

Urban biomass production in the Arnhem-Nijmegen case

The metropolitan area of the City Region Arnhem Nijmegen (CRAN) consists of two larger cities (Arnhem and Nijmegen) with 18 smaller municipalities. This metropolitan area is located in the east part of the Netherlands, in the middle of an intersection of 3 main rivers and several different landscape forms. The CRAN administration would like to explore how biomass production (in relation to other energy suppliers) can be considered as a relevant local service. In our study we focused on how to integrate ecosystem services into the landscape and urban planning processes to increase resilience. Using the framework of ecosystem services, two themes of analytic inquiries were pursued: (I) limitations and constraints in current modes of spatial planning and governance, related to energy and specific biomass production, and (II) examples of new integrative urban spatial designs. Four futuristic scenarios were examined on their capability to enhance the region's resilience. These scenarios concern a rural or urban setting within an autarkic or global oriented development. 18 different detail studies were executed to further elaborate several options into specific designs.



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While Time Goes by; Dealing with Time and Multi-Dynamics in Spatial Planning and Design

In Dutch spatial planning and design practice, a growing focus is put on multifunctional land-use, either from a horizontal or vertical spatial perspective. Space still is the keyword in today's practice. An other (new) dimension for multifunctional land-use can be the time aspect. Time, as a dynamic component in this process, is not yet addressed in its full capacity. Many different time frames can be identified. One can consider time as dynamic changes from hours to seasons or even decades and centuries. Or low dynamic land-uses can be combined with high dynamic developments. Or temporary use of space for specific purposes can be considered. Time can be approached from a socio-economic perspective, including politics, policy development, procedural time and project development time, or from a spatial development perspective in which a large variety of dynamics within different land-uses can be distinguished. For instance, ecological development takes much longer to be effective than recreational or urban land-use changes or infrastructural interventions; each has its own development time frame.

All these time frame perspectives over short- and long-term developments have to coincide one way or the other; however most often they result in future conflicts. Examples are current water storage and shortage issues, increased vulnerability of urban areas for the effects of climate change, or the growing importance of ecological or cultural historical aspects that seriously delay project developments. There are long-term developments like ecological changes, and short-term developments and impacts, such as political decisions or housing projects, usually with longer-term effects. Formal procedures around a planning project reflect steps to be taken over time, based on aspects of duration, sequences, frequencies and position in the time development frame. From a political point of view only developments with short-term results will more favorably be supported (after max four years new elections will be held!). These differences in

time frames should be taken into account in the planning and design process to be more effectively prepared to the future.

In addition to current competing uses of space, adaptation for climate change presents itself as a new spatial claim. Although climate change has a totally different time frame, it is already important to deal with it nowadays. Current spatial developments determine our vulnerability in the future and potentially reduce our flexibility to adapt to changing conditions. In spatial planning practice, short term needs and interests prevail, increasing the vulnerability on the longer term. Dealing with these different dynamics and time scales in planning and design is important to adapt to the effects of climate change. This requires commitment by stakeholders, as long-term and short-term investments need to be considered in a different but coherent way.

An interactive design approach has to be put into action in a combination of different disciplines, methods and participants, brought together to provide region-specific solutions and knowledge in order to support a more time-space oriented design strategy and develop a methodology for multifunctional and multi-dynamic landscape development. Stakeholders, involved in areas such as housing, agriculture, ecology, leisure, climate change, landscape design, blue and green network development, infrastructure and cultural historical issues, have to identify claims from many different preferences in time and in space. These claims have to be met to develop a more sustainable design and development process to arrive at a time oriented regional system innovative result. The constraint theory of Hägerstrand offers opportunities to determine the influence of a "content" related time approach, focused on the time-space development competition between a large variety of land-uses.

Two project examples are used to illustrate different aspects of a more integrated time-space approach. The first case, with a focus on biomass energy production, will explore a variety of temporality options, based on possible delays during a housing site development, that can offer a broad range of temporary uses over a longer period (10 to 30 years). The second case will deal with temporary housing in future water storage areas as a promising way towards a sustainable development, a way to deal with short-term needs and conflicts as well as long-term effects of climate change. Both cases will be examined on the consequences for planning and design and discuss the feasibility in planning practice for temporality and dynamic aspects.

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Environmental Policy and Politics in the Chinese Post-Reform Urban Growth Regime

This paper seeks to address the main issue about how local authorities and politicians in China have responded to various forces, pressures, and demands in the process of local environmental policy-making under the post-reform urban growth regime. The significant environmental policy initiatives and interventions in a selected Chinese city are analyzed to explore the dynamics of local urban environmental policy-making within the ecological, social, economic, and political contexts, and the impacts of both central and regional policy initiatives and interventions on local environment. Local

