

# Mainstreaming adaptation into planning and settlement design

## Habitable Futures

Amy Pieterse  
Council for Scientific and Industrial Research  
Smart Places



science & innovation

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA



# Adaptation mainstreaming

- It involves considering climate change risks and vulnerabilities when planning, making decisions and taking actions. Instead of treating climate change as a separate issue, adaptation mainstreaming recognises that climate change affects all sectors.
- The aim of mainstreaming is to change the dominant planning paradigm by making climate change response and adaptation an integral part of other well-established planning programmes, processes, and instruments.
- Mainstreaming in municipal planning is widely advocated to drive transformative adaptation at the local level.
- Transformative adaptation involve institutional changes in terms of municipal planning to change the approach to and management of risks and vulnerabilities, and to address root causes of risk.

“ *Mainstreaming is the process of integrating climate change adaptation strategies and measures into existing instruments and processes, particularly those related to development and planning* ”

# Adaptation mainstreaming and transformation

## Challenge of transformative adaptation

Mainstreaming in municipal planning is widely advocated to drive transformative adaptation at the local level.

Transformative adaptation trigger long-term systemic change, accommodate complexity and uncertainty, and address structural causes of vulnerability.

Transformative adaptation requires collaboration between various stakeholders, including government, private sector, research, and civil society.

## Limitations of mainstreaming within planning systems

Adaptation goals are not translated into concrete measures, i.e., the implementation gap.

Short- to medium-term planning instruments do not reflect coherent approaches to addressing long-term climate impacts.

Long-term sustainability and transformation goals are often neglected in favour of immediate development needs and short-term crisis.

# Factors that influence the effectiveness of adaptation mainstreaming



**leadership  
arrangements**



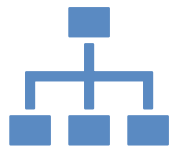
**networks and  
knowledge-  
sharing**



**information  
access and use**



**capacity,  
resources, and  
skills**



**institutional  
coordination  
structure and  
process**



**intergovernmental  
relations and  
coordination**

- The significance of context in adaptation mainstreaming processes and experiences are highlighted by these factors.
- Organisational size, complexity, and the regulatory environment strongly influence the effectiveness of mainstreaming, particularly in the context of transformative adaptation.
- Existing organisational structures and institutional arrangements shape these factors that lead to different mainstreaming outcomes.

# Unlocking transformative adaptation through mainstreaming

- Mainstreaming transformational adaptation in imperfect planning systems can risk maladaptation and perpetuating injustice.
- To drive systemic change and address structural causes of vulnerability, transformational objectives must align with broader development agendas.
- Navigating uncertainty in long-term impacts poses decision-making challenges, making it harder to support transformative adaptation.
- A dual approach between immediate responses and long-term systemic change is critical.
- Embedding transformational goals into existing frameworks and fostering systemic change can harness transformative adaptation potential, minimizing inequitable outcomes.

# Thank you



**Amy Pieterse**  
M (Town & Regional Planning)  
**Senior Researcher**  
**Cluster:** Smart Places  
**Portfolio:** Urban and Regional Dynamics  
**Tel:** +27 12 841 4220  
**Email:** [apieterse@csir.co.za](mailto:apieterse@csir.co.za)  
**[www.greenbook.co.za](http://www.greenbook.co.za)**

#### Key resources:

Pieterse, A. (2020). Mainstreaming Climate Change Adaptation into Municipal Planning: Lessons from two South African Cases [Dissertation, University of Pretoria].

<https://repository.up.ac.za/handle/2263/73170>

Pelling, M., O'Brien, K., & Matyas, D. (2015). Adaptation and transformation. *Climatic Change*, 133(1), 113–127. <https://doi.org/10.1007/s10584-014-1303-0>

Scoville-Simonds, M., Jamali, H., & Hufty, M. (2020). The Hazards of Mainstreaming: Climate change adaptation politics in three dimensions. *World Development*, 125, 104683.

<https://doi.org/10.1016/j.worlddev.2019.104683>

Street, R. B., Dunlop, M., Meharg, S., Wise, R., Williams, R., O'Connell, D., Gorrdard, R., N Nguyen, M., & Maru, Y. (2022). Mainstreaming-Transformation Paradox: Sharing Learning to Advance Adaptation Theory and Practice (SSRN Scholarly Paper 4163365). <https://doi.org/10.2139/ssrn.4163365>

<https://doi.org/10.2139/ssrn.4163365>

Wamsler, C., & Osberg, G. (2022). Transformative climate policy mainstreaming – engaging the political and the personal. *Global Sustainability*, 5, e13. <https://doi.org/10.1017/sus.2022.11>

