

# 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	Lotte Bijwaard
Student number	4873335

Studio		
Name / Theme	Global Housing - Architecture of Transition in the Bangladesh delta	
Main mentor	N.J.A Amorim Mota	TU Delft, Faculty of Architecture & the Built Environment, Department of Architecture, Group Architecture & Dwelling
Second mentor	Ludovica Cassina	TU Delft, Faculty of Architecture & the Built Environment, Department of Architecture, Group Architecture & Dwelling
Argumentation of choice of the studio	I wanted to challenge myself further by choosing this graduation studio. This studio is far outside my comfort zone because everything about it is unknown to me—Bangladesh, its culture, and its design approach. Moreover, I'm very interested in exploring other parts of the world to experience and learn from different ways of living. Through this studio, I aim to develop myself personally and professionally.	

Graduation project	
Title of the graduation project	Merging Grounds: From Village to City
Goal	
Location:	Sylhet, Bangladesh
The posed problem,	There is a significant gap between the houses being developed and the actual needs of the rural-urban migrants (Croese et al., 2016). The increasing number of migrants lacking adequate, secure, and affordable housing highlights the inadequacy of existing housing solutions (King et al., 2017). This will become an increasingly significant problem in Sylhet. It is expected that in the next five years, over 100,000 rural-urban migrants will move to the city, all of whom will be seeking affordable housing in the city centre, close to where they can find employment (Hosseini, 2001). Without sufficient affordable housing options in well-served areas, rural-urban migrants often find themselves living in slums on the outskirts of cities, far from

	<p>essential infrastructure, social networks, and employment opportunities (King et al., 2017).</p> <p>While mass housing has been proposed as a potential remedy for this housing shortage, many current projects have consistently failed to meet the specific needs of low-income migrants. These initiatives often feature standardized, "one-size-fits-all" designs that overlook the socio-cultural and spatial preferences of the urban poor (Beng et al., 2015). Although there is a broad recognition of the importance of including communities in housing development, efforts to engage these groups have been inconsistent (Shah et al., 2015). Small-scale participatory projects are often dismissed as insufficient to address the large-scale housing challenges cities face (Croese et al., 2016).</p>
<p>research questions and</p>	<p>How can the needs of the rural-urban migrants be integrated into a modular design system to create a large-scale housing project which reduces the affordable housing shortage in Sylhet?</p> <ol style="list-style-type: none"> <li>1. What are the specific housing needs and socio-cultural preferences of rural-urban migrants in Sylhet?</li> <li>2. What scale of modularity best align with the housing needs and cultural preferences of rural-urban migrants in Sylhet?</li> <li>3. How can modular design systems enhance the scalability and affordability of large-scale housing projects?</li> </ol>
<p>design assignment in which these result.</p>	<p>The goal of the research is to develop dwellings by the use of a modular design system with the potential for large-scale housing projects in Sylhet that effectively addresses the specific housing needs, socio-cultural preferences, and affordability requirements of rural-urban migrants, to reduce the current and expected affordable housing shortage in Sylhet for the urban poor.</p>
<p><b>Process</b></p>	
<p><b>Method description</b></p> <p>To understand the specific housing needs and socio-cultural preferences, a literature review, fieldwork, observation, and interviews will be conducted. These methods will provide a contextual foundation, analyze daily life activities and current floorplans, and offer insights into the specific housing requirements of this group.</p> <p>To identify the scale of modularity that aligns with these needs and preferences, the study will employ a literature review, case studies, and prototyping. These approaches will help analyze modular housing in similar contexts and develop potential ways to integrate cultural needs into modular design systems.</p> <p>Finally, the scalability and affordability of modular housing systems will be investigated through literature review, case studies, and prototyping. This will enable the research to examine large-scale</p>	

modular housing projects and propose effective design solutions that balance scalability and affordability.

### **Literature and general practical references**

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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)?

My graduation project focuses on addressing the housing needs and socio-cultural preferences of rural-urban migrants in Sylhet by exploring modular design systems that enhance scalability, affordability, and adaptability. This directly aligns with the studio's theme of "Architecture of Transition," which explores housing solutions for populations in rapidly transitioning contexts, such as Sylhet, where urbanisation, migration, and climate challenges intersect.

As part of the Architecture master track, my project emphasizes the role of architectural design in responding to global challenges through innovative and sustainable housing solutions.

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

Rapid urbanization is a global phenomenon and one of the greatest challenges of the 21st century. Many cities around the world face severe issues due to rapid growth, including overcrowding and a significant shortage of housing. This research is relevant not just for Sylhet, but for similar problems recognized globally.

The need for housing is particularly urgent in the Global South, where countries like Bangladesh are highly vulnerable to extreme climate events such as droughts, heavy rainfall, tropical cyclones, and storm surges (Rawlani & Sovacool, 2011). Climate change increases the frequency of these disasters (Moniruzzaman et al., 2018; Rana & Ilina, 2021), which drives large-scale migration. Every year, hundreds of thousands of climate migrants are forced to leave their homes due to sudden disasters like cyclones and floods, as well as slow-onset events like sea-level rise and salinization (McDonnell, 2019). This has made the housing shortage in urban areas of Bangladesh an urgent problem, expected to worsen in the coming years.

Research focused on affordable and rapid housing solutions in Sylhet is essential for addressing these challenges. The solutions developed can not only meet the immediate needs of residents but also provide insights and strategies that can be adapted to cities facing similar crises worldwide.