

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	Natalia Tellez Angel
Student number	5308348

Studio		
Name / Theme	MSc Graduation Laboratory Management in the Built Environment	
Main mentor	Hans Wamelink	DCM
Second mentor	Ellen Geurts	Building Economics
Argumentation of choice of the studio	Circularity in the Built Environment	

Graduation project	
Title of the graduation project	Housing is Dynamic, Not Static <i>Shifting the Development of Affordable Housing with Circular Materials and Methods in Kenya</i>
Goal	
Location:	Kenya
The posed problem,	In the built environment it has become an alarming situation the continuous growth and expansion of urban areas around the world. The built environment is continuously developing in an unsustainable manner and in the medium-term future there will be scarcity of resources if practices are not changed. Therefore, to mitigate the huge problematic and prevent a point of no return, new building materials and methods need to be implemented. This research focuses in the Global South taking Kenya as a case study to investigate how an NGO (Habitat for Humanity), can support local stakeholders to shift the development of affordable housing with the use of circular materials and methods.
research questions and	Main question:

	<p>How can Habitat for Humanity support local stakeholders in Kenya to shift the development of affordable housing by the use of circular materials and methods?</p> <p>Sub-questions:</p> <ol style="list-style-type: none"> 1. How can a process of support for circular materials and methods be created to implement affordable and simple to build houses, while being both efficient and effective? 2. How can Habitat for Humanity evoke change through strategies to create acceptance and adaptation of circular materials in the supply local market? 3. How supporting local stakeholders in the use of circular materials and methods create economic and social value, preventing precarization of affordable housing?
design assignment in which these result.	Theoretical Framework
<p>The result of this thesis will be to design a theoretical framework. Given this research is being held with guidance of Habitat for Humanity, the goal is to provide a proper framework that can shift the development of affordable housing into circular practices in Kenya, which is one of the countries this organization is working with.</p>	
Process	
Method description	
<p>This research will be designed in a case study manner. Given the main focus will be Kenya and how Habitat for Humanity can support local stakeholders to shift the development of affordable housing using circular materials and methods, this case study will be designed as a single case study. Qualitative data collection will be used to collect data and give a data analysis for the project. The inquiry will be directed by interviews. Papers, publications, and documents created about the subject will also be used as a data source to collect data and analyse it. Consequently, the logics of inquiry that will be performed in this research will be inductive and deductive. In order to analyse data in a structured manner, the double diamond framework will be used. This structure is made up of two diamonds that reflect a process of expanding an issue through divergent thinking and then focusing on action through convergent thinking (Design Council. 2019). A relational analysis will be used to analyse the data.</p>	

Concepts will be identified and relationships between them will be established in order to analyse and provide conclusions that will answer the research questions.

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)?

This topic relates to my master's track, Management in the Built Environment, and my Master's programme Architecture, Urbanism and Building Sciences, given it is related to housing and design construction management. The research focuses on shifting business models in the built environment to provide alternative materials to the traditional ones and

more up-to-date building methods. Consequently, housing in vulnerable urban areas should be affordable while being constructed sustainably in the future.

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

This study aims to assist Habitat for Humanity in gaining knowledge in order to influence local stakeholders and execute the use of circular materials and construction processes for affordable housing in Kenya. Circularity is a mechanism that can aid and mitigate resource scarcity in the world. In this specific case it provides the opportunity for sustainable urban development to happen. The research will be conducted in a single case study which will deliver as a final result a theoretical framework. The purpose of this research is to raise awareness about a reality that is happening in the world concerning building practices and the need to make a change for sustainability in the urban built environment. Finally, the idea is to inform and educate a community of interest for changes to start happening in the construction of affordable housing.

