

# 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	Ginger Hanssens
Student number	4438337

Studio	
Name / Theme	Dwelling Global Housing Studio
Main mentor	Rohan Varma Architecture
Second mentor	Marina Tabassum Architecture
Argumentation of choice of the studio	I am very passionate about the fact that housing is a basic necessity and everyone no matter their financial situation deserves a roof over their head. Climate change is also a topic I am very interested in since it will affect everyone in the future, but is currently already affecting the global south. This is why I think we as architects have a responsibility to create housing for people who are less fortunate, taking into account the inevitable effects of climate change. This studio addresses these topics.

Graduation project	
Title of the graduation project	Dwelling Graduation Studio: Global Housing
Goal	
Location:	Sylhet Division, Bangladesh
The posed problem,	Frequent flooding affects the livelihoods and living conditions of the people in the Tanguar Haor including damaged houses. This flooding also brings with it polluted water from the Surma River which in turn can affect people's health.
research questions and	How can sustainable and durable housing be built for the people of the Tanguar Haor that can withstand annual flooding, create a solution for the water pollution and subsequently address the needs of the residents?  - How can the settlement and fragile housing be renewed and

	<p>made more flood resilient while keeping the strengths of the current settlement intact?</p> <ul style="list-style-type: none"> <li>- What is the most sustainable and durable way to strengthen the current embankment with the resources available?</li> <li>- In what ways can clean and safe water be implemented into the design?</li> </ul>
<p>design assignment in which these result.</p>	<p>The design will tackle these problems by strengthening the embankment, creating more durable housing and finding a solution to create a safer way to live with the monsoon floods.</p>
<ul style="list-style-type: none"> <li>- How can the settlement and fragile housing be renewed and made more flood resilient while keeping the strengths of the current settlement intact? Research will be done on the current settlement, what should be kept and what needs to be improved and materials that can be reused. Material research will be done on how to best use the local materials available in an area that floods each year. And in what ways the materials can be implemented into the housing design to create the longest lifespan for each material.</li> <li>- What is the most sustainable and durable way to strengthen the current embankment with the resources available? The Netherlands knows a lot about embankments and dykes, however the ecosystem and resources available are very different. Yet hopefully there will be a way to learn from these strategies and implement them in the Haor. Flora will play a large role into the strengthening of the embankment, so more research will be done into which plants will strengthen the soil sufficiently.</li> <li>- In what ways can clean and safe water be implemented into the design? Water is a large part of the lives of people in the Haor. They bathe in the river, fishing is one of their main sources of income during the wet season. For 7-8 months a year they are surrounded by water and yet a lot of the water is not safe to drink and polluted which can make it unsafe to bathe in. Finding a solution to implement safe drinking and bathing into the design will be a challenge because of the constantly changing landscape. Researching specific sanitation projects will hopefully help find a solution.</li> </ul>	
<p><b>Process</b></p>	
<p><b>Method description</b></p>	
<p><b>Context analysis</b> The context analysis has given an overview of general issues that Bangladesh faces and has given insight into specific topics including climate change and flood risk.</p>	

**Literary research**

Academic papers and various articles will help to build an understanding on the research topics discussed. A focus within this method will lie on understanding flood management and waste pollution on a national and local scale and how to tackle these problems in a spatial and architectural way.

**Fieldwork**

The most important part of this research is the fieldwork. A chance to get to know the people, the culture and the sites. The ethnographical observations made during the field trip will be essential for the research.

This research will be done through interviews with the locals, the residents and through conversations with volunteers from the Shahjalal University.

An added bonus of the collaboration with the University are the people who have done research for their own projects on certain sites.

Another method of fieldwork research will be done through photo's, video's and sketches.

**Case study analysis**

Analysing different case studies will help get an understanding of how to deal with certain spatial issues. A critical analysis of these projects will help further this research.

## Literature and general practical references

There are several people, both teachers as students, from Shahjalal University of Science and Technology (SUST) who have done research on the haors of Bangladesh. One study is by Subrata Das and discusses the patterns and architectural features of the haor settlements. It focuses on how these settlements are built and how they function on both an architectural as a communal scale.

Afsary Islam Toma, a student at SUST, worked on a design project for the development of the haor settlements for which she lived in the haor for several months to do research for this project, creating an in depth understanding of the haor communities.

Literature that will be consulted include The New Landscape by Charles Correa and multiple scientific articles about water pollution including "Macrolastics Pollution in the Surma River in Bangladesh: A Threat to Fish Diversity and Freshwater Ecosystems." by Abul Hasnat Abdullah et al. and "Deterioration of water quality of Surma river" by Md. Tawabur Rahman et al.

An essential resource is case studies, these case studies are chosen to be within the scope of the research topic. These case studies currently include Kirinda by Shigeru Ban, Khudi Bari by Marina Tabassum Architects and Territory to Inhabitant by Rozana from Estudio de Arquitectura Montiel. Understanding why these projects work or why they don't work will create the basis for eventual design choices.

## 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)?

The studio aims to understand the various forms of displacement, the challenges faced by these populations, and explore new housing design approaches for an architecture of transition able to mitigate the consequences of massive displacement in part due to climate change. In line with the studio description this graduation project will investigate the transitional state and its associated consequences to the social-spatial ecology of the Tanguar Haor.

Aside from the Architecture master track the project also touches on topics that fall in line with the master tracks within the master programme: Building Technology, Landscape, Urbanism and Management.

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

Climate change is something that will affect everyone in the future but is currently already showing it's teeth in the global south. This graduation project will research a solution on how to build for a changing climate taking the culture of the people into account and how they prefer to live. The specific context of Haor wetlands are found in multiple parts of Bangladesh and this project aims to find a solution which can be applied in other locations, not just Bangladesh.

