

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Personal information	
Name	Baan Taweel
Student number	4689356

Studio		
Name / Theme	Architectural Engineering	
Main mentor	Mo Smit	Architectural Engineering and Technology – Department AE+T
Second mentor	Fransje Hooimeijer	Environmental Technology & Design – Department Urbanism
Argumentation of choice of the studio	<p>As human beings, we often fail to fully comprehend the extent of the damage we are inflicting upon our planet. Despite receiving information that emphasizes the need to treat our planet better, our actions often contradict these messages. One of the most critical aspects of climate change is the alteration of the hydrological system (Taylor, 2013). This change manifests in various ways, including accelerated sea level rise, increased occurrences of floods, heavy rainfall, droughts, and inadequate drinking water. The hydrological system, or the water system as it is commonly referred to, has become imbalanced. Water serves as the life source for all living beings, including ourselves, as our bodies are composed of approximately 70-75% water.</p> <p>For decades, we have discussed the importance of acknowledging climate change, but we have not always made the right choices. How can architects influence the public's perception of climate change? How can we utilize architecture as a powerful tool to enact change and have a lasting impact on people's lives? I firmly believe that, with the system and resources, we can make a difference, beginning with the younger generation. By teaching them from an early age how to interact with nature in an efficient and sustainable manner. Thereby those principles will be ingrained within their own value system. I am convinced that architecture, alongside technology, can play a significant role in achieving this transformative impact. This conviction led me to choose the Architectural Engineering (AE) graduation studio.</p>	

Graduation project	
Title of the graduation project	Plan B – Future Waterscapes
Goal	
Location:	Delta Area (Delft)– The Netherlands
The posed problem,	The rising sea levels causing possible floods in the Netherlands in 2050. How will people live in such conditions? Results in New building Typology
research questions and	<p>Overall Design Question: How can a building interact in a serene way with the hydrological system and simultaneously create awareness about climate change, based on Traditional Ecological knowledge, for the Delta area of the Netherlands in 2050?</p> <p>Sub questions:</p> <ol style="list-style-type: none"> 1. What design strategies and techniques can be employed to enable a building to interact effectively with the hydrological system while simultaneously promoting awareness of climate change? 2. How can a building's architectural features and functionalities facilitate a seamless integration with the hydrological system and serve as informative serene spaces to create awareness about climate change? 3. What principles and insights from Traditional Ecological Knowledge can inform the design and operation of buildings to ensure a serene interaction with the hydrological system? 4. How can the design of serene spaces inspired by Traditional Ecological Knowledge enhance the quality of life and daily experiences of people living in the Delta area? 5. How can the building's design encourage a sense of connection and coexistence between people and the hydrological system, emphasizing the importance of climate change awareness? <p>By exploring these sub questions, the research endeavours to provide guidance and recommendations on how buildings can establish harmonious interactions with the hydrological system, raise awareness about climate change, and create serene living environments in the Delta area of the Netherlands. The study will draw from the wisdom of Traditional Ecological Knowledge to inform design principles and explore ways to facilitate sustainable and meaningful connections between individuals, their built environment, and the natural world.</p> <p>Thematic Research Question: How can we create spaces which interact serenely with the hydrological system based on Traditional Ecological Knowledge?</p> <p>Sub questions:</p> <ol style="list-style-type: none"> 1. What are the societal challenges that the Netherlands will face in 2050 regarding the hydrological system and its management? 2. What does the hydrological system entail, and how does it function within the context of the Netherlands? 3. How did ancient civilizations, such as the Indus Valley Civilization, cope with the challenges posed by the hydrological system? 4. What is Traditional Ecological Knowledge, and how can it contribute to the design and management of spaces that interact serenely with the hydrological system?

	<p>5. What can we learn from the TEK of hydrological systems in specific cases from the Indus Valley Civilization, such as Mohenjo-Daro, Lothal, Dholavira, and Mari?</p> <p>By addressing these sub questions, the research aims to explore the creation of serene spaces that establish a harmonious interaction with the hydrological system, drawing insights from Traditional Ecological Knowledge. It will examine the societal challenges that the Netherlands may face in 2050 and how the hydrological system plays a role in them. The study will also delve into the historical practices of ancient civilizations, particularly the Indus Valley Civilization, to learn from their experiences in managing hydrological systems. Furthermore, it will investigate Traditional Ecological Knowledge as a valuable resource for designing and managing contemporary spaces that coexist serenely with the hydrological system.</p>
design assignment in which these result.	<p>Since we take the Netherlands in 2050 as starting point, where everything is flooded and the cities are preserved around dikes. We come to the question of how the cities can expand outside this dyke. How will people live? This graduation project will translate in the following design:</p> <ul style="list-style-type: none"> - A skyscraper (on water) designed for – harvesting, storing, access, distribute, filtering water. - Serene spaces that serve as interactive environments to raise awareness about climate change, particularly focusing on the hydrological cycle. - Residential units and a promenade around the serene spaces.
Process	
Method description	
<p>The design concept draws inspiration from Traditional Ecological Knowledge (TEK) principles derived from the ancient Indus Valley Civilization. The primary focus of this research is to explore and learn from the hydrological engineering systems and architectural practices of this civilization, specifically in the regions of Mohenjo-Daro, Lothal, Dholavira, and Mari. The aim is to investigate how these ancient civilizations managed water and incorporate their knowledge into a contemporary building situated on water.</p> <p>The research methodology involves conducting literature reviews and case studies to examine the approaches and techniques employed by the Indus Valley Civilization in their interactions with water, rooted in their traditions and knowledge. These interpretations often emphasize the importance of living in harmony with nature and adopting sustainable practices within the environment.</p> <p>The outcome of this research will be the development of a series of prototypical spaces that embody serenity, interactivity, and engagement. These spaces will serve to raise awareness among people about the effective management of water resources and adapting to hydrological and climate changes. By integrating the wisdom of the ancient Indus Valley Civilization, this project aims to contribute to contemporary strategies for dealing with water-related challenges and promoting sustainable practices.</p>	

Literature and general practical preference

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Reflection

1. 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)?

- In the context of the Architecture master track, my graduation topic integrates various elements related to space, including serene and spatial experiences, circulation as a form of promenade, and the composition of different housing modules, among others. It also encompasses functional aspects, such as the implementation of a hydrological program that promotes awareness of climate change on a broader scale. Additionally, the project explores socio-cultural aspects, ethical considerations, historical influences, philosophical perspectives, economic factors, and sustainability principles. Taking a broader view, it examines the future scenario of the Netherlands in 2050, envisioning a new urban context and exploring how people will adapt to living with water.

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

Social: The primary objective of my graduation project is to foster greater awareness of climate change among future generations by incorporating water in serene spaces. Through this project, I aspire to educate and instil in future society a sense of respect for water. Recognizing that water is the lifeblood of all living creatures on Earth, this endeavour holds significant importance.

Professional: This graduation project has the potential to assist architects, researchers, and designers in developing innovative designs for spaces that harmoniously integrate water and people, while also raising awareness about climate change in a serene manner. The Netherlands can serve as a pioneering city where valuable lessons can be learned from water, becoming a prototype for other locations.

Scientific: The Netherlands must come to terms with the reality that it cannot combat water indefinitely and acknowledge that, at some point, it will experience flooding, possibly by 2050. It is crucial to educate people on how to coexist with water and its systems. The objective of this project is to develop a methodology that combines ancient TEK (Traditional Ecological Knowledge) principles with current and future architectural systems to effectively manage water. By integrating traditional wisdom with contemporary practices, we can address the challenges posed by water and ensure sustainable water management in the future.