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Honors thesis

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Abstract

Floating Symbiosis

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La Ciénaga de La Virgen, located in Cartagena, Colombia has a great diversity of flora and fauna, among them is a rich heritage of mangroves that strongly characterize the natural ecosystem. However, due to the lack of environmental education in its community and the various social problems related to the mobilization of people due to the armed conflict to this area, the territory faces problems such as water pollution, winter floods, the impact on the health of people and the loss of the natural ecosystem.

On this reality, "Floating Symbiosis" was born as a floating environmental center that integrates architecture, community, and nature in a symbiotic way with the purpose of renaturalizing, revitalizing and reconnecting neighborhoods and natural ecosystems.

The project analyzes the local architecture and, additionally, integrates high-tech elements such as the floating structure in marine aluminum and local low-impact materials such as the guadua used in the façade and the cumaru wood for the deck.

Within the sustainable strategies, extensive green roofs are proposed that collect rainwater and reduce the percentage of solar radiation that enters the interior. Also, due to the incident sun in Cartagena, flexible eaves were implemented on the guadua façade, configured horizontally to allow easy maintenance and generate flexible spaces towards the exterior and interior. Additionally, solar panels will be installed to provide electricity to the Environmental Center.

The aim of the project is to educate the population on environmental issues through an experience of sustainable habitat, each space being thought of as a pedagogical strategy. An example is the dry toilet that work within the concept of a closed cycle where the waste will be used as compost and fertilizers for the green roof and the garden.

On the other hand, the central area of Floating Symbiosis was designed as a natural pool where users can interact in a playful way with the swamp. However, new patio options such as a mangrove center, a fish farm or a closed platform for cultural and social activities were projected.

This project directly involves Colombian environmental entities, and the local community of Cartagena, the possibility of managing through them is proposed because for years they have been leaders and managers of environmental projects in the Ciénaga de la Virgen. At the same time, the existence of social and environmental foundations that seek to educate children and young people in the region on sustainability issues through agreements with schools in nearby neighborhoods was taken into account in order to evolve towards new sustainable proposals. adaptive that can also be replicated in other similar contexts.





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