

# 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](mailto: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	Yuxuan Song
Student number	5577527

Studio		
Name / Theme	DESIGN OF THE URBAN FABRIC (DUF)	
Main mentor	Dr. G.A. Verschuure-Stuip	Landscape Architecture
Second mentor	Ir. M. (Marco) Lub	Urbanism
Argumentation of choice of the studio	Design of the Urban Fabrics graduation is a cross-domain graduation lab to improve livability, inclusivity, participation, cultural heritage, etc. My thesis focuses on waterfront space in China and the related water management and special experience. Working on different themes and scales, my thesis fits the DESIGN OF THE URBAN FABRIC lab well.	

Graduation project	
Title of the graduation project	Redesign Waterfront Spaces Along Xi River in Yuantong Town
Goal	
Location:	Yuantong Town, located at the confluence of the three rivers in the west of the Chengdu Plain, has a history of 1650 years. It is famous for its "Qingminghui" waterfront market held during the Qingming Festival, which is closely related to water. Every spring, when the water level drops, people take use of the natural sediments in the river to hold a temporary market, as well as a series of sacrifices and cultural performances. The "Qingminghui" waterfront market has a history of 286 years, which gradually becomes the identity of Yuantong Town.
The posed problem,	<b>Water shortage caused by climate change</b> There are two main water sources in Yuantong town: the ancient Dujiangyan irrigation district and the Xihe irrigation district. With climate change, the flow of the Xihe irrigation district decreases. At the same time, due to the increasing water demand in the metropolitan area, the Dujiangyan Irrigation District allocates less water to Yuantong Town and more water to the metropolitan area. The river is

	<p>facing. drought, and the dry flow has affected the ecosystem and festival activities</p> <p><b>The conflict between waterfront space and water management</b></p> <p>In order to cope with the drought, people dredged the river every year in order to transport water with lower loss in spring. The natural waterfront space along Xi River is removed and relocated at the periphery of the Yuantong Town. in order to accelerate the water The flow speed, the natural river bank has also been changed to hard pavement</p> <p><b>Loss of site specificity</b></p> <p>The waterfront market is only held 7 days a year. Once it relied on its unique location to attract a large number of surrounding residents and tourists to participate, serving as a local social center, cultural center, economic center, and a status symbol. After being moved outside the town, the market still lacked appeal, even though the local government spent a lot of money to promote it. As a result, the venue faces a crisis of disappearing site specificity.</p>
research questions and	<p>This project focuses on the waterfront space in Yuantong Town. The waterfront space in Yuantong Town used to be the place for festivals, facilitating people living with water. However the waterfront is not only temporary, but also facing the risk of droughts and the loss of site specificity, no longer linked to the river context.</p> <p>Given what was previously discussed, the following questions arise:</p> <p>How to redesign waterfront spaces for the festival along Xi River in Yuantong town through climate adaptive water management considering the identity of landscape?</p> <p>The sub questions are:</p> <ol style="list-style-type: none"> <li>1. What water management techniques can be considered to restore the river's climate adaptability?</li> <li>2. How do the form of waterfront public spaces benefit the new water management and facilitate the connection between festival and river?</li> <li>3. How to reorganize spatial experience be enhanced to reveal the interaction between people and the river now and in the past?</li> </ol>
Design assignment in which these results.	<p>Historically, the unique form of the waterfront space in Yuantong Town was influenced by the traditional water technique and its concept of living with water, which had been used to solve flooding problems. People's use of</p>

	<p>waterfront space as festival market had brought meaning to spaces, which lead to preserving and enhancing its identity. Faced with new crisis, this project hopes to finding solutions for the challenges faced by this waterfront space. That is to improve the water management to adapt to climate change, based on which new form of waterfront public spaces and spatial experience should also be considered.</p> <p>Therefore, the design assignments are related to three topic: the mapping the wetness and droughts that can help to figure out suitable water management technique; the circular water story that can help understand the new form of waterfront space; the landscape biography of the river that articulate the relation between the past and now.</p>
<p>Through new water manage technique, river landscape can be ordered in a way that expresses a particular idea of living with water and reveal the story now and in the past, which will be meaningful to those who experience it. The "ordering" is through reconfiguration of the form of landscape, in which meaning is created through "reframing" the way we experience a particular setting(Simon Swaffield)</p>	
<p><b>Process</b></p>	
<p><b>Method description</b></p>	
<p><b>Landscape Resilience</b>  The mapping of wetness and droughts is important in the water management topic. This can be done by analyzing the existing ecosystem and the resilience of the system. Many landscape attributes widely contribute to landscape resilience, with supporting empirical studies diversity, functional redundancy, connectivity between habitats etc. Other attributes which are relevant in managing ecological resilience include – setting, processes, scale, people etc</p> <p><b>Design with nature</b>  According to McHarg' view, viable design begins with study and analysis. But the planning process rarely requires the active form making that is central to landscape architecture. Reams of analysis and overlays will establish the parameters for making a garden for a suburban backyard, but they will hardly provide the design. McHarg's method insinuated that if the process were correct, the form would be good, almost as if an aesthetic automatically resulted from objective study. Presumably, meaning would accompany the resulting landscape.(Marc Treib,1995)</p> <p><b>Landscape biography</b>  As the main actor of the waterfront space, valuable landscape elements of the river should be excavated through landscape biography to reveal the connection between the present and the past.</p>	

## **Literature and general practical reference**

### **Landscape Resilience**

'Landscape resilience' is defined as the ability of a landscape to sustain desired biodiversity and ecological functions over time in the face of climate change and other influences (Beller, 2018). Many landscape attributes widely contribute to landscape resilience, with supporting empirical studies – diversity, functional redundancy, connectivity between habitats etc. Other attributes which are relevant in managing ecological resilience include – setting, processes, scale, people etc.

### **Design with nature**

Mcharg presents an ecological design concept that is based on ecosystem services, and he lays the foundation for using ecological science as the base for design and decision making. In his book he mentions some natural processes. Surface water, marshes, flood plains, aquifer recharge areas, aquifers, steep slopes, flat land, forests, and woodlands. These have been measured and each described with an eye to permissiveness and prohibition to certain land use.

### **Landscape biography**

Landscape biography is a concept that suggests the inclusion of time and historical landscape research within urban planning, landscape design and public participation. In the historical landscape there is a great complexity due to the intertwining of multiple individual life cycles and the constant "co-scripting" of landscapes with humans. Landscapes that leave an imprint on humans and societies constitute the "landscape of impression". And this is landscape ideologies. "Landscape of expression" is people and individuals leaving their imprint on landscapes, which they form and build in, within this context of ideologies and representations. (Kolen J., Renes H., Hermans R, 2015)

## **Reflection**

### **Relevance**

Water shortages for spring farming due to climate change are a common problem throughout China. However, each place has its unique culture and history, which means water resources management needs to consider local identity issues. Identity in Yuantong Town is related to the unique festival celebrations. This paper examines the causes of water shortage and how water management and identity restoration can be combined, provides design inputs for water solutions in different regions of the world

### **Time planning**

P2 : Mapping of the wetness and droughts ; circular water story ; landscape biography ; design approaches and principles

P3: According to principles, 3 case studies related to technique, form and meaning; regional water management planning including scenarios and strategies; local waterfront design including concept, masterplan, and sections.

P4: Detailed spatial experience design including plans, sections, perspective drawings, and material design; design with time, different experiential routes change throughout seasons in a year.

P5: Design posters, Design report, Design presentation, 3D Model, Design portfolio.