Stimuli for climate adaptation in cities: insights from Philadelphia, an early adapter

Caroline Uittenbroek Msc, dr. Leonie Janssen-Jansen & dr. Hens Runhaar
Utrecht University / University of Amsterdam

Introduction

- **Cities and climate change**: flooding, heat stress, drought ⇒ economic damage to urban systems and services, health impacts, social disruption

- The focus has been on **barriers**: uncertainty, limited financial resources, little local expertise, lack of political commitment, undefined role for local governments

- **Identification of stimuli** for climate adaptation: relevant! Increased inclination to respond and possible explanation for the understanding of barriers to climate adaptation

- Moreover, stimuli could possibly explain the applied **governance approach** to climate adaptation in cities
A special role for municipalities

• They can organize responses to local impacts, set up networks and manage the delivery of resources to facilitate climate adaptation

• Governance of climate adaptation:
  - A dedicated approach: specific attention, allocated resources, adaptation strategy/policy
  - A mainstreaming approach: adaptation is integrated in existing policy domains – competition of other policy objectives

Kennis voor Klimaat Knowledge for Climate
Theoretical framework for stimuli

- **Who**: institutional entrepreneurs, political leadership
- **When**: windows of opportunities, focus events/calamities, elections, societal pressure
- **Why**: framing ⇒ explicit or implicit
- **How**: allocation of resources, installation of new regulations, skills to build networks and coalitions, advocacy, brokerage, perseverance

Research design

*Aim*: to **identify stimuli** for climate adaptation in cities and more specifically to **examine how these stimuli influence the governance approach** to climate adaptation.

*Research question*: what stimuli have triggered climate adaptation in Philadelphia and how have these stimuli influenced the city’s governance approach to climate adaptation?

*Methods*: Explorative case study (Philadelphia USA), reconstruction of two climate adaptation programs based on triangulation: interviews (December 2013), policy documents and newspaper articles
Literature has indicated this city as an ‘early adapter’, having organized various climate adaptation responses (Kaklstein et al. 1996; Gartland 2008; Rosenzweig et al. 2011; Mainmone et al. 2011; Edwards 2013).

Not clear however what triggered this city to adapt and what this meant for the governance of adaptation.

Two programs were analyzed: Greenworks and Green City Clean Waters programs.
Greenworks: creating safer, healthier and cleaner neighborhoods

- Started, in 2007, from the bottom up; a coalition of local organizations (‘Next great city’)

- Picked up by the candidate for mayor who was actually voted (stimulus?!)

- ‘Sustainability’ overall goal

- Until 2011, climate adaptation as an implicit goal (‘these things [goals and targets] are valuable in any case’)

- Major’s office of Sustainability responsible, but without specific budgets → have to be made available by the sectors

Kennis voor Klimaat Knowledge for Climate
Green city clean waters

- Goal: how to deal with combined sewage overflow?

- Problem since 1997: enforcement of the Clean Water Act (1972) by EPA

- Problem 2: costs of extra ‘grey’ infra excessive

- Search for alternatives: retention ponds, permeable pavement, green roofs etc. (‘green infra’)

- Solution chosen: green infra plan (much less expensive)

- Framed as a long-term solution (addressing, among other things, climate change)
# Governance approaches

<table>
<thead>
<tr>
<th>Policy program</th>
<th>Greenworks</th>
<th>Green City, Clean Waters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator within municipal organization</td>
<td>Mayor (political agenda)</td>
<td>Policy department (policy agenda)</td>
</tr>
<tr>
<td>Stimuli</td>
<td>i.a. elections, societal pressure, political leadership and power, metrics</td>
<td>i.a. regulations, collective entrepreneurship, networking, advocacy</td>
</tr>
<tr>
<td>Governance approach</td>
<td>Dedicated approach (mainly)</td>
<td>Mainstreaming approach (mainly)</td>
</tr>
</tbody>
</table>

Kennis voor Klimaat Knowledge for Climate
**Stimuli**

<table>
<thead>
<tr>
<th></th>
<th>Greenworks</th>
<th>Green City, Clean Waters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Who</strong></td>
<td><strong>People</strong></td>
<td>Next Great City coalition, Political leadership</td>
</tr>
<tr>
<td><strong>When</strong></td>
<td><strong>Momentum</strong></td>
<td>Elections, societal pressure</td>
</tr>
<tr>
<td><strong>Why</strong></td>
<td><strong>Framing</strong></td>
<td>Sustainability in relation to energy, environment, equity, economy, engagement</td>
</tr>
<tr>
<td><strong>How</strong></td>
<td><strong>Capabilities</strong></td>
<td>Political pressure, special bureau, metrics</td>
</tr>
</tbody>
</table>

Discussion

- Climate adaptation responses are not organized in a vacuum: it is a combination of stimuli

- Different combinations of stimuli can result in a certain governance approach

- Co-existence of governance approaches in Philly: dedicated and mainstreaming approach
New insights

• Only one case study, but:

  • More insight into stimuli (we know a lot about barriers...)

  • More insight into what explains a particular governance approach to adaptation (rather than taking action as such)

Thank you!

Caroline Uittenbroek Msc - c.j.uittenbroek@uu.nl
Utrecht University / University of Amsterdam