

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	Yuan Yuan
Student number	5297230

Studio		
Name / Theme	Circular Water Stories	
Main mentor	Inge Bobbink	Her work in academia focuses on understanding 'space', developing and adding theories, methods and techniques. The main objective of her research is water.
Second mentor	Willemijn Wilms Floet	
Argumentation of choice of the studio	As a person who lived and grew up in an inland city in northeast China, I do not have much experience designing water systems during the entire undergraduate landscape architecture study. Since my university is located in a high latitude area and the whole winter is cold and snowy, the research content is more about the characteristics of the cold landscape and the ecological landscape design. But I have always maintained interest and enthusiasm for water-related stories, such as how people who live by the water can live in symbiosis with it. How can people manage water in extreme weather and environments? And what measures have people taken in the increasingly harsh water environment? I also want to learn about how to solve water issues under various climatic, geographical, and cultural conditions through the graduation project.	

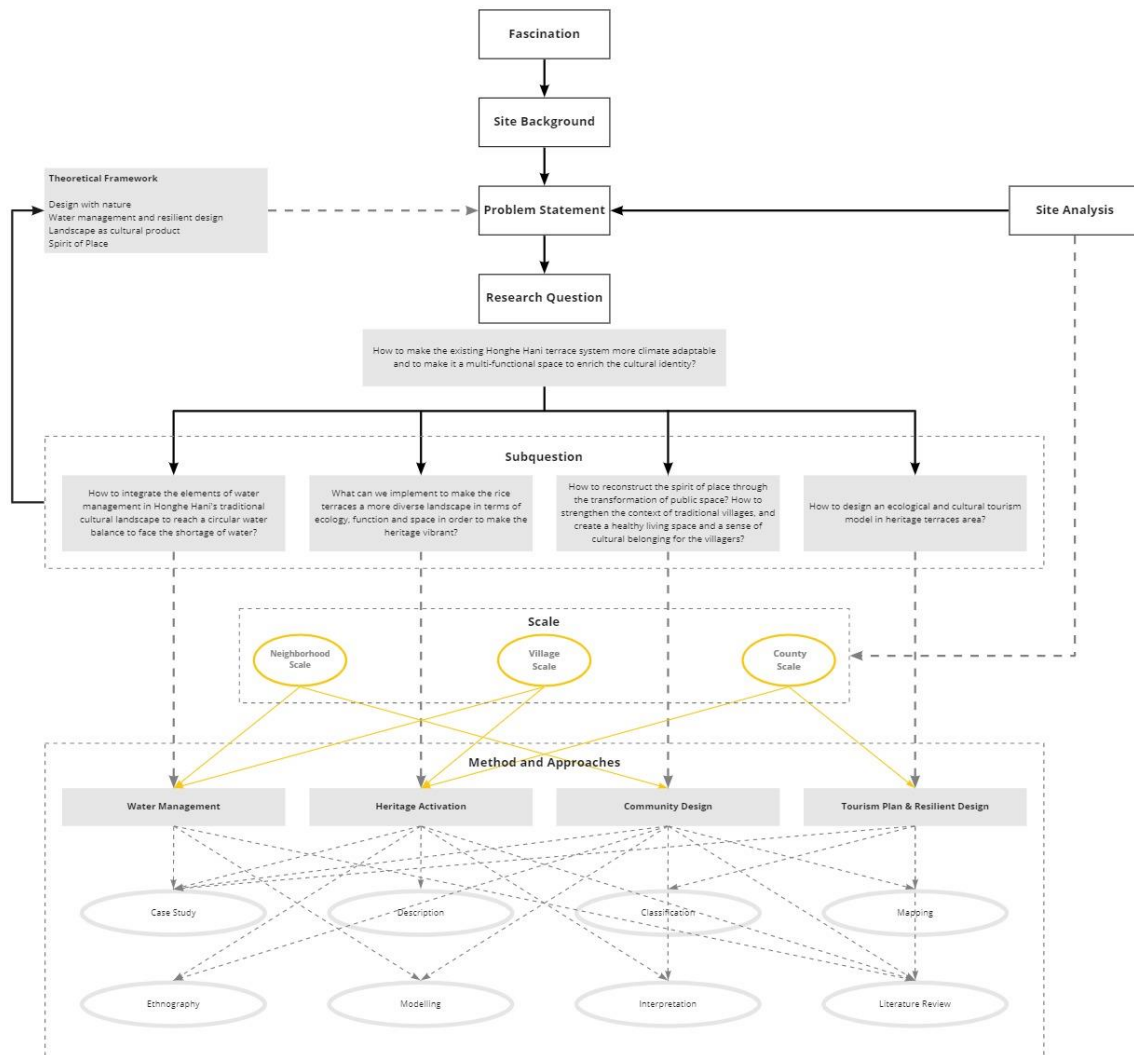
Graduation project	
Title of the graduation project	'Refreshing' the Old Village——Towards a sustainable cultural landscape for Yuanyang County
Goal	
Location:	Yuanyang County, Honghe Prefecture, Yunnan Province, China
The posed problem,	1. Honghe Hani terraces have a long history and rich culture. One of China's ethnic minorities lives here—the Hani ethnic group. Over the past 1,300

	<p>years, the Hani people have developed a complex system of channels to bring water from the forested mountaintops to the terraces. They have also created an integrated farming system that involves buffalos, cattle, ducks, fish and eel and supports the production of red rice, the area’s primary crop. The resilient land management system of the rice terraces demonstrates extraordinary harmony between people and their environment, both visually and ecologically, based on exceptional and long-standing social and religious structures. In 2013, Honghe Hani Terraces was inscribed as UNESCO's World Heritage Site.</p> <p>2. Since the beginning of the 21st century, the area of terraced fields in Yuanyang County has diminished year by year. One of the reasons for the decrease in the area of terraces is the lack of water sources caused by drought, and some of the terraces at the bottom are deserted. The second reason is that paddy fields have been changed to dry fields. Because the economic benefits of traditional red rice are too low, farmers choose to transform a large number of terraces into ordinary farmland to grow crops with higher economic value such as bananas and sugarcane.</p> <p>3. Due to global climate change, the stable ecosystem of Yuanyang terraces has been destroyed. Because of the reduced capacity of forests to capture and store water, there is a shortage of water sources for irrigating terraces during the dry season.</p> <p>4. The Honghe Hani Rice Terraces are famous for the spectacular terraced landscapes. At the same time, with the change of seasons, the terraces have different views. With the rapid development of tourism, it also had some negative effects on the ecological environment of terraced fields. Unplanned tourism development affects the terraced ecosystem. The development of the scenic spot has caused the destruction of the original vegetation and soil structure. At the same time, since there is not a sufficiently powerful sewage treatment system in rural area, the sewage generated by tourists will also pollute the terraces.</p>
<p>research questions and</p>	<p>Main question: How to make the existing Honghe Hani terrace system more climate adaptable and to make it a multi-functional space to enrich the cultural identity? Sub 1: How to integrate the elements of water management in Honghe Hani's traditional cultural</p>

	<p>landscape to reach a circular water balance to face the shortage of water?</p> <p>Sub 2: What can we implement to make the rice terraces a more diverse landscape in terms of ecology, function and space in order to make the heritage vibrant?</p> <p>Sub 3: How to reconstruct the spirit of place through the transformation of public space? How to strengthen the context of traditional villages, and create a healthy living space and a sense of cultural belonging for the villagers?</p> <p>Sub 4: How to design an ecological and cultural tourism model in heritage terraces area?</p> <ul style="list-style-type: none"> • How to build a sustainable water circulation system? • How to reduce environmental pollution caused by tourism (air pollution, water pollution, noise pollution, destruction and interference to animals and plants)?
<p>design assignment in which these result.</p>	<p>The whole project involves multiple scales.</p> <p>On the Yuanyang County scale, make the routing design. The design includes strengthening the connectivity between the villages by replanning the roads. Propose different travel paths, such as walking paths, driving paths, and ropeway paths. Combined with the scenery and the mountain terrain conditions, the road will be designed in terms of visual and spatial aspects.</p> <p>On the village (Azheke Village) scale, activate the landscape to make it more resilient, in terms of the ecological and economic way of living. Design the water circulation system of Azheke Village, including enhancing water storage capacity, sewage treatment capacity and water reuse. Enhance the stability of the forest system around Azheke Village, including the selection of tree species and the design of plant communities.</p> <p>On the neighborhood scale, focus on the design of public spaces to strengthen the cohesion of the village and the identity of Hani ethnic group culture. At the same time, strengthen the cultural characteristics of the Hani ethnic group in architecture, farming civilization, festivals, diet, religious beliefs aspects, and use these characteristics to attract tourists to experience the unique lifestyle of the village.</p>
<p>[This should be formulated in such a way that the graduation project can answer these questions. The definition of the problem has to be significant to a clearly defined area of research and design.]</p>	

Process

Method description



1. Literature Review. Collect information through literatures, such as the historical background of Yuanyang terraces, cultural customs, geographic information, ethnography, etc.
2. Case Study. Through case studies comparison, learn about outstanding cases in cultural heritage protection, rural tourism, agricultural heritage transformation, etc.
3. Mapping & Sketching. Make the collected text and data visualize. For example, use maps to display geographic information data such as elevation and catchment areas; use schematic diagrams to reflect the interaction between people and water, etc.

Literature and general practical preference

1. Bai, Y. (2012). Agricultural production in Hani Rice Terraces System and related threats — a case study of Zuofu and Mitian Villages in Honghe County, China. *Chinese Journal Of Eco-Agriculture*, 20(6), 698-702. doi: 10.3724/sp.j.1011.2012.00698
2. Bai, Y. (2013). Resilience of the Hani Rice Terraces System to extreme drought. *Journal of Food, Agriculture and Environment*. 11. 2376-2382.
3. Chan, J., Iankova, K. (2016). The role of self-gentrification in sustainable tourism: Indigenous entrepreneurship at Honghe Hani Rice Terraces World Heritage Site, China. *Journal Of Sustainable Tourism*, 24(8-9), 1262-1279. doi: 10.1080/09669582.2016.1189923
4. Ferro-Vázquez, C. (2017). When is a terrace not a terrace? The importance of understanding landscape evolution in studies of terraced agriculture. *Journal Of Environmental Management*, 202, 500-513. doi: 10.1016/j.jenvman.2017.01.036
5. Hua, H. (2015). Human-Environment System Boundaries: A Case Study of the Honghe Hani Rice Terraces as a World Heritage Cultural Landscape. *Sustainability*, 7(8), 10733-10755. doi: 10.3390/su70810733
6. Hua, H. (2018). The Change Mechanism of Human-Environment Interactions from the Perspective of Contextualization: A Case Study of the Honghe Hani Rice Terraces as a World Cultural Heritage Site. *Sustainability*, 10(7), 2230. doi: 10.3390/su10072230
7. Wang, Z., & Marafa, L. (2021). Tourism Imaginary and Landscape at Heritage Site: A Case in Honghe Hani Rice Terraces, China. *Land*, 10(4), 439. doi: 10.3390/land10040439
8. 黄绍文 & 黄涵琪.(2016).世界文化遗产哈尼梯田面临的困境及治理路径. *学术探索* (10),131-137. doi:CNKI:SUN:YXST.0.2016-10-022.
9. 王浩.(2010).旅游影响下的元阳哈尼梯田传统生态文化保护研究(硕士学位论文,西南林业大学).
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10. 尹丽娜.(2021).基于有机更新理论的乡村景观研究(硕士学位论文,成都大学).
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11. 俞昌斌(2017). 体验设计唤醒乡土中国——莫干山乡村民宿实践范本引用. 北京:机械工业出版社.

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 final theme is to create a sustainable Yuanyang terraced ecosystem in terms of ecology, culture, and economy. The traditional Yuanyang terraced ecosystem is composed of forests, villages, terraces, and rivers. Therefore, water plays a vital role in the entire ecosystem. Under the guidance of Studio Topic, learn about the stories behind the traditional water system, and learn how the Hani people in the past managed water, used water, symbiosis with water, and so on. At the same time, understand the role of water in production, life, entertainment, and cultural beliefs.
2. What is the relevance of your graduation work in the larger social, professional and scientific framework.
Hani people have lived among terraced fields for generations, creating a unique terraced field culture in the process of coexisting with nature for a long time. Its rice production contains rich ecological culture, which has a great impact on the ecological

environment of the community. At the same time, the terraces also embodies the local characteristics of Yuanyang and are valuable tourism resources. With the success of the application for world cultural heritage and the development of tourism, the protection of the traditional ecological culture of Yuanyang terraces has been challenged as never before. How to find a balance between tourism development and cultural protection is the focus of this project.

This project attempts to use the Yuanyang Hani terraces as a case to explore the interactive strategies of tourism and traditional ecological culture, and to further think about the symbiosis approach of tourism and traditional ecological culture.