Designing resilient coastal neighbourhoods

Co-creating a hybrid settlement framework for the city of Hagonoy, Philippines.

Reading Guide
- Waterfalls illustrate the influence between the elements
- Fishing rods point out the connections and relationships
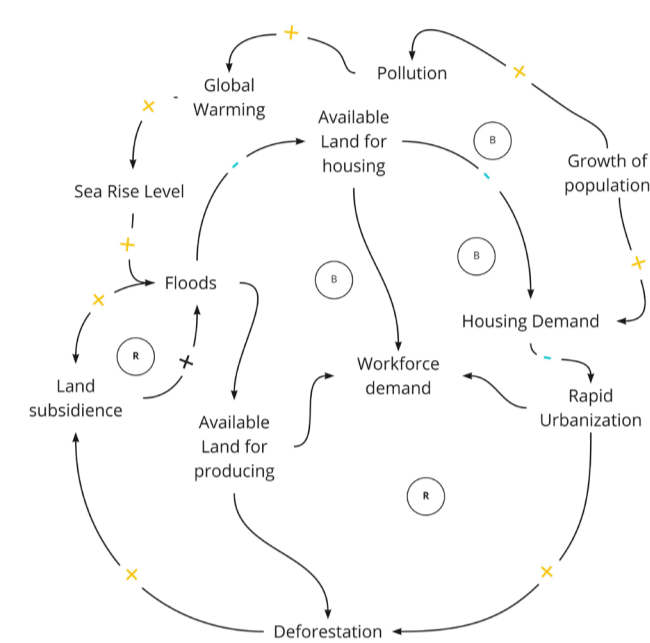- Bridges indicate the transition towards potential future solutions

Figure 1- Causal loop

Figure 2- Neighbourhood illustration for the co-creation session

Figure 3- Egocentric map representing the values each elements gives to the user

Context Research

Filipinos live in close proximity with water as a source of income and food; however, it also causes struggles to the locals suffering from floods and tidal movements caused by rising sea levels. Simultaneously, rapid urbanisation caused by the increasing population is impacting the land.

The current situation is analysed through a causal loop diagram, where 'B' stands for balancing and 'R' for reinforcing. The diagram identifies points of tension in the current system in relation to the floods and the housing demand from a systemic perspective.

User Research

The Filipino community is a close-knit one, where many social activities and gatherings are a part of daily life and neighbourhood dynamics. Hence, before co-creating a future scenario, an interactive game called 'make your dream neighbourhood' was played with the locals to co-explore their daily needs and expectations from the future.
These requests must be aligned with the different city stakeholders, who are the landowners, and therefore, have the power of the Barangay.

What makes a good place?

While identifying the existing dynamics of daily life in the city of Hagonoy, the game also aims to understand the balance of public-private spaces that complement the daily activities and social gatherings and identify the community missing elements to be taken into account when ideating for solutions that design for the community.

The game's outcome is an system map of people, social groups, spaces, activities and their influence on daily routines and creates a good community to live for them.
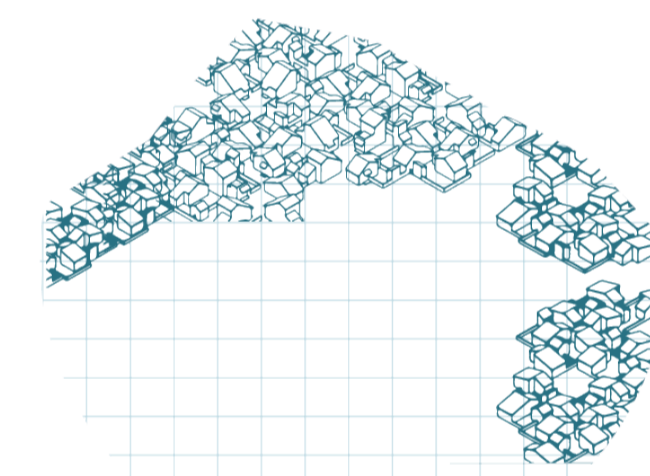
Metro Manila

Barangay/Neighbourhood

Aquaculture industry

Hybrid Settlement

Family

Friends
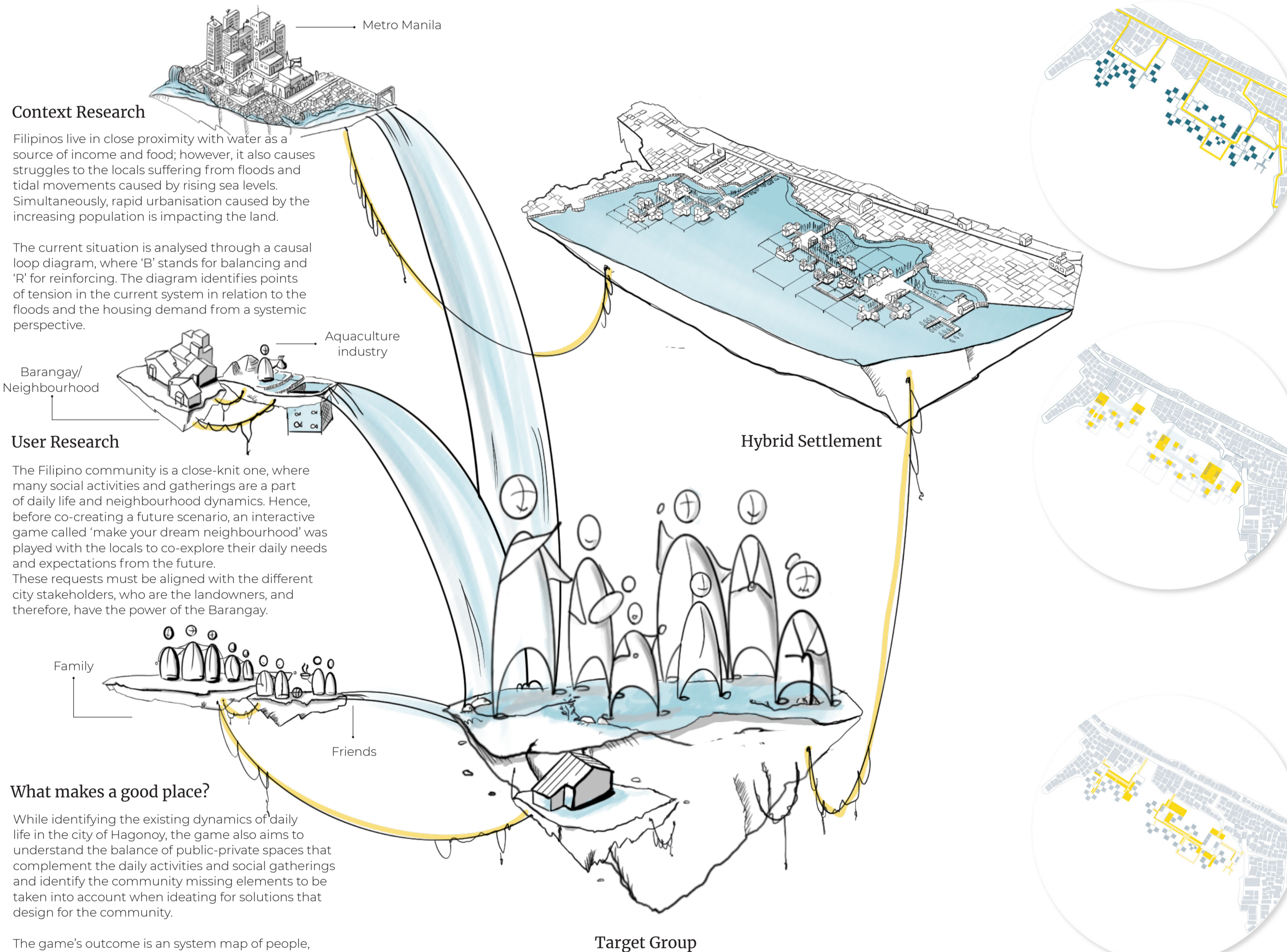
Target Group

Floating community

The generated floating community is designed to be an organic extension of the existing city, planned around the target groups' needs. It is accessible from several points from the mainland to ensure the interaction between settlements. Additionally, there is a pathway's grid allowing pedestrians to circulate easily around the extension of the city through the created public-private spaces.

The connection enabler is a modular platform that can be attached to more modules generating diverse spaces and configurations that allow the construction of the neighbourhood.

Figure 4- Platform module loaded with people
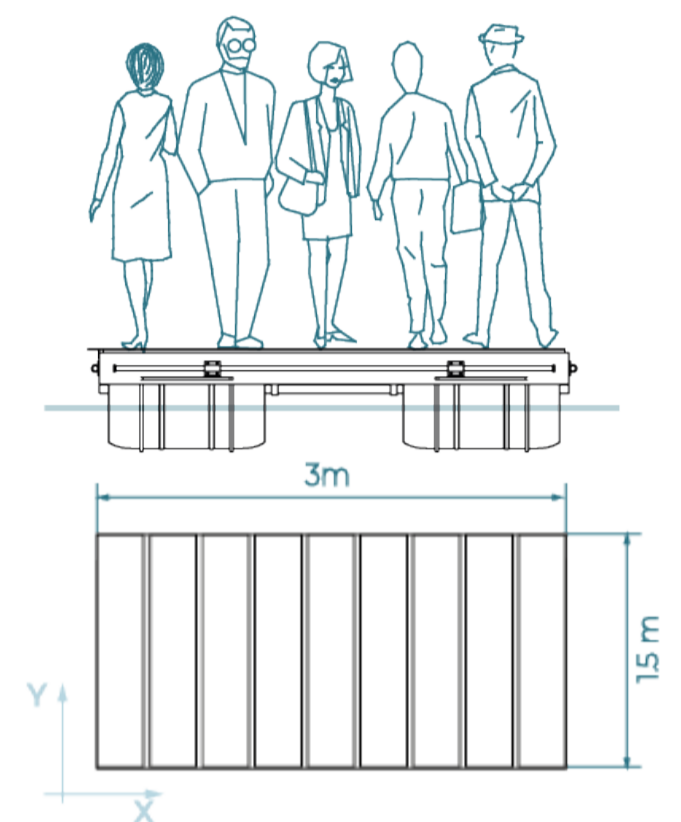
Module variants and functionalities

The standard module structure allows the generation of diverse modules for fulfilling other functionalities such as gardening. The drums inside the module can also become gardener containers.

The simple attachment between modules allows the creation of fields and gardens around the locals' dwellings and pathways. Additionally, the generated structure and grid allows the integration of fish farms between the dwellings and neighbourhood structure. The new functionalities bring opportunities for the locals to gain autonomy and start a new small business.
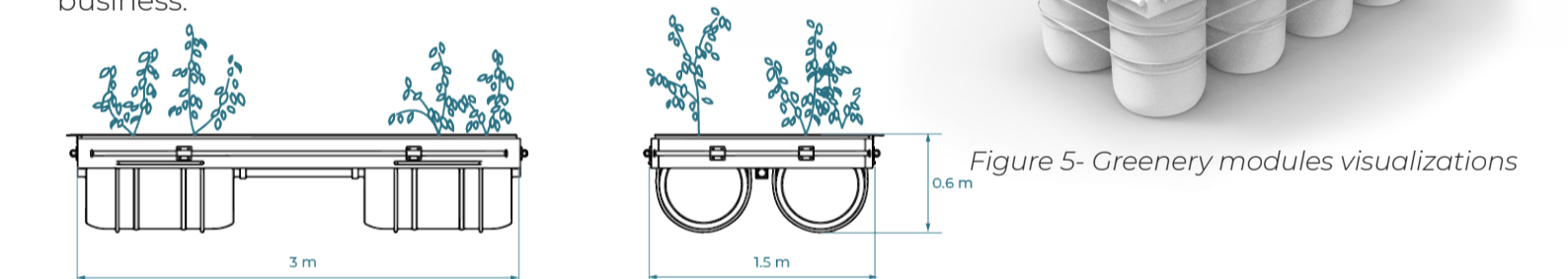

Figure 5- Greenery modules visualizations

The spatial design of the neighbourhood

The urban planning of the neighbourhood promotes social interactions among the citizens to establish relationships such as proximity or functional.
These interactions are vital for the livelihood of the neighbourhood and the living patterns of Filipino society.
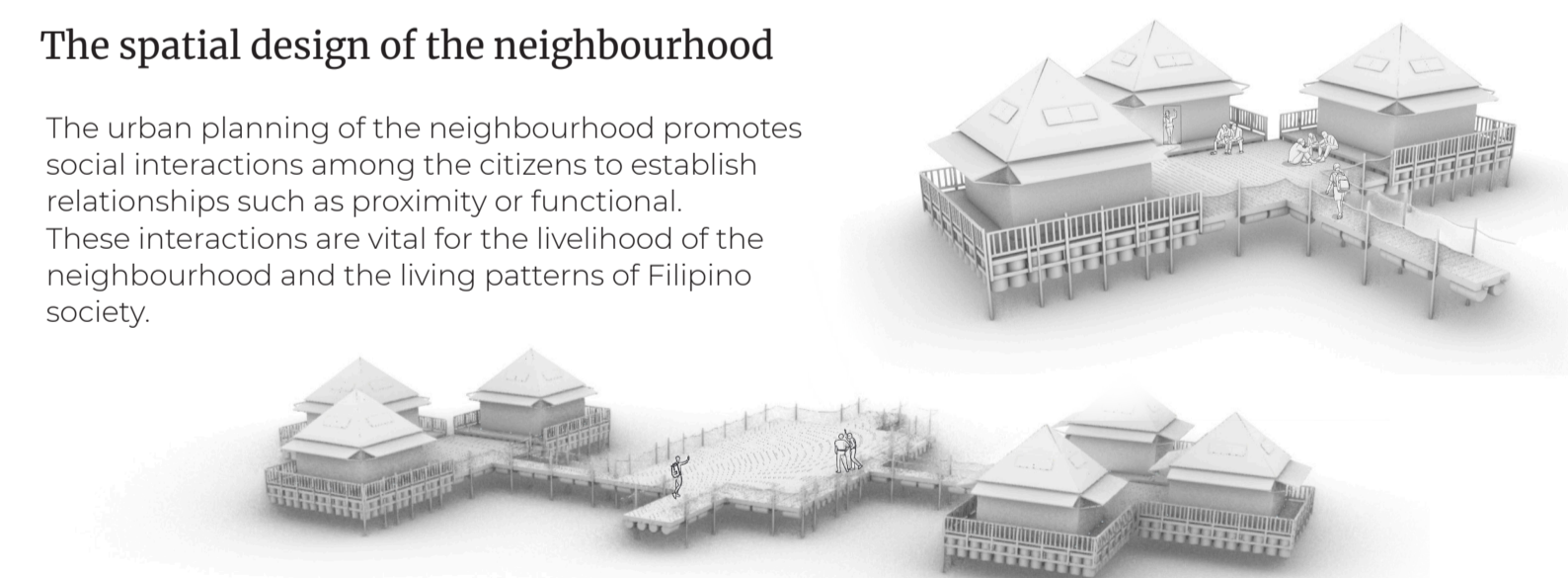

Figure 6- 3 dimensional representation of the designed areas

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14/09/2021
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