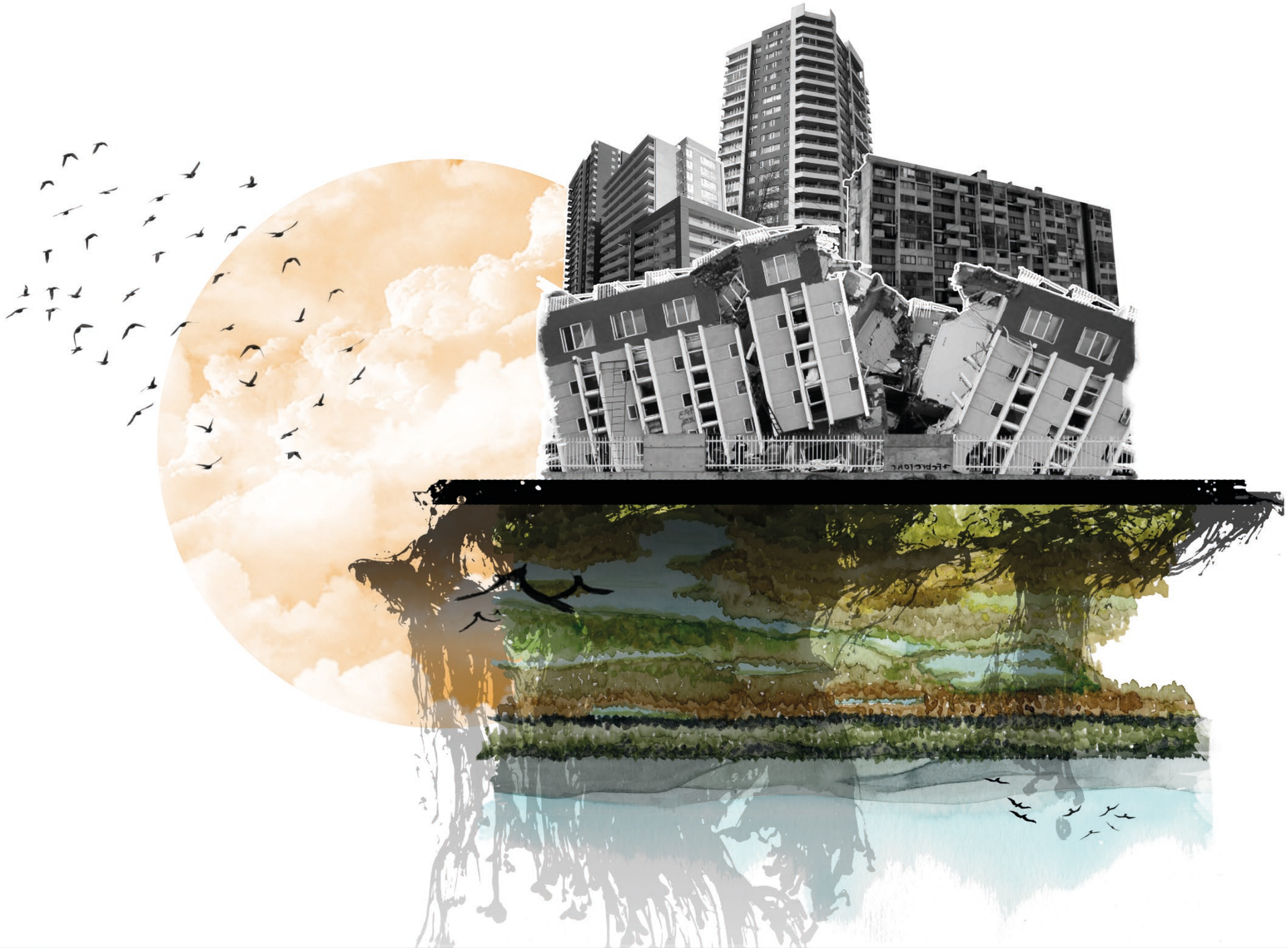

Country / City	The Netherlands, Delft
University / School	Delft University of Technology / TU Delft
Academic year	2019
Title of the project	Rethinking the territory of Concepción, Chile: *A resilient and strategic planning for a vulnerable urban coastal system*
Authors	Catalina Rey Hernández

TECHNICAL DOSSIER

Title of the project	Rethinking the territory of Concepción, Chile: *A resilient and strategic planning for a vulnerable urban coastal system*
Authors	Catalina Rey Hernández
Title of the course	Graduation Studio Landscape Architecture: Flowscapes
Academic year	2019
Teaching Staff	Nico Tillie / Taneha Kuzniecow Bacchin
Department/Section/Program of belonging	Department of Urbanism / Section of Landscape Architecture / Master of Landscape Architecture
University/School	Delft University of Technology / TU Delft

This research aims to re-envision the city, understanding it as a living system where change creates growth and renewal, and where uncertainty is the new normal.

Chile, as a territory, is exposed to multiple natural forces that trigger a series of natural disasters that affect cities in different ways across the country. In that context, the city of Concepción has been affected severely during the last two decades.

Concepción is a coastal urban area that has grown into a tidal coastal wetland landscape. The territory is increasingly at risk from the pressure of the expanding city, resulting in a degradation of ecosystems and natural infrastructure, consequently exposing the coastal city to even more frequent and severe natural hazards.

Adaptation, appropriation and flexibility are essential elements for a resilient system with multifunctional structures and a new awareness about the importance of the disrupted landscape.

The design results in a void adaptive network based on design principles such as: 1. Value the natural system as the base infrastructure for the city. 2. Use of voids (unplanned spaces) as emergent, autonomous and self-organized network for risk management. 3. Complete the void network using green and blue infrastructure as a resilient backbone for the city. 4. Reformulate the city as a provider of nature.

These steps lead to a resilient spatial framework that provides more adaptability to natural disasters. The designed backbone was tested in a few extreme scenarios and modified where necessary. This approach could be applied in other cities with similar challenges.

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CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

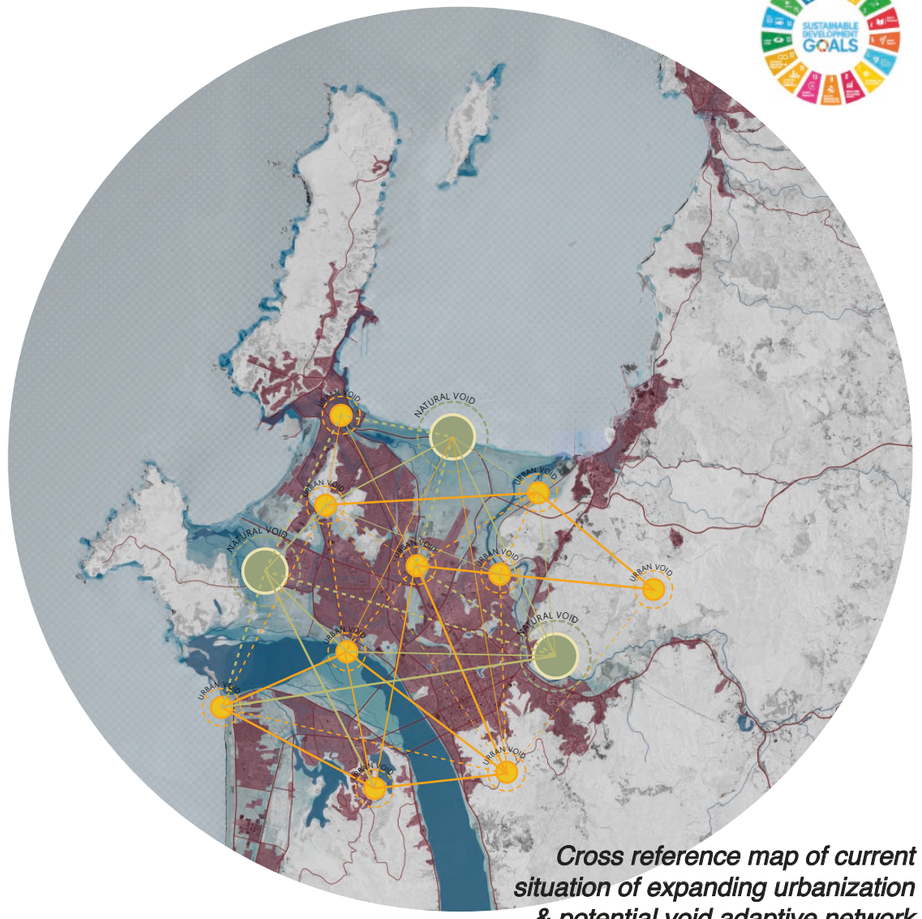
Barcelona September 2020

SCHOOL PRIZE

It is not the strongest of species that survives, not the most intelligent that survives. It is the one that is the most adaptable to change.

Charles Darwin

Proposed Green & Blue masterplan for the metropolitan area of Coccepción



Cross reference map of current situation of expanding urbanization & potential void adaptive network

Design principles of the void adaptive network

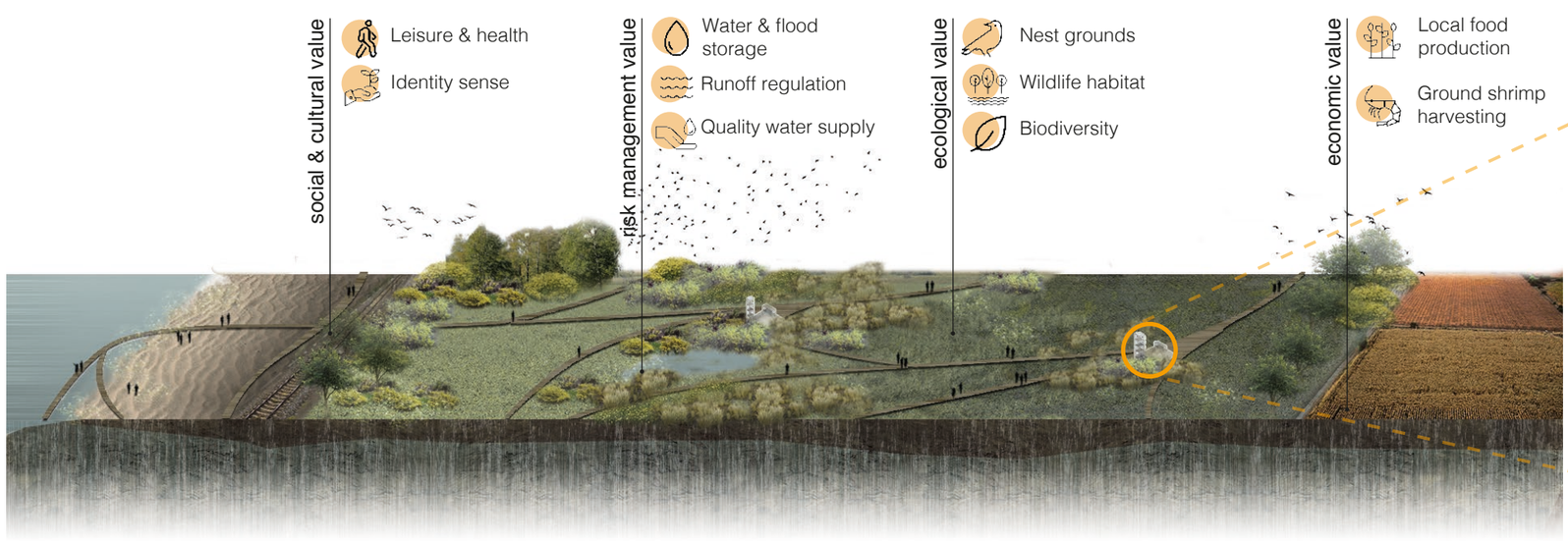
Value the natural system as the **base infrastructure** for the future city

Use of voids (unplanned natural & urban spaces) as an **emergent, autonomous** and **self-organized network** to create redundancy and multifunctional spaces for risk management

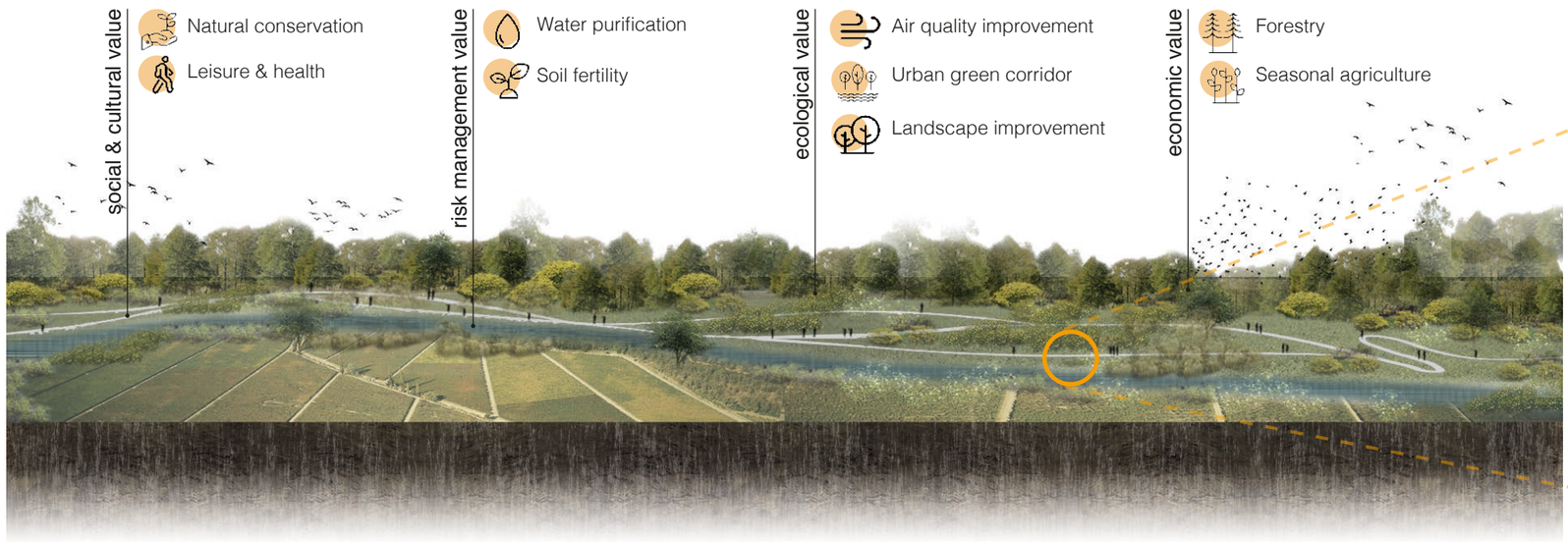
Complete the void network using a **green & blue infrastructure** in order to provide a resilient backbone for the territory

Reformulate the **resilient backbone as a provider of nature**: larger green spaces, landscape conectivity and protection of the ecological value of the existing city

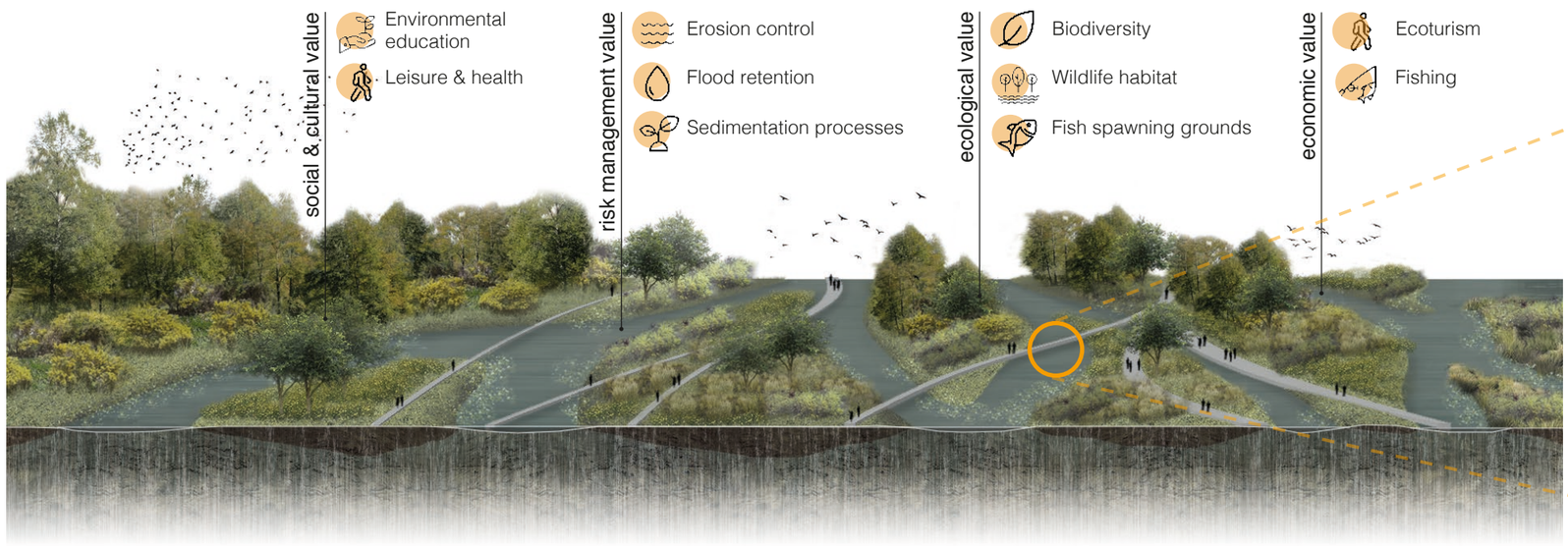
NATURAL VOID:
COASTAL OPEN SPACE TYPOLOGY
Wetland zone resilient infrastructure



NATURAL VOID:
URBAN-FLUVIAL OPEN SPACE TYPOLOGY
Fluvial zone resilient infrastructure



NATURAL VOID:
COASTAL-FLUVIAL OPEN SPACE TYPOLOGY
Delta zone resilient infrastructure



Urban open spaces typologies for the G&B infrastructure

Each typology hosts a differentiate function for urban, ecological and social purposes as part of a physical interconnected park system