

Strategies for Urban-Architectural Design for the Sustainable Recovery of the Huayla Stuary in Puerto Bolivar, Machala-Ecuador

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Abstract : The purpose of this project is to design public space through urban-architectural strategies that help to the sustainable recovery of the Huayla estuary and the revival of tourism in this area. This design considers other sustainable and architectural ideas used in similar cases, along with national and international regulations for saving shorelines in danger. To understand the situation of this location, Puerto Bolivar is the main port of the Province of El Oro and of the south of the country, where 90,000 national and foreign tourists pass through all year round. For that reason, a physical-urban, social, and environmental analysis of the area was carried out through surveys and conversations with the community. This analysis showed that around 70% of people feel unsatisfied and concerned about the estuary and its surroundings. Crime, absence of green areas, bad conservation of shorelines, lack of tourists, poor commercial infrastructure, and the spread of informal commerce are the main issues to be solved. As an intervention project whose main goal is that residents and tourists have contact with native nature and enjoy doing local activities, three main strategies: mobility, ecology, and urban -architectural are proposed to recover the estuary and its surroundings. First of all, the design of this public space is based on turning the estuary location into a linear promenade that could be seen as a tourist corridor, which would help to reduce pollution, increase green spaces and improve tourism. Another strategy aims to improve the economy of the community through some local activities like fishing and sailing and the commerce of fresh seafood, both raw products and in restaurants. Furthermore, in support of the environmental approach, some houses are rebuilt as sustainable houses using local materials and rearranged into blocks closer to the commercial area. Finally, the planning incorporates the use of many plants such as palms, sameness trees, and mangroves around the area to encourage people to get in touch with nature. The results of designing this space showed an increase in the green area per inhabitant index. It went from 1.69 m²/room to 10.48 m²/room, with 12 096 m² of green corridors and the incorporation of 5000 m² of mangroves at the shoreline. Additionally, living zones also increased with the creation of green areas taking advantage of the existing nature and implementing restaurants and recreational spaces. Moreover, the relocation of houses and buildings helped to free estuary's shoreline, so people are now in more comfortable places closer to their workplaces. Finally, dock spaces are increased, reaching the capacity of the boats and canoes, helping to organize the area in the estuary. To sum up, this project searches the improvement of the estuary environment with its shoreline and surroundings that include the vegetation, infrastructure and people with their local activities, achieving a better quality of life, attraction of tourism, reduction of pollution and finally getting a full recovered estuary as a natural ecosystem.

Keywords : recover, public space, stuary, sustainable

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