4842847_Yanjiao Wang _ 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	Yanjiao Wang
Student number	4842847
Telephone number	
Private e-mail address	

Studio	
Name / Theme	Flowscapes/ LAB Garden of Gelderland
Main mentor	Steffen Nijhuis	LA
Second mentor	Bob Ursem	BT
Argumentation of choice of the studio	Landscape architecture studio

Graduation project	
Title of the graduation project	**Forest landscape restoration for climate-adaptive estates in the Baakse Beek region, Gelderland**
Goal	
Location:	Baakse Beek, Gelderlands province, Netherlands
The posed problem,	The research focuses on the estate zone of the Baakse Beek region which is facing environmental problems mainly caused by historical human intervention and climate change. Besides, in the Vorden cluster, as the land use changing caused by intense land reclamation and consolidation, the current agriculture productive landscape makes it not easy to perceive the rich historical layers.
research questions and	1. How did historic deforestation affect the landscape through different levels? 2. What are the principles about forest landscape restoration to

	promote cultural-historical value and resilience to climate change in the estate landscape? 3. How to apply principles to the study area of different geomorphology types and land use to address challenges of landscape quality and climate change? 4. What are the lessons learnt from applying design principles of forest landscape restoration from 3 aspects of ecology, landscape characteristics and agriculture to make a new forest landscape in the estate zone?
design assignment in which these result.	The main research method of this study is research by design and the main goal is to explore the potential of forest landscape restoration to increase the resilience of the estate landscape in the face of climate change and to promote their cultural-historical values and identity. By restoring forest landscape, it provides a green infrastructure to the estate zone to gain more spatial experience, ecological benefits, as well as cultural value, so that vulnerable aquatic eco-environment and cultural identity can be promoted. The research aims to design a climate-adaptive estate landscape as a green infrastructure that connects the estates, local history, ecology value and societal value through forest landscape restoration. This thesis primarily focuses on the territory of two estates, Het Medler and De Wiersse, where ecological restoration of the aquatic eco-system and cultural-historical landscape experience can be strengthened utilizing forest landscape restoration.
[This should be formulated in such a way that the graduation project can answer these questions. The definition of the problem has to be significant to a clearly defined area of research and design.]	

Process
Method description

THESE QUESTIONS WILL BE ANSWERED THROUGH RESEARCH BY DESIGN AND DESIGN RESEARCH.

In the beginning, site analysis through literature study on the body of knowledge of climate change, aquatic ecosystem and cultural heritage in Baakse beek basin and forest landscape restoration can provide essential knowledge of the study area and theory support. During fieldwork and interviewing on-site, information collected through perception and discussion with local people gives a new insight into the research.

Mapping on the historical and current situation of the study area's landscape typology, ecology networks, land use and water system at different scales, revealing its potential from these aspects and the relationship between the development the study area has gone through and current situation.

Precedent study on cases related to applying strategies of forest landscape restoration, climate change mitigation and cultural heritage restoration can provide useful sources of principles in the thesis.

Based on the analysis indicating the cultural and ecological issues, the problematic situation of the study area gets revealed, which shows great potential for the design exploration to test principles and enhance the landscape quality.

Research by design is the main methodology which provides a platform to explore the spatial possibilities of future urban development after the previous analysis. After making it clear of the research objectives and comparing the site with other cases, formulating related principles and applying them reasonably to the study area is a vital step before design exploration.

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Reflection

What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

Climate resilient heritage landscape <----> flowscape <-----> track landscape <-----> master programme (Blending knowledge and skills from design practice, from the physical and social sciences, technology and engineering, this programme explores innovative ways to create more sustainable development.)

In this graduation lab 'Garden of Gelderland', the landscape assets of private and dispersed heritage properties are explored and design strategies to engage them in future-proof landscape development should be developed. With movement and flows at the core, landscape infrastructures facilitate aesthetic, functional, social and ecological relationships between natural and human systems. Through design-based case studies at different scale levels the studio seeks for a better understanding of the dynamic between landscape processes and typo-morphological aspects; here interpreted as flowscapes.
Within the Flowscapes studio, we specifically discuss 'infrastructure as landscape' and 'landscape as infrastructure' in a concentrated academic environment. This overall theme addresses both: extremely large and very small interventions which should interrelate and be part of important current developments in the world. Flowscapes projects put Landscape Architecture education Delft at the interface of Urbanism, Architecture, Civil Engineering, Environmental and Spatial Planning.

What is the relevance of your graduation work in the larger social, professional and scientific framework.
Academic Relevance:

Referential value to the revitalization of the historical landscape in a rural area. Firstly, It is

important to understand the historical role of the dynamic landscape which helps designers to define the identity of the site. Secondly, consideration of cultural-historical value can contribute to the comprehensive functions of the forest landscape restoration. Exploring strategies of addressing the vulnerable aquatic environment and urgent climate change issue, such as continued low groundwater level and water quality, is a necessary step to respond to present challenges and to enhance the ecology effects of the region.

Forest landscape restoration proposed in this project plays a significant role to raise people's awareness of the cultural identity of the area, which meanwhile contains crucial ecology value to adapt to the dynamic environment. Landscape infrastructure can collaborate elements from related aspects and present spatial impact across different scales.

Societal relevance:

The study area has great cultural heritage resources in Gelderland province, which are managed by various stakeholders and estates owners. Thus, the thesis will contribute a vision from the landscape's perspective to the estate zone's further development. The thesis will take their needs and demands into consideration and try to find a balance among the benefits of municipalities, estates' owners, farmers, visitors and related organizations. The Achterhoek landscape after forest landscape restoration can stimulate local tourism so that the elevated status of the region and sustainable development can be gained. Meanwhile, people's well-being can be enhanced.

Also, the societal relevance will reflect on other places in the world, and the forest-landscape-restoration principles applied in this thesis have the potential to be introduced to address a similar problematic situation there.