

Human induced coastal changes and their impact on the coastal urban landscape. The case of Heraklion, Crete

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Coastal zone is a vital part of human society due to sea activities. variety of activities and uses are present and are further developing in the coastal and marine are. Coastal ecosystems and landscape are under severe pressure due to population growth and continuous expansion of human activities and supplemented from the effects of climate change (e.g. coastal flooding, erosion). Heraklion is the largest urban center in Crete. Its suburban and coastal area receives intensive urban sprawl pressures, changing the urban landscape and resulting negative impacts on the human and natural environment. The saturation of coastal area of Heraklion creates the need for new development interventions (e.g. new marina, coastal protection, urban regeneration). This study examine the impacts of the new programmed coastal development intervention in the coastal landscape of Heraklion.

A decision analytic approach was implemented, based on the need of stakeholders for the protection and further development of coastal area of Heraklion. In this direction, local authorities have proposed the realization of several development interventions which include a new marina, expansion of bathing beaches and coastal regeneration project in a large beach.

The results indicate that the realization of any coastal development projects, also increases the negative effects that are related to land-sea interaction. The negative effects are a result of the interaction between different human activities but also between human activities and the environment. The development of the marina in the selected location, increases the pressure on the sea area as the navigation will increase, but also increases the pressure on land space, as traffic flows will change, creating new pressures in urban areas. The extension of bathing beaches implies larger number of bathers, thus creating greater needs for infrastructures in land area for their service. Coastal protection projects, as planned, will upgrade the inland section of the city coastal walls and upgrade them as tourist attraction.