urban, to other governance levels

Thank you for your attention
- questions?

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