Nicaragua is undergoing multiple crises, both social and environmental. Low-income communities in flood-hazard areas of Tipitapa, Nicaragua are threatened by repetitive flood cycles. Attempts have been made by the government to relocate eco-refugees from vulnerable areas, but they persist in returning to their place of origin despite the risk.

Our solution implements flood-resistant housing using the approach of amphibious construction, allowing them to live there safely without the economic disadvantage of repetitive rebuilding. The solution proposed for the most critical area would serve as an example for implementation in other neighbourhoods.
Our design is built with renewable and recycled materials, is highly transferable to different contexts, and provides affordable flood-protected living space for vulnerable families. Government and NGO efforts to resettle residents have not succeeded; eco-refugees have a high rate of return, often to substandard living conditions. Our strategy allows communities to remain on their land of origin.

Strategic: The proposal uses recycled plastic barrels as buoyancy elements due to their availability and cost-effectiveness. Vertical guidance posts allow the houses to rise and lower passively - float on floodwater, then return to original position - resulting in low environmental impact. Bamboo is a renewable resource that is grown regionally and responds to the issue of rampant deforestation. Bamboo construction promotes a 35% lower carbon footprint than the use of concrete block. This initiative facilitates direct jobs for local workers and indirect jobs for bamboo providers in indigenous communities.