

# MODULAR HOUSE TGLQK

## THE UBICATION

The low-cost housing proposals are focused on less developed coastal communities located on the islands of the planet's tropical zone.

## THE PROBLEM

Construction resources are limited in these communities and there are few specialized workers. These areas are frequently impacted by high intensity hurricanes that destroy the most vulnerable homes. Climate change is another threat to these communities, and rising sea levels mean the resettlement of many of them.

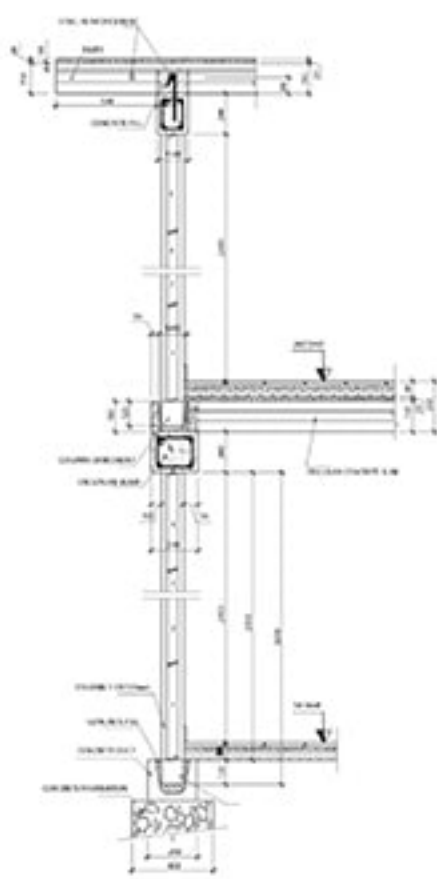
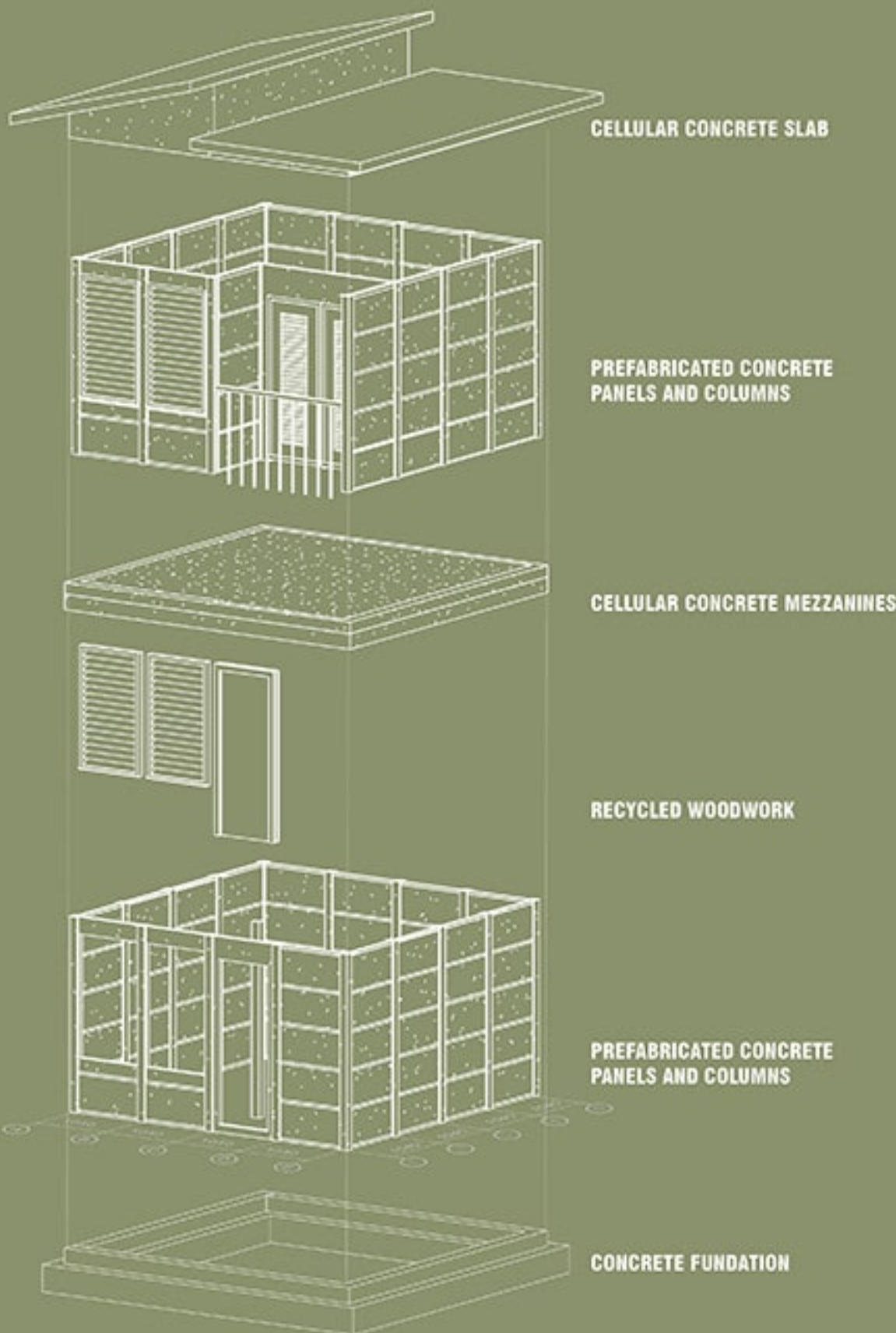
## THE ARCHITECTURAL CONCEPT

Develop a proposal based on a simple and economic construction system that improves the accessibility of coastal communities to low-cost housing resistant to the effects of climate change.



## THE CONSTRUCTIVE SYSTEM

A prefabricated system with small concrete elements reinforced with steels is proposed, which allow manual assembly, and a height of the house of up to two levels. The elements that make up the system are prefabricated panels and columns, for walls, which enables rapid execution and saving of materials, promoting the participation of the inhabitants in the self-construction of their home, supervised by specialists. The decks and mezzanines are cast-in-place cellular concrete slabs as an economical, hurricane-resistant solution. The handling and assembly of the components are done manually. Transportation does not require specialized means, which facilitates the use of this system for construction in rural sites with difficult access.



## THE PROPOSAL

It is an alternative to current urban problems and contributes to the sustainable development of coastal communities. The proposed low-cost homes are built in stages thanks to the modular system used and permit residents to save and sustain themselves. The concept allows with a prefabricated modular structure without limiting it to low technology, to solve in an original way with expandable units of local production the need for small and low cost houses.



The key factor of this proposal is to promote the self-construction of each house by its owners. At the same time, throughout the community a support network is established among all the inhabitants to collaborate in the construction of their neighbors. Fostering this sense of community collaboration can be a turning point in the adaptation to climate change of vulnerable coastal communities.

# FLAT PROPOSAL 2 PERSONS



## VENTILATION

All spaces have windows that guarantee natural ventilation. The living room, the kitchen, the dining room and the bedroom have cross ventilation.



## STORAGE SPACE

Space used to protect the belongings of the inhabitants from severe flooding during hurricanes



## ILLUMINATION

The arrangement and dimensions of the windows allow good natural lighting for the interior spaces and savings in artificial lighting.



## PROGRESSIVE GROWTH

The low cost housing proposal includes a progressive growth of the same. This aspects is key for post disaster situations and population resettlement process. Each inhabitant could acquire a basic nucleus of limited dimensions but with guaranteed basic needs. These nuclei would grow according to the specific needs of each family.



## RAISED FLOOR

Design resource to protect the house from light floods.



## MODULATION

The houses are modulated based on the system of panels and columns used. This saves component materials and optimizes execution time. This modulation also allows the progressive growth.



## 1ST STAGE

## 2ND STAGE



## AREAS

1. PORCH	3.26m²
2. LIVING ROOM	6.73m²
3. DINING KITCHEN	6.73m²
4. BEDROOM	6.73m²
5. BATHROOM	4.32m²
6. SERVICE YARD	2.1m²
7. CIRCULATION	6.45m²
TOTAL	45.34m²

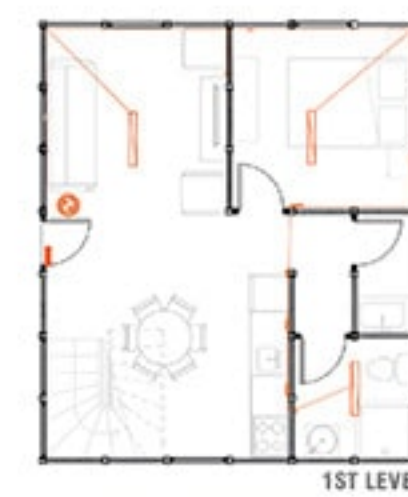
## SECTION A\_A'



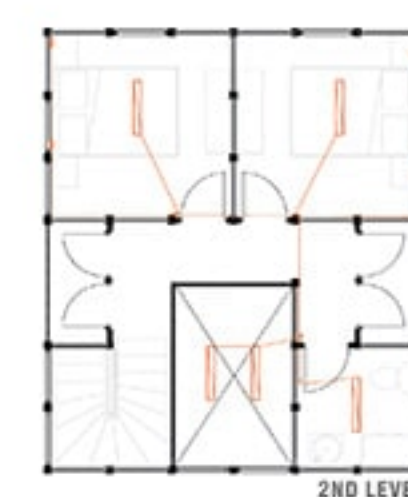
## SECTION B\_B'



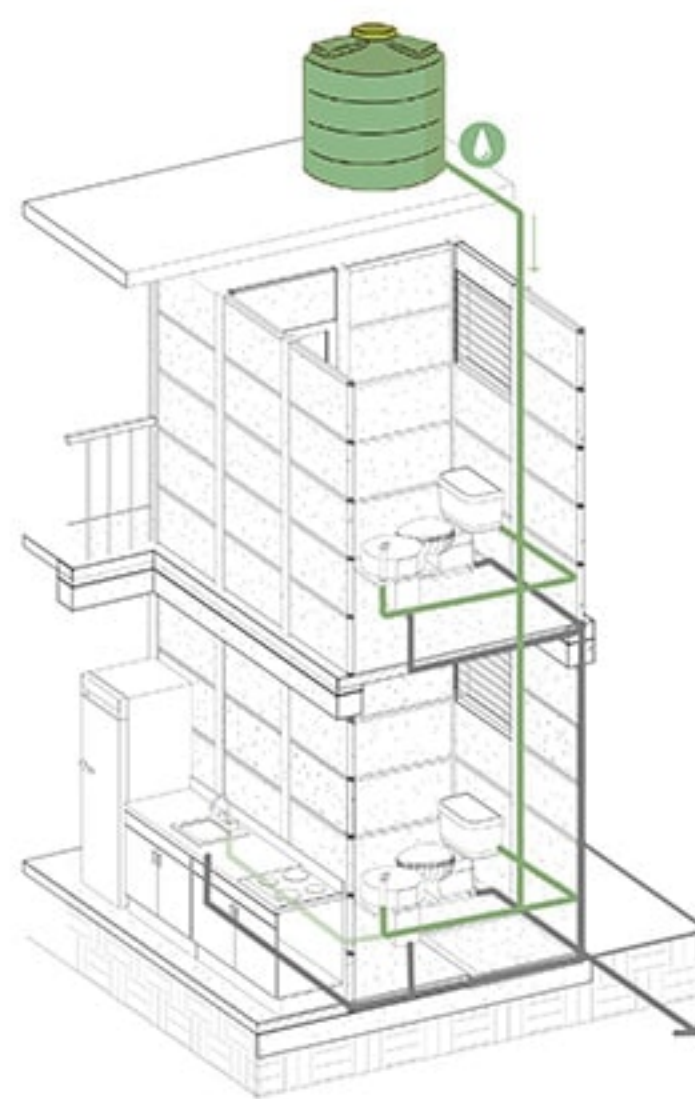
# DUPLEX PROPOSAL 6 PERSONS



1ST LEVEL



2ND LEVEL



**ELECTRICAL INSTALLATIONS** Covered by PVC pipes placed in plain sight on the walls and on the mezzanines and ceilings

**HYDRAULIC AND SANITARY INSTALLATIONS** Concentrated in a humid nucleus of the house for saving pipes and easy maintenance. PVC pipes of different diameters will be used, located visibly on the walls and inside the floor filler.

## 1ST STAGE

## 2ND STAGE



## AREAS

1. LIVING ROOM	6.73m²
2. DINING-KITCHEN	6.73m²
3. BEDROOM	6.73m²
4. BATHROOM	4.32m²
5. SERVICE YARD	2.1m²
TOTAL	45.34m²
6th LEVEL	2.1m²
7. BALCONY	2.1m²
8. BEDROOM	6.73m²
9. BEDROOM	6.73m²
10. HALF-BATHROOM	4.32m²
11. BALCONY	2.1m²
TOTAL	45.34m²

## SECTION A\_A'



## SECTION B\_B'

