

Rethinking the territory, Concepción Chile.

A resilient and strategic planning for a vulnerable urban coastal system.

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REFLECTION

The continuous struggle between cities and nature has led to human settlements to look for stability and safety, trying to control the dynamics and flow of the underlying landscape. This situation creates a dissociation between both systems where one is superimposed on the other, generating a vulnerable urban-landscape system.

The present research aims to re-envision the perception of the city understanding it as a living system where change creates growth and renewal, and where uncertainty is our new normal. Given the uncertainty inherent to the territory of Concepción, the course of the research looks for a shift in the way we design and manage interventions in our living systems.

Adaptation, appropriation and flexibility are the essential elements of a successful system. In that way, the vision of this project is to create awareness about the idea that cities and landscapes as a whole system can develop the ability to respond to changing environmental conditions making persistence possible.

Evaluation of the design proposal

Relationship between research and design

The starting point of the research begins with the fascination of the city of Concepción with all its complexity and vulnerability due to the natural risk and human activities pressures upon the existing landscape. Through the literature research and the own experience as a citizen of Concepción, it was possible to generate a deeper understanding of the territory not only as an inhabitant but as a landscape designer, comprehending the landscape layers that underlies the city.

The living experience and the literature review in addition to the analysis of the metropolitan area lead to a perception shift about natural disasters, where the main conclusion was that in an environment where natural hazards occur periodically and with major effects for human settlements, the continuous change and uncertainty is now our new normality.

But how can we deal with this new normality if this situation constantly threatens the urban life? From this new perception of Concepción reality, an exploration of different theories

started in order to understand how to imagine new futures for the city. Therefore, concepts like resilience, adaptation, redundancy, voids and (un) planned spaces were studied as a theory base to go further in the design.

Thus, the research as system of inquiry, was based in a literature study on theoretical investigations of landscape architecture and urban planning with the goal of a deep understanding of the opportunities and challenges of natural disasters, uncertainty, resilience and adaptability in order to apply those principles in a practical design for the challenges and opportunities of the city of Concepción.

The intention of this literature review lies in comprehending how different theories come together to understand the uncertainty condition of the territory and what they suggest towards creating a more resilient and adaptive city. In that way the research framework offers conceptual tools to understand the challenges and identify potentials to address the objectives defined.

This first step created a comprehension about the need of develop a strategic urban and landscape plan to reverse the dissociation between landscape and city with an adaptive and resilient approach in order to enable new human-nature interactions.

Therefore, the research influenced directly the design, which has been shaped through the studied theories in combination to the genius loci of the place, generating a continuous dialogue between the research framework, the specificity of the territory of Concepción and the design process.

Relation between graduation topic, studio topic and master track

The presented project is part of the Flowscales graduation studio and the Water Circular Stories lab. Both studios are focused in the exploration of special, societal and environmental issues by design research and research by design approaches.

In relation to these topics, the project works mainly with the power of the flow of water in the territory of Concepcion, where the metropolitan water system was analysed in order to understand the different elements of it and its potentials as resilient elements in the whole structure.

Therefore, the research explores how wetlands, marshlands, rivers and water bodies in combination with green elements such as forest and hills, can create a green and blue infrastructure that use and connect different scales, developing a resilient backbone as a strategic plan and meaningful design for the city, rethinking the functions and land uses of the territory.

This green and blue infrastructure provides a series of principles and methods to adapt the human settlement for extreme scenarios and at the same time it gives a livability to the city, reformulating the urban fabric as a provider of nature.

Thus, the strategy not only works during times of risk and hazards, but also in stable faces of the territory giving to the inhabitants larger green spaces, landscape connectivity and protection of the ecological value of the existing landscape.

That is why, along with the aims of the graduation studio, the proposal looks to discuss infrastructure as landscape and landscape as infrastructure from large to small interventions that interrelate as part of the current development of the territory of Concepción.

Scope and relevance

Choice of research method and scientific relevance

The research method it is based on research by design through the exploration of different (im)possible utopias for the territory of tomorrow. These simulations of future visibility create an interpretative research, giving an intentional meaning to the possible scenarios.

In combination with the theoretical background, research by design allows to explore possibilities on design and through design as a systematic exploration that reflect on itself in order to create and recreate new scenarios and design opportunities.

Furthermore, the landscape resilience backbone is the research tactic and method lens, as a way to understand the landscape as process and in context.

This understanding allows to apply a meaningful design (resilient and adaptive) in order to develop a strategic plan based in the proposed adaptive void framework in combination with a green and blue infrastructure. The use of these methods aim to create a resilient backbone for the city with a series of principles and practices to conclude with the design of a possible future scenario through scales (from the metropolitan masterplan to human experience)

The relevance of this kind of methodology in a territory like Concepción, lies in the understanding of the landscape and nature that underlies a city that has been built for cars and not for people. A city with a lack of green infrastructure and leisure places, but at the same time surrounded by abundant nature and biodiversity.

Therefore, as scientific relevance, the research contributes to put on focus the importance of landscape in our cities and daily life, and how it can be not only for pleasure but also as resilient protection against constant natural disasters that hit the country. Thus, the proposal is innovative for a city like Concepcion in the sense that there are no projects or major investigations about landscape as provider of a resilient structure for the city instead of understanding the flow of nature as a threat for human life.

Social and environmental relevance

As it was mentioned before, the proposed green and blue infrastructure generates a resilient and adaptive backbone to the city, providing a safer and healthier structure for the metropolitan system. Thus, the design contributes to the developing of human life in the vulnerable coastal system of Concepción, generating a safe network in case of extreme scenarios that works in a resilient way in order to adapt itself and the city to the new conditions.

In addition to the resilient aspect, the proposal also generates a complete infrastructure that connect the urban fabric with the landscape that underlies the city, creating a leisure and recreational network for the inhabitants of Concepción. In that way, the new infrastructure gives conditions of liveability when the territory faces stability periods.

In relation to the environment, the proposed green and blue network clearly provides space for nature within the urban fabric, enhancing biodiversity and giving value to the natural system (mainly wetlands & water bodies) as the base infrastructure for the future city.

Also it reformulates the city as a provider of nature with larger green spaces, landscape connectivity and protection of the ecological dimension of the existing nature.

Ethical issues and dilemmas

The main ethical dilemma of a proposal that aims to reshape the perception of the territory is the dialogue with the different actors that are involved in such a project.

On one side, inhabitants want more and better green spaces for leisure and recreation, but they also want to live in the “American model” of periphery, “closer” to the surrounding nature. Therefore, they support the process of extensive urbanization, that is currently destroying the natural landscape.

On the other hand, citizens don't trust nature as they have seen it destroying their houses and lives through natural disasters like earthquakes and flooding. Therefore, there is a resistance to understand the landscape as resilient backbone and to use it as a way of protection in extreme scenarios. However, they are willing to live upon former wetlands and areas that are more exposed to natural hazards.

Another difficult aspect to deal with, are investors and real state companies that see the landscape as provider of business and as more ground to build and generate profit of it. Furthermore, for these kind of entrepreneurs, natural disasters are beneficial in the sense that once the city is destroyed they have the possibility of built it up again form cero, taking benefit of the affected population. Although this is a known issue and people are against it, these business are extremely powerful in a capitalist society like Chile, and it is really difficult to develop a project like the one proposed, because it goes directly in contradiction to the interest of the powers that rules the city.

Future recommendations

Finally, as future recommendations, it is important to mention, that one of the most relevant aspect of the presented research is the possibility of extrapolate the principles and methods used in the territory of Concepción, in order to apply them in other locations with similar conditions and issues.

Furthermore, in order to improve the proposal, and important recommendation for further developments of the design, would be to include a participatory approach during the design processes in order to deal with the mentioned ethical dilemmas.

In that way it will be possible to incorporate the social opinion into the design and create awareness and knowledge for people and from people. Therefore, there will be a better understanding of the territory issues and a better acceptance from the inhabitants to reshape the perception of our cities and the landscape that surround and underlies them.