

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	Xenia Georgiadou
Student number	538905

Studio		
Name / Theme	Flowscapes / Circular Water Stories	
Main mentor	Inge Bobbink (L.A)	Landscape Architecture
Second mentor	Mo Smit (A.E)	Architecture Engineering
Argumentation of choice of the studio	I am interested in learning about the landscape biography, especially in traditional water system of my region, Cyprus and how the system has been modified today. Additionally, the biggest motivation of this choice was the Quarter 2, where we studied the Dutch landscape and its water management. It consists a stimulus and a starting point of my graduation thesis direction.	

Graduation project	
Title of the graduation project	Title: Revitalizing a Seasonal River in Cyprus Subtitle: Water as a link between people and nature.
Goal	
Location:	Pomos village, Paphos, Cyprus
The posed problem, research questions and	<p>Cyprus is an island located in the Mediterranean sea, between Europe and Middle East. The island had always water scarcity issues and countless techniques have been carried out to secure the water supply. Cyprus went through the control of several conquests and each of them brought water management knowledge to the island. Some of them are still visible in the Cypriot landscape and function properly for the water supply either for irrigation or drinking purposes.</p> <p>However, as it is mentioned, the water shortage is a constant concern for the island inhabitants. After the independence of Republic of Cyprus countless dams have been constructed as reservoirs for the water storage. The dams usually interrupt the river flow, by separating it in the upstream and the downstream. In this way, the downstream of the river is modified as a seasonal one, since the water flow depends on the dam overflow, which happens mostly during the wet season. This factor causes a lot of issues, both in the local natural habitat and the surroundings.</p>

The study site, a seasonal river in a seaside village, called Pomos, is an example of this case. A seasonal river –the downstream- passes through the village, starting from Pomos dam, which is used only for irrigation purposes, and ends up in the Mediterranean Sea. There are two layers of issues into this area, the nature issue and the cultural one. Specifically, the first concern has to do with the climate change. On the one hand, the climate change cause the rainfall reduce, thus the water, which is stored to the dam is only used for irrigation purposes and there is not surplus for the river. This fact causes not only drought to the area and the biodiversity loss, but also modifies the scenery almost abandoned, particularly during the dry season. In additional, some invasive species consist a threat for the local ones, since they dominate the river banks and they do not allow other species growing. On the other hand, due to the climate change unpredictable heavy rains are occurred, which cause flush floods to the area. The dyke's absence along the river contributes to the flooding of the area, since there is nothing to prevent the water flow. Sometimes, the flash floods are really destructive, since the river width can reach 100m and 3m height and the village is in danger.

The second crucial area issue concerns the humanity, which is endangered from the nature. Especially the people, who are city's residents since they do not have any contact with the nature, compared to the village's ones, who are dedicated to the nature as it is their main source of income. The poor people's consciousness about the environment leads to really serious issues, such as not appreciation of the natural scenery and attempting to abandon and ruin it. Cypriots have as a habit to visit natural sights during throughout the year, particularly during the weekends. Even though, they visit and admire the natural sceneries, they have little understanding about the importance of the nature in our life. From my point of view, their interest is really superficial, since the technology, especially the social media has dominated our life.

Moreover, the conditions and the issues that have been already mentioned of the seasonal river do not only concern this specific area, but also countless regions of the island deal with similar problems. This factor leads me to the exploration of the local water system, how the drought as well as the excessive water amount during the dry and wet season respectively, could be eliminated, in a way that users- visitors/residents- could interact with it, in order not only to explore and experience it but also for the awareness raise about the natural habitat and its value in our life. Another main goal of this thesis is to provide the proper infrastructure and activities for the human-beings, so that they will be part of the environment by participating in several activities, within the landscape.

	<p>The Research Question (RQ) is :</p> <p>-How can the seasonal river in Pomos village in Cyprus and its surrounding area be transformed, in such a way that people can interact with it, understand, and experience its value for life and biodiversity on the island? -</p> <p>Sub-questions :</p> <ol style="list-style-type: none"> 1) How could the rainwater and the dams overflow water would stay for as much as possible in the landscape, so as to prevent any drop flows to the sea? 2) What kind of activities could be implemented for people's interaction with the water and the nature, for their awareness raise? 3) How the seasonal river could be more active as a main actor of this new intervention?
<p>design assignment in which these result.</p>	<p>The graduation project is expected to explore the several potentialities of the Pomos area, especially the region close to the seasonal river, in terms of landscape architecture principles. The main intention is to provide a multi-functional landscape, where the education is provided through the restoration of the natural habitat.</p> <p>Interventions will be made, so as to improve the nature aspect of the area, as well as it will be researched how this fact could have positive impact not only, on natural habitat, but also to the users and residents of the area. The project proposal is divided in two layers, the cultural and nature one.</p> <p>As regards the cultural layer, the main purpose is to redefine the role of the environment into human-being's life. This (re)definition has to start off from the early age of a person through the school curriculum but also adults have to be informed about this significant aspect of our life. Especially, fieldtrips is a mean to bring the people close to the nature, where they have the opportunity to observe, learn, acknowledge, discover and become part of the environment. However, small scale design interventions, will take over the theoretical part of this (re)definition, where people will be informed about the importance of the nature, water, and its value in our life. The outdoor activities will undertake the practical way of learning, by interacting with it. For instance, by growing and collecting crops, observing the different kind of flora and fauna or just resting close to the river. These are some of the ways that could bring the people close to the nature. In addition, public experiences from the past will remind the people's roots, such as the public fountains along the paths, which is an inevitable part of the village's water system during the British occupation in Cyprus.</p> <p>Circularity in terms of water is another crucial aspect that is expected to be provided through the new intervention and the users will participate in this process. The design assignment promotes the local agriculture, since the farmers can sell their products in the small markets. To sum up, the theoretical mean of learning is not enough for the holistic change of the people's mindset, thus the practical one will raise their awareness and consciousness.</p>

	<p>However, the natural layer is the second design approach that will be applied. It starts off with the modification of the relationship between the dam and the seasonal river of the area. The water bed has to widen, since it is essential to give space to the river as well as a depth will also contribute to the enhancement of the biodiversity. Alternative ways of water storage for irrigation uses have to be found, since it is not efficient for the agriculture to be depended on the dam anymore. In other words, it is essential to take advantage of the wet season of the island, in order to keep as much as possible water to the area and be prepared for the dry months. Additionally, dykes along the river are highly important for safety reasons, since the water is consists a threat for the locals in case of heavy rains. Simultaneously, the water has to be kept into the area in different ways, since it is beneficial for the local species, by making terraces or water collectors.</p> <p>To sum up, the user will have the opportunity to participate in all these public experiences and interact with the nature as well as the water. The different activities have as a main actor the water, which is an integral part of our life. The user will discover, observe, learn, participate, interact as well as feel the countless ingredients of the natural habitat. After all, the scenery will still be interesting and intriguing during the dry season, but totally different as well. During this period, the water in the seasonal river will be disappeared, but the activities as well as the biodiversity will make it equally pleasing for exploration.</p>
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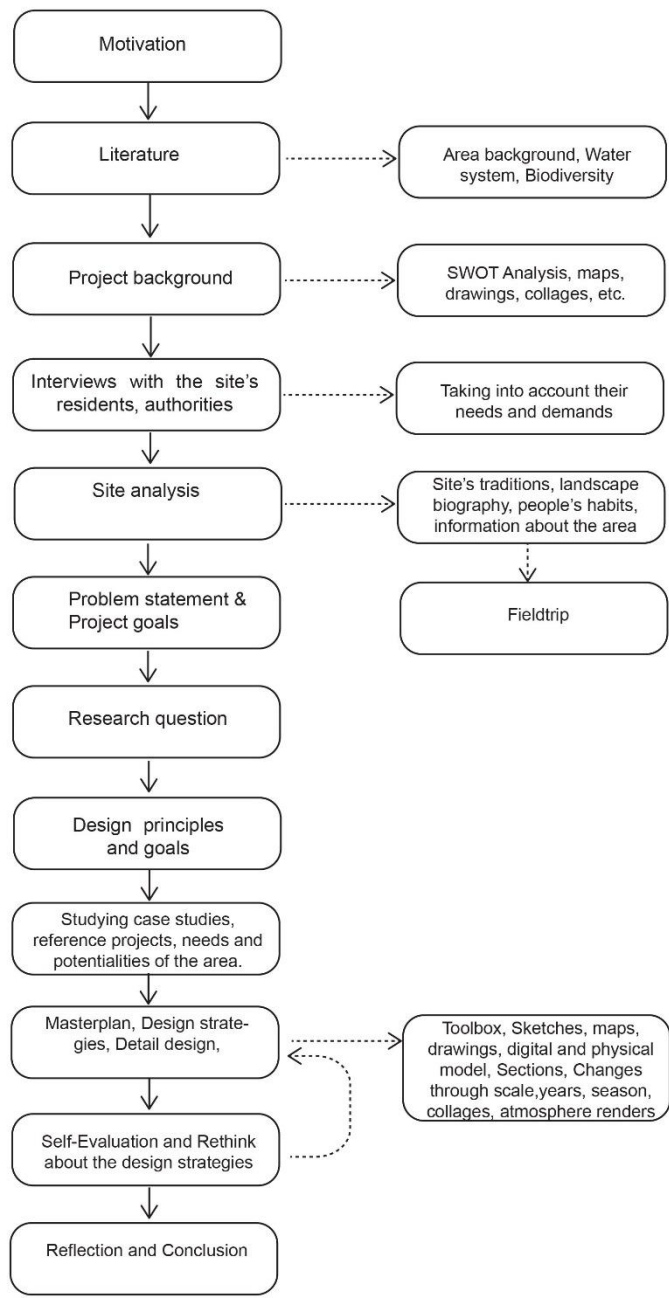
Process

Method description

First of all, it is essential to investigate the area background within the traditional water system, the landscape, the relation among people and the nature, the agriculture etc, by studying literature. The SWOT analysis method is a way to analyze the area's possibilities, weaknesses, threats and strengths, in order to perceive the real needs and features of the region. The results of the investigation about the area background are maps, charts, diagrams and collages. A regional, city and village scale analysis will take part, by maps and drawings, so as to understand the area's landscape ingredients.

In addition, a site visit is essential, since the communication with the residents of the village and taking into real account their recommendations and needs is also another fact that is crucial for the design process. Specifically, researching the traditions and customs of this village, such as songs, dance, elements which are related to the water supply and landscape is another component of the analysis. Following this, the analysis of the site will take place, through mapping, drawings, and collages. The ecology, climatic and social aspect have to be analyzed and illustrated. After these strategies, we will end up in the methods, such as models, drawings, maps, collages in order to present the findings. Through the research about the site information as well as the issues and the biography of the area, the problem statement as well as the research question of the project is getting clear and defined.

Nevertheless, design principles and aims will be presented through the researching of case studies as well as reference projects, not only for provision more knowledge, but also for inspiration. Next step, the design will take part, by drawing masterplan, sections, design strategies, detail design, making model (physical + digital). The changes of the site through the seasons, time and scale will also be illustrated, in order to reveal that the landscape is about a continually change that is never the same. Moreover, an evaluation of the design intervention will take place in order to perceive if the area's and resident's needs as well as the demands have been covered. Last, but not least, reflection and conclusion consist the last step of my method.



Literature and general practical preference

- Interviews with people from the Water Development Department of Cyprus
- Interviews with the residents/authorities of the village- users involvement
- Given, M. and Hadjianastasis, M. (2010) Landholding and landscape in Ottoman Cyprus. Byzantine and Modern Greek Studies, (Master thesis, University of Glasgow, Scotland) Retrieved from: https://www.researchgate.net/publication/41225608_Given_M_M_Hadjianastasis_2010_
- I.L. Ward, C.B.E, BE,F.I.C.E, (1989), Cyprus water development before 1960, Retrieved from : www.moa.gov.cy
- Karl W. Butzer, Sarah E. Harris (2007) Geoarchaeological approaches to the environmental history of Cyprus: explication and critical evaluation, Journal of archaeological science
- C. Raeburn, C.B.E., (1947) Water supply in Cyprus,Retrieved from: www.moa.gov.cy
- Gali-Izard, T. (2005) The same landscapes ideas and interpretations (1st ed.), Editorial Gustavo Gili.
- Kampanelas C., Omorfos C., Ioannou E., Frangkescou T., (2003), Development of water resources in Cyprus, Retrieved from: www.cyprus.gov.cy
- Kampanelas C., Omorfos C., Ioannou E., Frangkescou T., (n.d), Water Development Department 50 years, 1939-189, Retrieved from: www.cyprus.gov.cy

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 graduation thesis is part of the Circular Water Stories lab of Flowscales studio, the graduation studio of the MSc Landscape Architecture of TUDelft. The graduation thesis investigates the historical water system of the area and how this has been developed through the years. It also explores spatial, societal and environmental issues. The biography of the landscape is equally crucial, in order to learn from the past but also to be informed about the "previous layers" of the region. Moreover, the graduation thesis related to the Landscape Architecture track, since it is expected to create quality spaces, where the redefinition of the relationships between human-beings and nature will be achieved. The project is expected to generate a multifunctional space, where the users will be provided by several sensations and feelings, while they go through it. Particularly, a seasonal river-water corridor- plays a key role to the whole transformation of the area, since the interaction between people and nature and all the activities will take place around the river. Nevertheless, several disciplines will be combined in this project thesis, in order to provide the best result, and benefit not only the society but also the natural habitat. Additionally, there will be common spaces as small scale buildings for the visitors, which they will provide circularity, in terms of water.
Lastly, architecture, landscape architecture, water management and ecology are the most important aspects that will be included into this graduation project. As it has been already mentioned, the main aim of this project is to provide a new space, inspired by its historical

background and nature, so as to constitute an attraction and an "education" area for human-beings.

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

Relevance :

Larger social framework:

As aforementioned, the graduation projects intends to raise the people's awareness about the natural habitat and water and their value in our life. It proposes to make quality spaces, where the people could interact with the nature and water as well. They will become part of it, in order to better understand their importance in our life, and they will learn to respect it and raise their awareness. It aims to provide inclusive green spaces with local flora and fauna species, where the water element will be visible in different ways.

Professional and Scientific framework:

This graduation projects deals with a seasonal river in a county with small amount of precipitation, where the scenery is almost abandoned especially during the dry season. The flora and fauna is completely disappeared during this period. The challenge is to modify this area into a lively one in both, wet and dry season. Likewise, to raise the people's awareness and consciousness about the environment, since they tend to be completely estranged from the rural landscape. This strategy could also be applied in several regions of the island, since this case is not unique. Countless downstream of the island suffer from the drought, and people have abandon them, especially during the dry season. This approach and design intervention will combine different disciplines, in order to achieve its aims. It will reveal how different sciences can interact with others and generate a quality space. Additionally, the project will contribute to the dealing with drought areas in a rural landscapes as well as how the people could be part of it and learn to take care of it.