

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Jasmijn Ponssen
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Studio	
Name / Theme	Planning Complex Cities & Design of the Urban Fabric
Main mentor	Arie Romein
Second mentor	Claudiu Forgaci
Argumentation of choice of the studio	In addressing large societal challenges such as the climate crisis, long-term interdisciplinary thinking is needed. In alignment with the Planning Complex Cities studio, this thesis focuses on understanding where and how (future) spatial conflicts may arise, while also studying how the governance of our urban development affects the degree of adaptability and implementation of strategies and policy ambitions. Planning Complex Cities graduation projects should have a theoretical, analytical and design element, which is also reflected in the research approach for this thesis. Within the studio, the thesis studies the planning system to see how synergies between process and space can be designed to achieve more sustainable, climate adaptive, spatial development patterns. The mindset of the researcher is to see cities and urban areas as the result of the interaction of people over time. As urban planners, we need to understand the social system we are in to position ourselves within the power field and determine the role we can take to act in such a way that public goods are realised in a just way.

Graduation project	
Title of the graduation project	Climate Adaptive Delta Cities – <i>A strategy for the transition towards climate adaptive redevelopment of post-industrial port sites in the Rhine-Meuse delta in the Netherlands</i>
Goal	
Location:	Dordrecht in the Rhine-Meuse delta, the Netherlands
The posed problem,	Little operationalisation of (regional) water adaptation policies in local urban area redevelopment projects makes future urban

	<p>areas vulnerable to the effects of climate change. This thesis focuses on the integration of water adaptation in unembanked post-industrial port sites being redeveloped into living environments so they can together contribute to the transition towards a water resilient, urbanised Rhine-Meuse delta region. In the current decentralised planning model, the climate crisis threatened delta region depends increasingly on local projects and actors to realise its long-term and larger scale ambitions, which makes just planning, innovative design solutions and integrative urban area redevelopment management increasingly important.</p>
<p>research questions and</p>	<p>Main question: How can post-industrial port redevelopments contribute to the transition towards climate adaptive delta cities?</p> <p>SRQ1: What water vulnerabilities and urbanisation challenges lie ahead for the Rhine-Meuse delta region and its post-industrial port sites and what strategies and plans are drawn up to address them?</p> <p>SRQ2: How well do recent urban redevelopment strategies in cases perform in contributing to the transition towards a climate adaptive delta region?</p> <p>SRQ3: Why is adaptive capacity (mis)integrated in the post-industrial port redevelopment projects?</p> <p>SRQ4: What interventions in redevelopment processes can be used to integrate climate adaptive capacity in redeveloped postindustrial port sites in the Rhine-Meuse delta region?</p> <p>SRQ5: How should local redevelopment projects contribute to the establishment of a climate adaptive delta region?</p>
<p>design assignment in which these result.</p>	<p>Design an urbanisation and water adaptation strategy that interconnects regional long-term transitions and local short-term actions that inspires adaptive thinking within the Dynamic Adaptive Policy Pathways framework, and reflects on the biophysical, spatial, social and institutional dimensions of the planning system.</p>
<p>Process</p>	
<p>Method description Case study research will form the basis for the analysis. Stadswerven in Dordrecht, a post-industrial port redevelopment project in the construction stage, is analysed in depth historically. Here, the complex adaptive systems model functions as a framework for understanding the interaction between the spatial outcomes, actors, process, context and different scales. Mixed-methods are used to create an holistic image of the system and to identify the mechanisms behind certain policies, actions</p>	

and the performance of outcomes. Generalisable lessons are drawn by comparing the findings to cases within the same Rhinemouth-Drechtsteden region as well as cases abroad, which are studied more compactly.

Next, the lessons are applied in a planning, design and governance strategy for the redevelopment of 'the Staart', a possible future post-industrial site situated next to Stadswerven in Dordrecht. The design aims to make water adaptation integrated in the redevelopment and reflect on the role of a local project in the larger transition towards a water resilient urbanised Rhine-Meuse delta region. The strategies are finally tested and iterated using workshops with actors and students.

Literature and general practical preference

The complex adaptive system model (Roggema et al., 2012) is used to analyse the interrelations between transitions at different scales and time horizons of the Panarchy of Adaptive cycles model (Gunderson & Holling, 2002) are linked. The method of Dynamic Adaptive Policy Pathways (Haasnoot et al., 2013) is used to map different adaptation policies and understand their spatial implications, both for the historical analysis and future strategy. Finally, operability and implementation behind the different strategy pathways are understood using Mintzberg's (2000) concepts of strategy thinking. Theories about possible practical social and spatial solutions are questioned in the analysis stage using interviews and are tested in the design stage, such as the need for 'Strong Stories' (M. Hajer, 2010) or the usage of local adaptation pathways thinking (Berg et al., 2013) for actor awareness and responsibility, the Actor Network theory (Latour, 2018).

Reflection

In the complexity of inner city (post-industrial port) redevelopment projects, involving many actors with different stakes and time horizons, water adaptation remains conservative: not giving rise to the necessary systemic, water adaptive transition. This thesis develops a critical perspective on the planning system, and seeks to connect actors and goals of the A, U, LA and MBE track to create more operable innovative climate proof strategies. It offers actors an opportunity to learn from other projects by reflecting, and tools and strategies by exploring possibilities for the future. Hereby, this project is a practical answer to the challenge of developing strategies for unembanked residential areas in the region (Ministry I&W, 2021), while also using theory to reflect on the interconnectedness of time, space and scale to understand what the role of a small redevelopment project can be in the large transitions our societies face.

References

- Gunderson, L., & Holling, C. (2002). *Panarchy: understanding transformations in human and natural systems*. Island Press.
- Haasnoot, M., Kwakkel, J. H., Walker, W. E., & ter Maat, J. (2013). Dynamic adaptive policy pathways: A method for crafting robust decisions for a deeply uncertain world. *Global Environmental Change*, 23(2), 485–498.
<https://doi.org/10.1016/j.gloenvcha.2012.12.006>

Latour, B. (2018). Anthropocene Lecture. In *Haus der Kulturen der Welt*.
<https://www.youtube.com/watch?v=UtaEJo-jo8Q>

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Roggema, R., Vermeend, T., & van den Dobbelsteen, A. (2012). Incremental change, transition or transformation? Optimising change pathways for climate adaptation in spatial planning. *Sustainability*, *4*(10), 2525–2549. <https://doi.org/10.3390/su4102525>