

## Graduate School of Biotechnology and Bioengineering/ YuanZe University

**Authors :** Sankhanil Das, Arunava Dasgupta, Keya Mitra

**Abstract :** This paper investigates the relationship between natural ecological systems and modern urban morphology. Over years, ecological conditions represented by natural resources such as natural landforms, systems of water, urban geography and land covers have been a significant driving factor of how settlements have formed, expanded and functioned. These have played a pivotal role in formation of the community character and the cultural identity of the urban spaces, and have steered cultural behavior within these settings. Such cultural behaviors have been instrumental in transforming mere spaces to places with meaning and symbolism. The natural process of city formation is principally founded upon the idea of balance and harmony, mostly in a subconscious manner. Reimagining such processes of natural evolution, this paper systematically builds a development model that generates a balance between environment and development, with specific focus on the Urban-Rural fringe areas in the Temple Town of Puri, in Eastern India. Puri represents a unique cross section of ecological landscape, cultural practices and religious symbolism with a very rich history and a vibrant heritage. While the city centre gets more and more crowded by tourists and pilgrims to accommodate related businesses, the original residents of Puri relocate to move towards the urban peripheral areas for better living conditions, gradually converting agricultural lands into non agricultural uses. This rapid spread into the rural hinterland is devoid of any connection with the rich cultural identity of Puri. These past four decades of 'development' has been at the cost of 810 Hectares of ecological Lake systems in the region. Invaluable ecological resources at urban rural edges are often viewed as hindrances to development and conceptualized as taking away from the image of the city. This paper attempts to understand the language of development over years on existing natural resources through topo-analysis and proposes a sustainable approach of development using different planning tools, with ecological resources as the pivotal factor of development.

**Keywords :** livability, sustainable development, urbanization, urban-rural edge

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