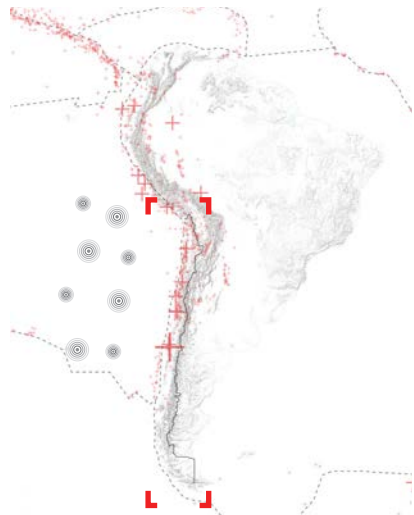


INTRODUCTION: LIVING IN THE EDGE. UNDERSTANDING NATURAL STRUCTURES

Landscape Urbanism in Chile: The case of Andalien River in Concepcion city

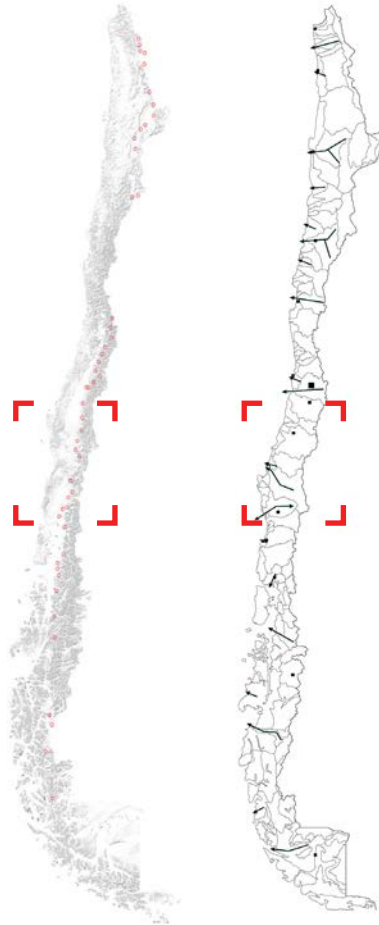
All the sources used in this research are available with the authors



Chile in the Ring of Fire

Earthquakes, volcanoes, tsunamis; river delta's and extreme climate rhythms shape our case study landscape

'Living in the Edge' to cope with the dynamics of its surrounding landscape. The saturation of this edge however forces people to leave safe ground.



Relief + 42 Active Volcanoes

+160 Watersheds

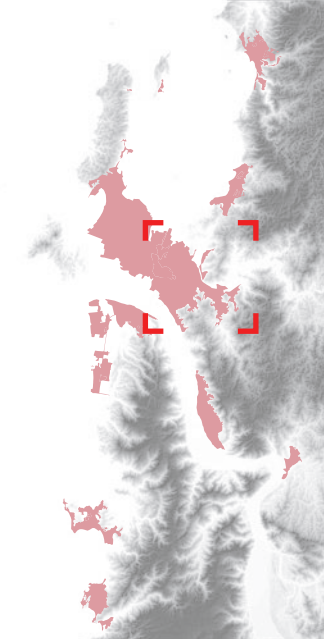


Catastrophic Flood-imp. area. 2002-2006
272.111 People affected

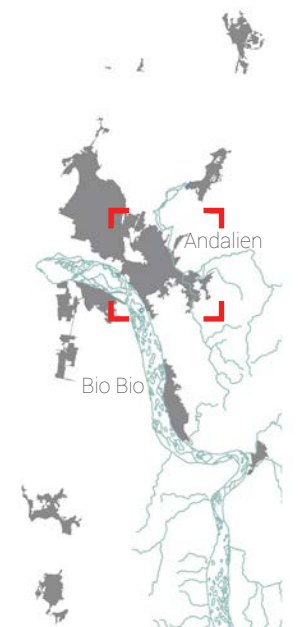


Coastal Water Landscape

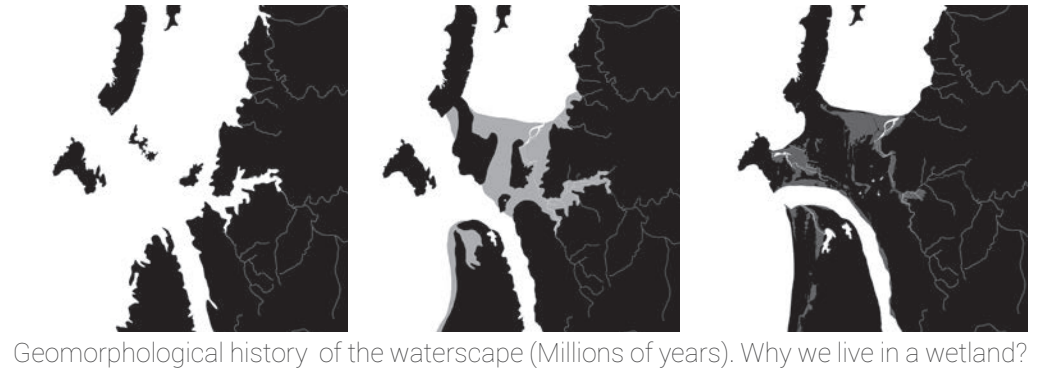
Living In The Edge



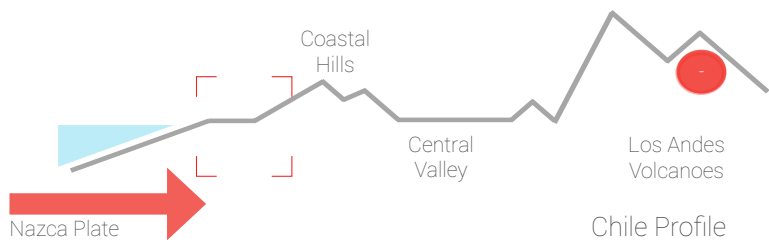
Living In The Edge
35.575 People Exposed to Logging and Flooding



12000 people affected by the Andalien river

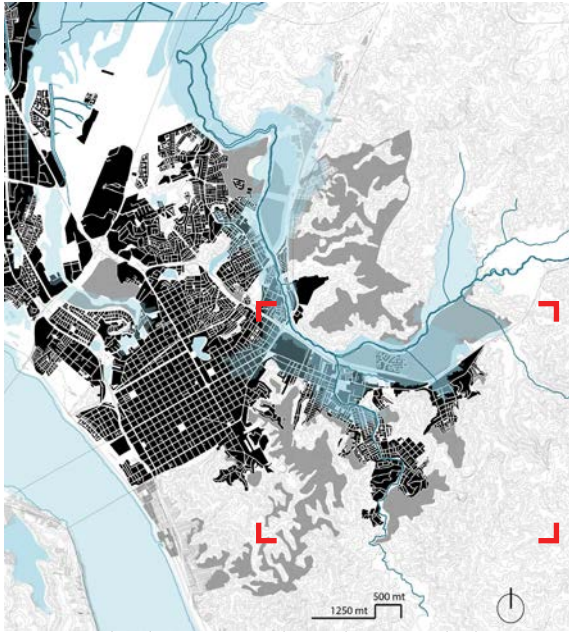


Geomorphological history of the waterscape (Millions of years). Why we live in a wetland?



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ANALYSIS CURRENT URBAN EXPANSION - WHAT IS HAPPENING?



Proposed Urban Expansion, Plan Regulador 2002, by Maarten Demarsin



Real Estate development Valle Noble

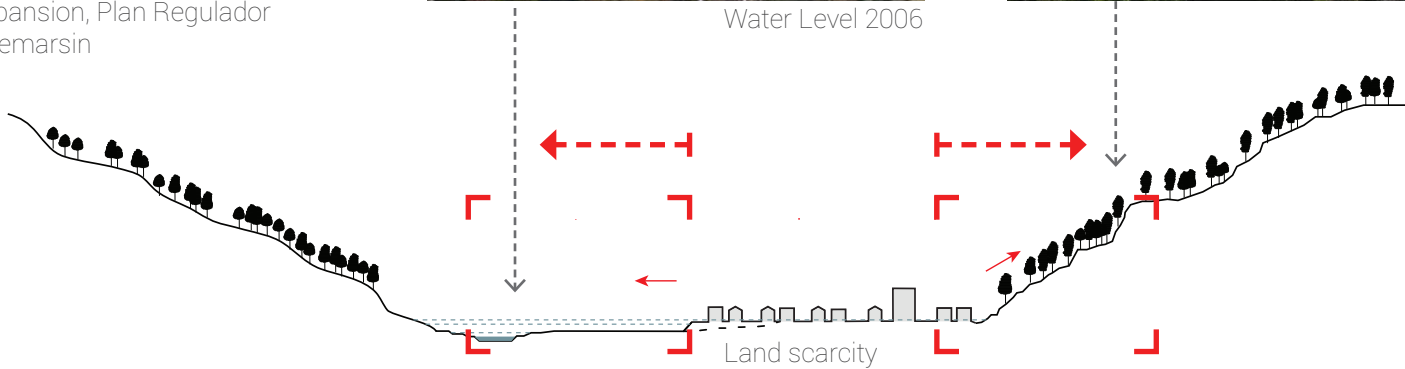


Water Level 2006

1954-2000 8,46 km² growth of which 71 % exposed to risks



Governmental development Barrio Modelo. Social housing, original budget 6906 US-\$/housing unit increased to 23.021 US-\$ after landslide.



Understanding another way of growing



Caleta Tortel, Aysen



Palafitos, Chiloé



Aguita De La Párdiz , Concepción



Consequences. 2006

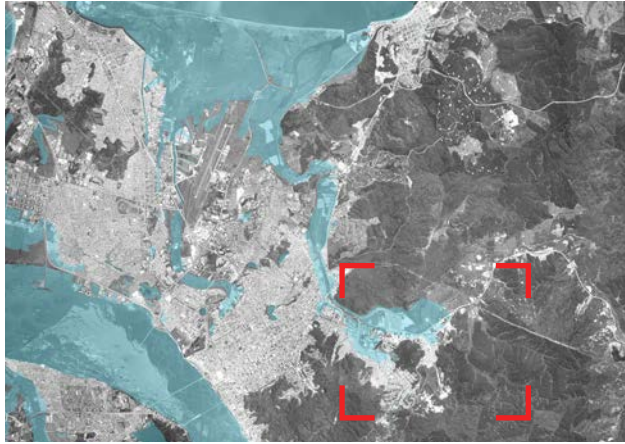


Consequences. 2006

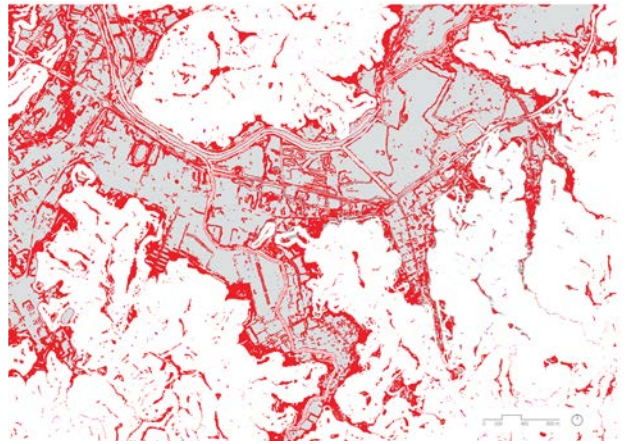
PROPOSAL: HOW TO LIVE IN THE EDGE?

Expanding the edge:

Few buildable space between the hills and the floodplains. So, we expand the edge with **islands** and **palafittes**.



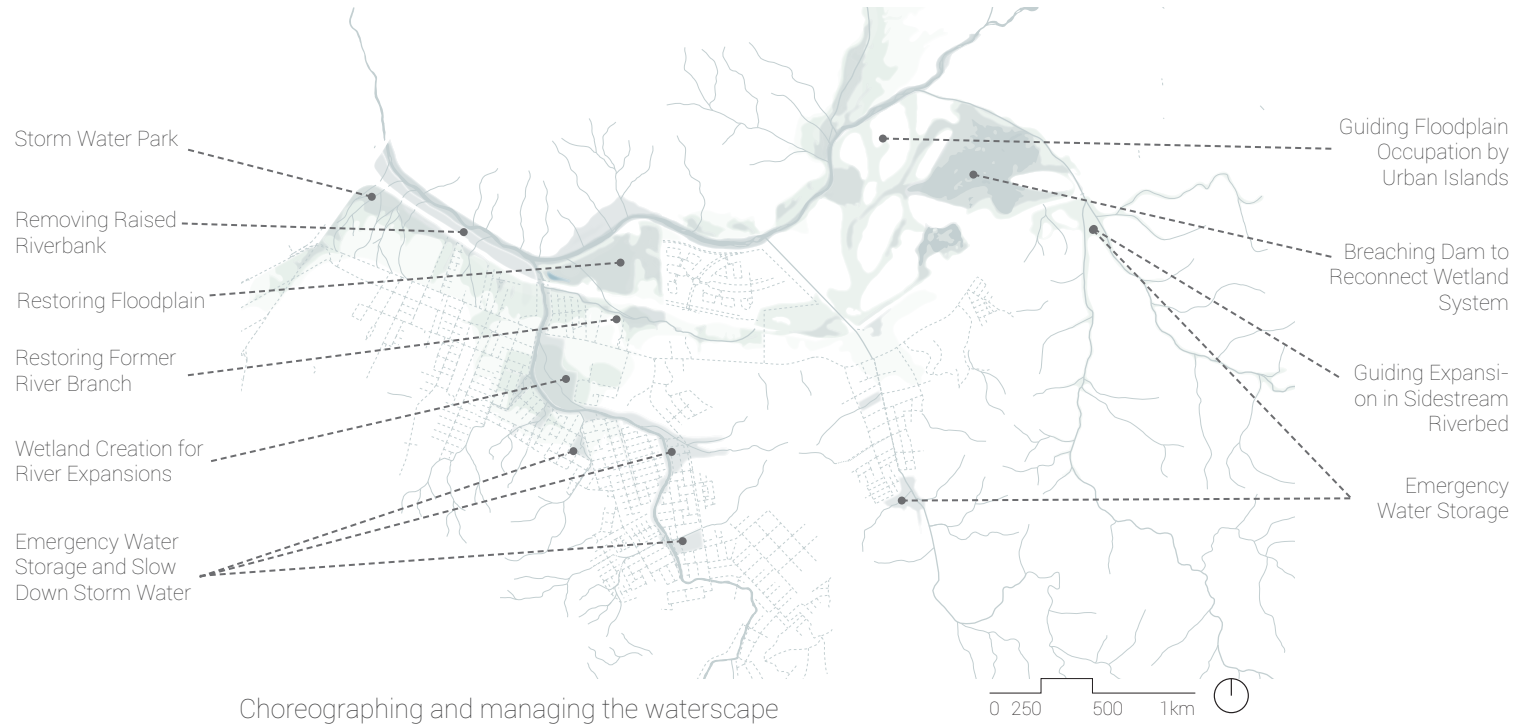
Encounter of City and Andalien River



Slopes Floodable Buildable Landslide

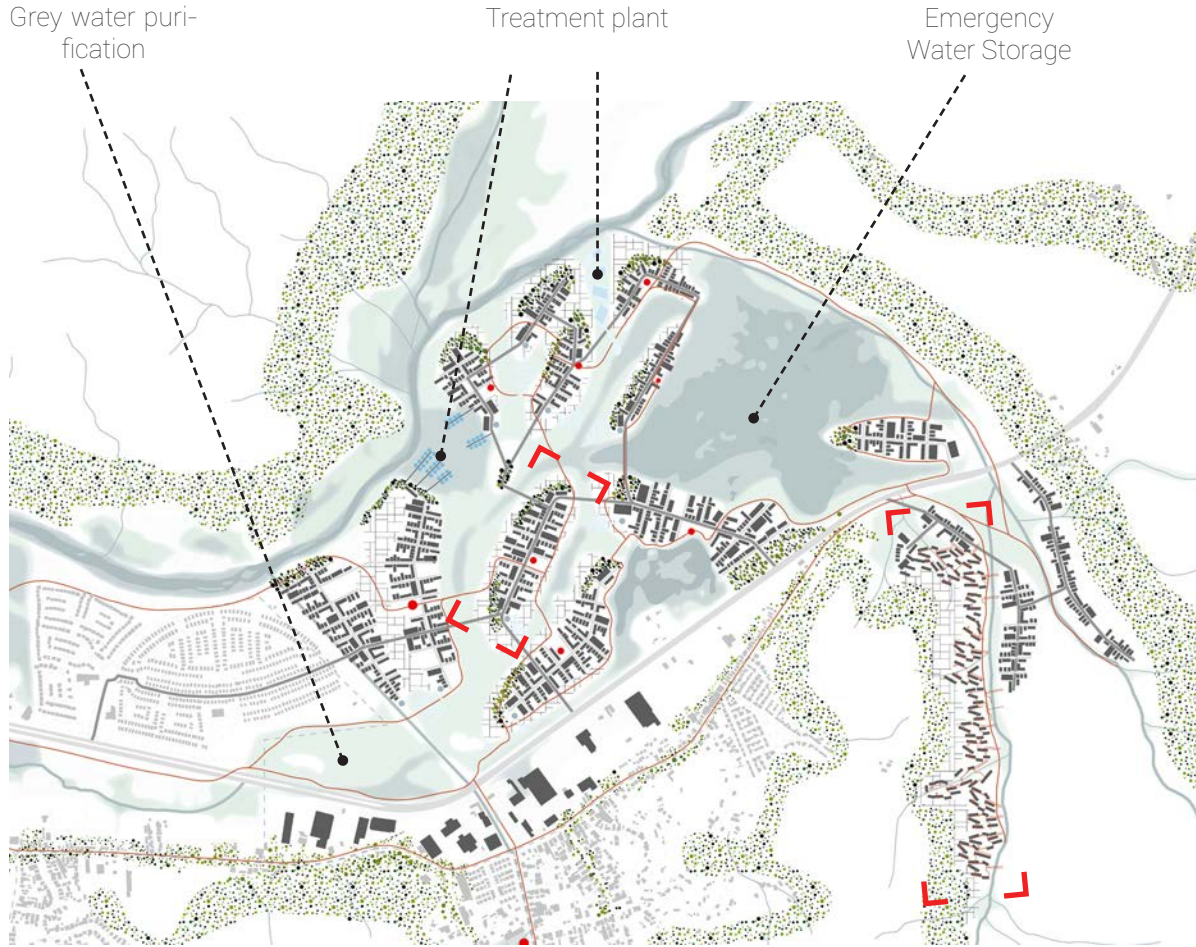


Guiding Urban Growth

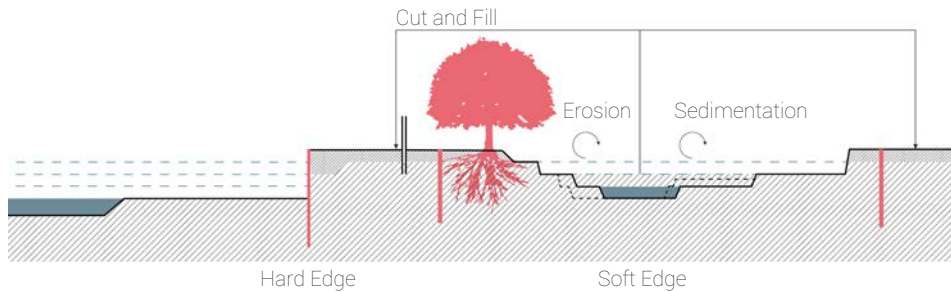


Choreographing and managing the waterscape

PROPOSAL - URBAN SCALE - ISLANDS

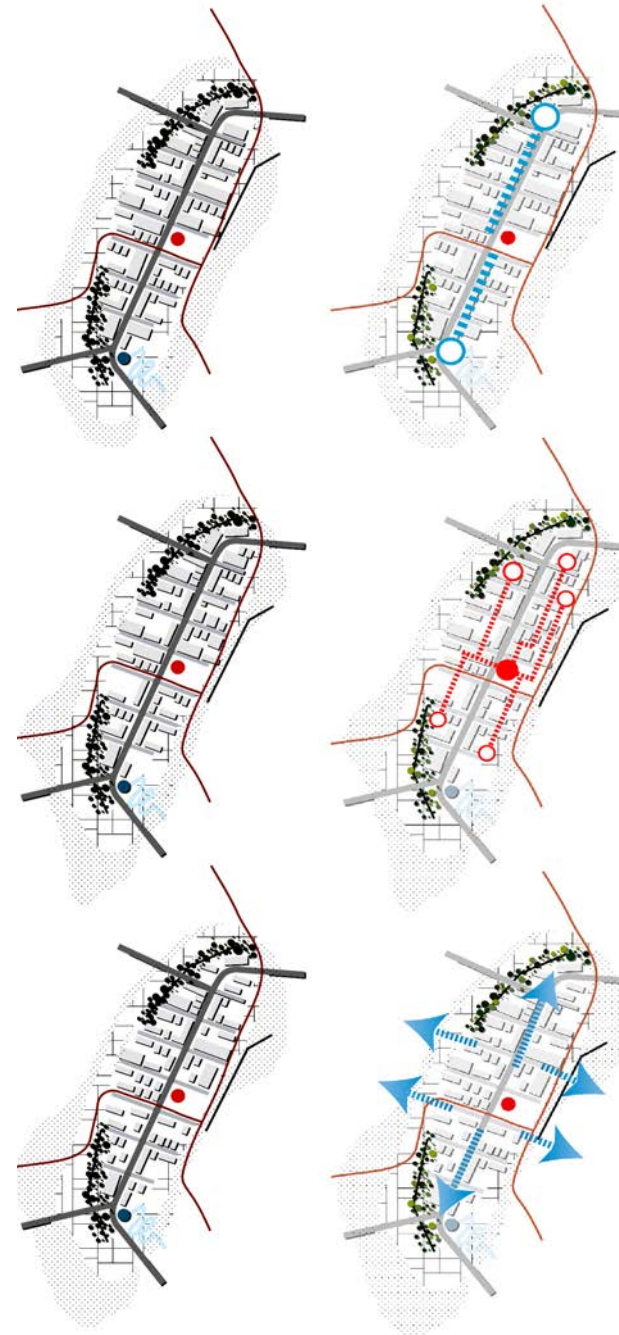


Water



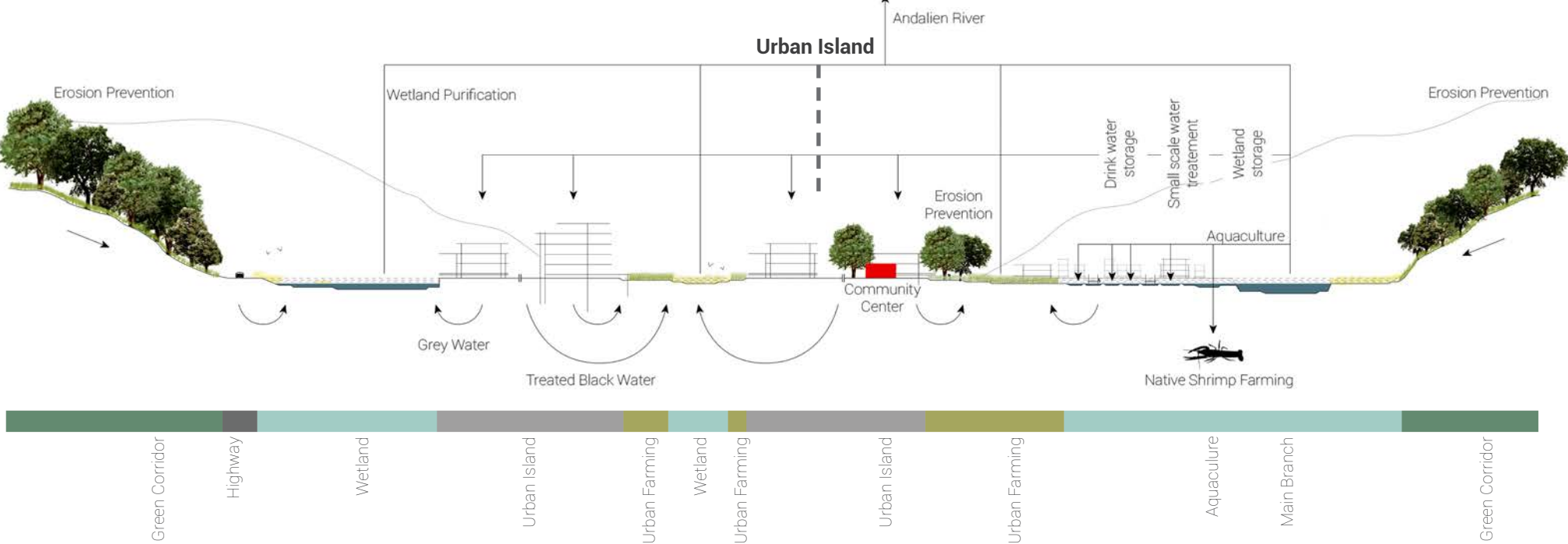
Landforming Dynamics

Decentralized system: Water - Energy - Emergency Management

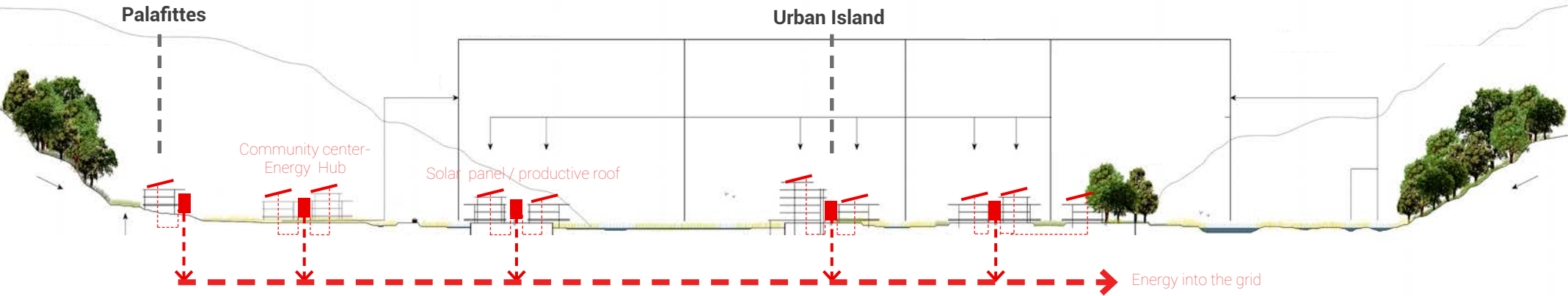


- **Community Center**
Social Resilience
Disaster management
- **Energy hub**
- **Bikepath**
Decentralization
Landscape Experience
- **Green Corridor**
Erosion Control
Restoring Riparian
- **Urban Farming**
Productivity in protecting areas
- **Kathalysers**
Guiding Urban Growth
- **Rain harvest**
- **Winter Rain flows**

PROPOSAL_URBAN SCALE_SECTIONS DECENTRALIZED EMERGENCY MANAGEMENT

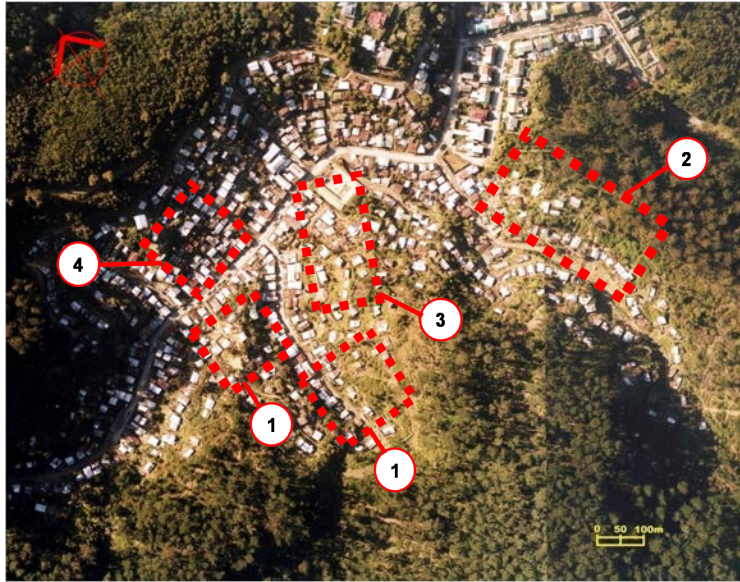


Decentralized water system

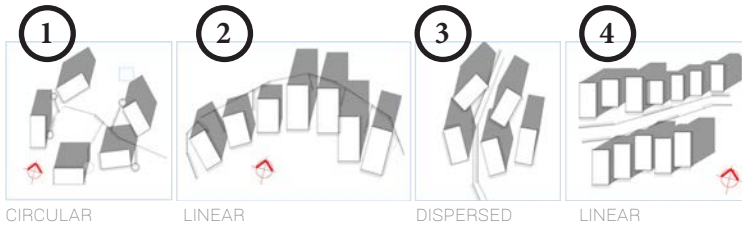


Decentralized energy system Micro-Network

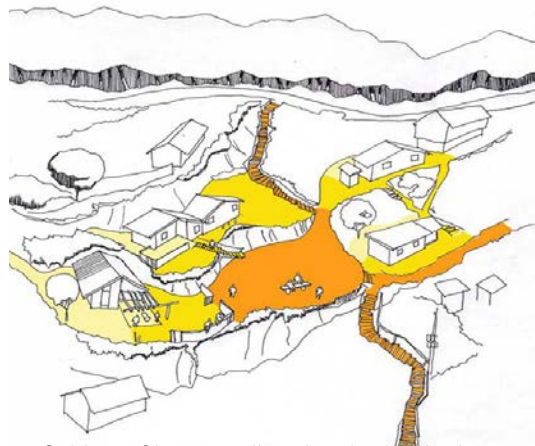
ANALYSIS - SOCIAL PATTERNS ON THE HILLS



Reference Social-Spatial Pattern / levels of public spaces / community



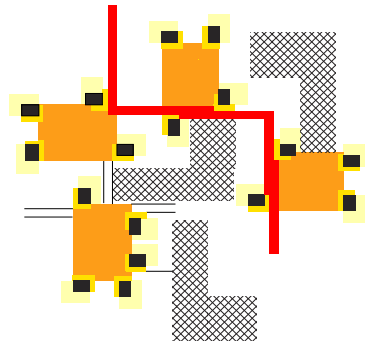
CIRCULAR LINEAR DISPERSED LINEAR



Definition of intermediate levels Inside the CELL

A living reference to occupy the edge the informal settlement **Aguita De La Perdiz** Concepcion.

Cells grouping an example of social resilience



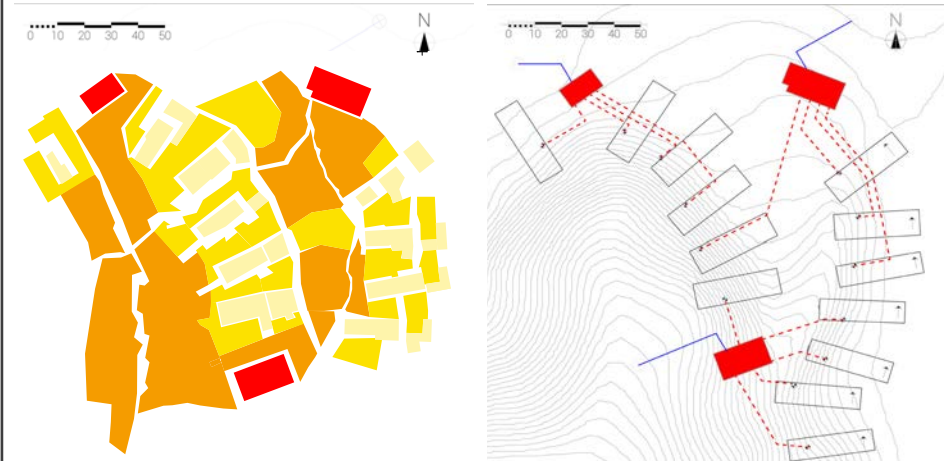
Cells

- COMMUNITY SPACE OF THE CELL
- INTERMEDIATE PRIVACY
- MAJOR PRIVACY
- HOUSING
- NEIGHBORHOOD INFRASTRUCTURE
- GEOGRAPHICAL EDGES

PROPOSAL-PALAFITTES



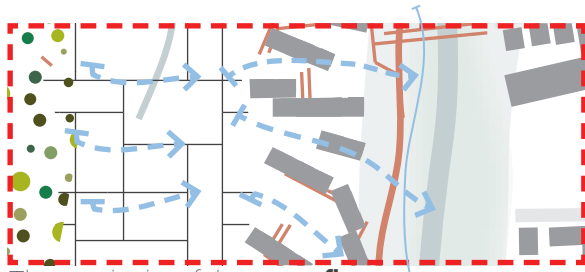
General plan - 3 cells



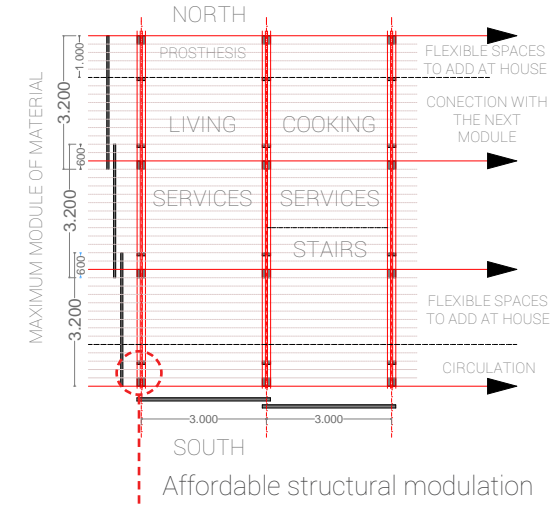
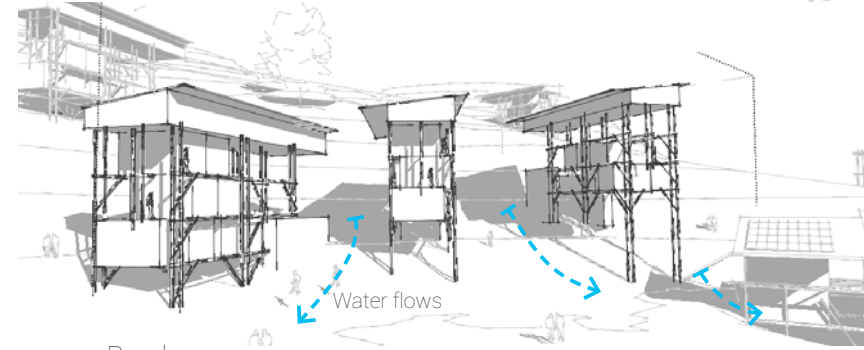
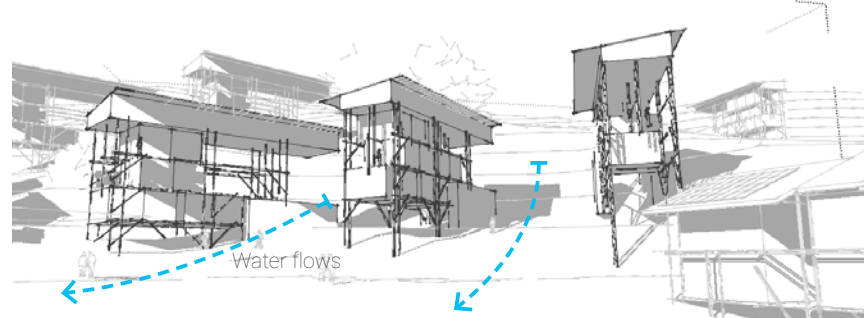
Intermediate levels of public space

Micro grid

BUILDING IN THE EDGE SELF-SUFFICIENTE AND INCREMENTAL PALAFITTE



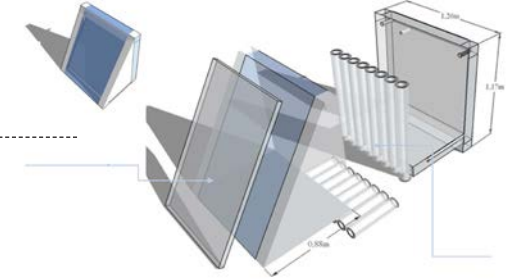
The continuity of the **water flows**



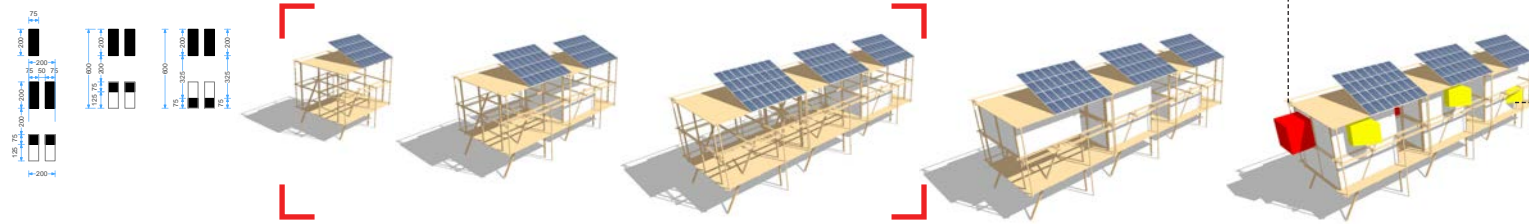
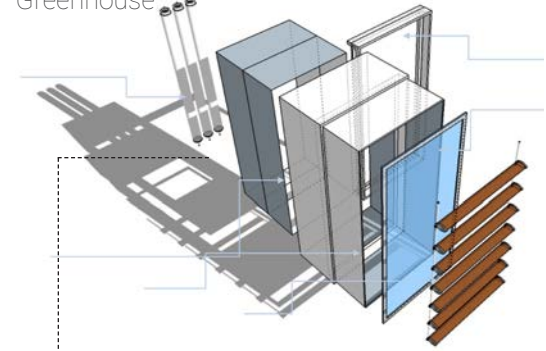
Bioclimatic self-built components.

Progressive refurbishment strategy

Solar oven



Greenhouse



Three **progressive typologies** of "Solar base-buildings" as adaptable supports (to infill)



First floor

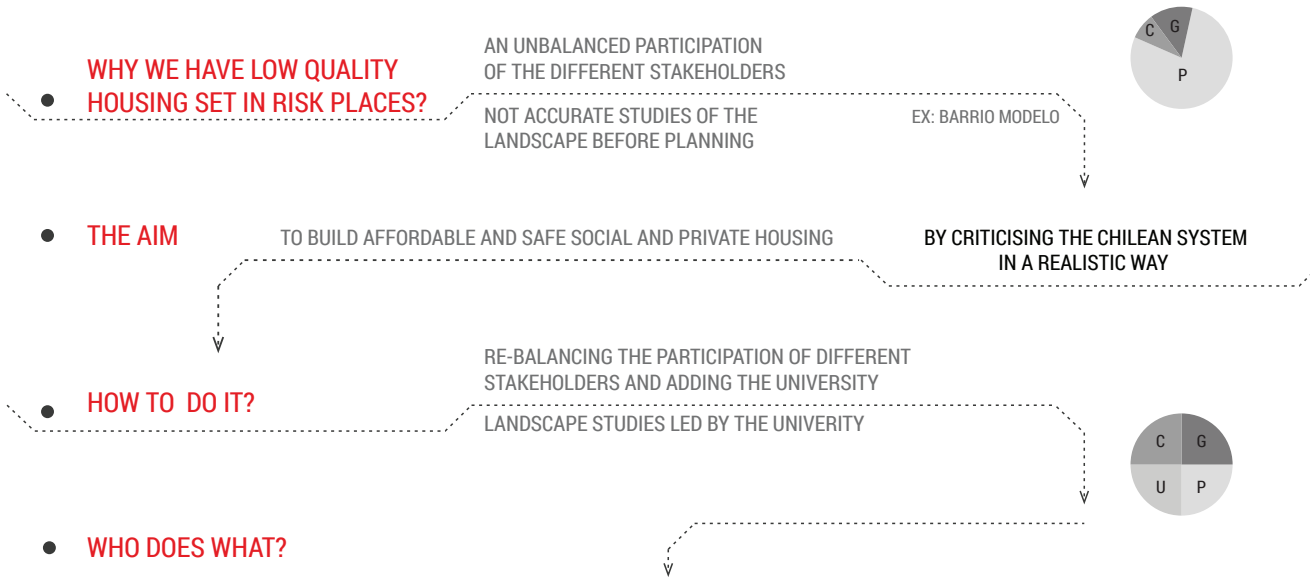


Second floor



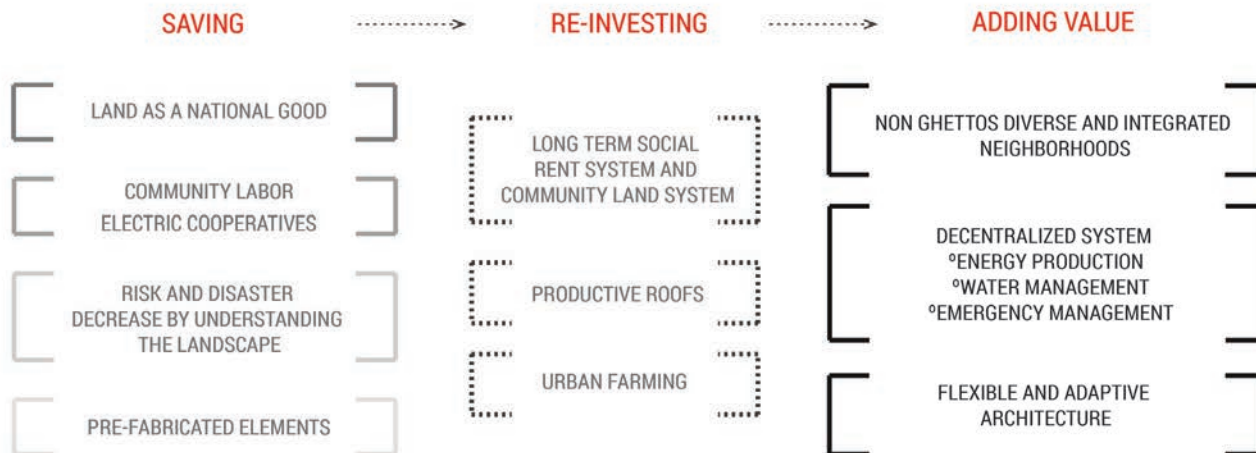
Extensions

MANAGEMENT MODEL



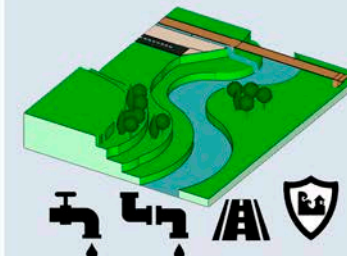
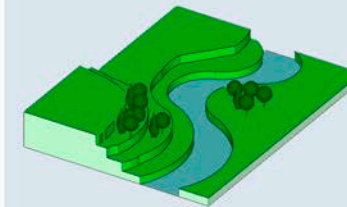
GOVERNMENT	COMMUNITY	UNIVERSITY	PRIVATE ENTITIES
IN CHILE FLOODPLAINS AND RIVER BEDS ARE NATIONAL GOODS. SO, G PROVIDES THE LAND IN AN ADAPTED SYSTEM OF A "COMMUNITY LAND TRUST" MAINTAINING THE CONDITION OF NATIONAL GOOD GIVES SUBSIDIES FOR SOCIAL HOUSING PARTICIPATES IN DECISION MAKING	PARTICIPATES IN DECISION MAKING CONTRIBUTES WITH SAVINGS AS THEY DO NOW CONTRIBUTES WITH LABOR	DEVELOPS ACCURATE AND SPECIALIZED LANDSCAPE ANALYSIS PARTICIPATES IN DECISION MAKING	DEVELOPS SPECIALIZED WORKS PROVIDES ELEMENTS AND MATERIALS PARTICIPATES IN DECISION MAKING

STRATEGIES TO BUILD AFFORDABLE AND SAFE HOUSING



THE MANAGEMENT PROCESS IS DIVIDED INTO TWO DISTINCT PARTS:

1) PREPARATION OF LAND / LANDSCAPE



G+U provide the terrain necessary conditions for habitation

2) CONSTRUCTION OF HOUSING

