

Refelection

● The relation between research and design

For my thesis, research and design are inseparable and collaborative. During the research period, they are three phases. First, the general research help to understand the background context of the site, which leads to the research objectives shapes and frames the focus of this thesis. Second, from the study of theoretical literature and methodology theory, establish my own methods and theoretical framework, and become the theoretical foundation of specific research and design. Then, since the thesis aims to propose a mutual benefit way to improve living quality for different users of Parkstad. So this design goal, to some degree, guides the direction of this step. Divide different users groups, to analyze how they use this study area and the potential and limitations of the site. This step gives the important criteria for the next step design, like the scale and site choose, the spatial compositions. The research process is not just about acquiring knowledge, but also how to apply it to a specific design.

During the design period, the design has been implemented by using the search as a guideline to frame the design. In the establishment of the large-scale green and blue framework, the needs of different users for the site, as well as the site landscape typologies, are considered to form a new set of flow-networks that meet the functions required by different users. In designing a new community of multiple users to live together, the test design was first carried out four times, and four groups of users were considered in an equal position, and different visions were designed to meet their requirements. Test design provides a series of criteria and their focus on the venue (preference), providing a good guideline for the final design. In the process of designing, more detailed requirements for space and detail make the more targeted research ongoing. As a means of test possibilities, the design explores the combination and expression of different ways of the venue and theme, verifies and improves the knowledge gained, becomes a new knowledge or design method which can be the basic reference for the later researcher.

Design and research are always throughout the project, they interact, reflect and improve with each other.

● The respond to research question

On the regional scale, the establishment of new green and blue networks has increased the habitat of flora and fauna and the built of migration routes enhances their adaptability to environmental and human disturbances. Connect the breakpoints and plan the function of new corridors, consider the various types of users, as well as the different needs of the natural and urban systems, different typologies are given to respond. A variety of coherent high-quality paths are formed for all types of users to reach the largest regional green space from the "home" door.

On the Urban scale, natural systems are used to replace some urban systems, and land values are converted by giving new functions to vacant buildings and abandoned plots. Select areas with potential in the city. Different strategies are used as toolboxes, which can be superimposed to achieve different functions for each user.

The design of the small-scale collaborative community gives concrete measures to enhance biodiversity based on specific space, strengthen the ecosystem service and increase the value of the land, so that all users, human, flora and fauna can improve the living quality. Respond to research questions with more specific, realistic, and visual results.

Different scales answer the question of how to reorganize the urban and natural system and give a variety of possibilities to enhance biodiversity. The proposal is not only serve human, but also for other flora and fauna, improving the living quality of all kinds of users in parkstad.

- **Reflecting through the relationship to Flowscapes studio**

The Flowscapes studio offered various approaches in landscape design including landscape as infrastructure, landscape as process, landscape and urban development and landscape as ecology. Offer different perspectives, Landscape as scale-continuum and Landscape as process has been the guideline for my research and design. My thesis, research from the regional scale to understand the site and get through the urban scale and city center scale to choose my final example site. The research is a continuous process from a large scale to small. For the design part, first, have the test design at the community scale to check different possibilities and how the specific working. Then go to the city center scale, design a new green-ring to active and renew the city core. Give a lot of different typologies that can be used as toolbox for other possible sites in urban scale. In the end, the new green and blue framework in Parkstad scale connect the breakpoints and different habitats, create several migration routes for different users, which made the whole design become a complete working system. This follows the idea from Flowscapes studio that the design involves establishing relationships via attachment, connection, embedment of a specific site or location into the broader context at different scale levels. Also, Landscape and landscape construction are regarded as a process rather than as a product. Projects play a role as an open-ended strategy, as in staging or setting up future conditions. Hence, my thesis follows this perspective, focus on a long-term framework that takes a long process and considered in different phases.

- **A reflection on scientific relevance**

Many designs are starting from the human perspective, putting people at the first position to think about how to do further urban planning. This thesis also places flora and fauna at an equal position that as important as people, to consider the future about cities. In a shrinking city, oversupply space, excessive land and declining population, how to design a proper scale and density of cities is an interesting and worthwhile question. The transformation of natural and urban systems, the balance between different users and the pattern of mutual collaboration are the core of research and design. Now biodiversity and shrinkage are already a global issue, and the new possibilities presented by thesis will provide different scale solutions for other shrinking areas. Especially for cities with similar industrial backgrounds, their population types will be more similar and the results will be more applicable. Not only the shrinking cities, but also some dense cities, these small strategies can also be used for some intervention to enhance biodiversity and living quality.

- **The limitation of the project**

The collection of information about the distribution of different species is the biggest difficulty in the analysis phase. Other studies on species often use big data analysis and perform GPS location tracking for individuals, with results from years of observation and data logging. Due to the limitation of time and technical constraints, this thesis, just discusses the landscape structure of the site through different layers, from the soil, vegetation, hydrology, geomorphology and distances to cities and roads, etc. Based and overlapped most species' requirements for these elements, yielding a general biodiversity distribution map for most species.

The thesis focuses on the needs of various users for urban and natural systems, using landscape approaches to intervene and improve. Although the different background has been considered as much as possible, it is still limited to the scale of the landscape architecture and ignores some other aspects. For example, the detailed construction of demolishing houses is still worth exploring, government policies and urban planning, market economic strategies and so on. The project is worthy of more in-depth research in these areas, integrating a more practical proposal.

The economic problems of the city are still the most concerned points in shrinkage situation. How the project itself can bring some additional monetary income should have a deeper answer. Enhance biodiversity has led to an improvement of living quality, which in some ways can drive natural tourism and enrich land value. But realizing this impact is a long-term process, during this time urban policy, economy, and population unpredictability will be a big challenge for the project.