



Sustainable Environment and the built Space: Integrating Ecology, Planning and Human Well-being

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MITIGATING THE ADVERSE EFFECTS OF OWERRI URBAN HEAT USING THE URBAN WATER BODIES

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Abstract

The continuous expansion and built up of Owerri has continued to scale up the heat island situation of the Municipality making both day and night life temperature very uncomfortable. This study investigates the cooling potential of blue infrastructure of Otamiri and Nworie rivers together with the conversion of existing manmade pond surface artificial water bodies which can be converted to lakes and fountains within Owerri Municipal. These artificial water bodies which are not properly taken care off are breeding grounds for mosquito vector and other dangerous animals that are threats to public health. Using a mix of satellite thermal imagery and field measurements, the research identified the location of these water bodies, evaluates how they influence the Urban Heat Island (UHI) effect and public health. Preliminary findings suggest a that "Cool Island" effect, though limited by surrounding high-density construction and hard surfaces can be developed into beneficial passive environmental assets if properly developed and managed. The study then concludes with a framework for integrating these into a water-sensitive urban design in the Owerri Master Plan during any other imminent review and update. It observed that the project can possibly be funded through community, private partnership and the government budget directly or entirely through private partnership as part of the recreational facility provisions in the Municipality.

Keywords: Artificial water body, city, landscape, urban forest, urban heat island