Assessing Environmental Urban Sustainability Using Multivariate Analysis: A Case of Nagpur, India

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Abstract : Measuring urban sustainable development is at the forefront in contributing to overall sustainability, and it refers to attaining social equity, environmental protection and minimizing the impacts of urbanization. Assessing performance of urban issues ranging from larger consumption of natural resources by humans in terms of lifestyle to creating a polluted nearby environment, social and even economic dimensions of sustainability major issues observed such as water quality, transportation, management of solid waste and traffic pollution. However, relying on the framework of the project to do the goals of sustainable development or minimization of urban impacts through management practices is not enough to deal with the present urban issues. The aim of the sustainability is to know how severely the resources are depleted because of human consumption and how issues are characterized. The paper aims to assign benchmarks for the selected sustainability indicators for research, and analysis is done through multivariate analysis in Indian context a case of Nagpur city to identify the play role of each urban issues in the overall sustainability. The main objectives of this paper are to examine the indicators over by time basis on various scenarios and how benchmarking is used, what and which categories of values should be considered as the performance of indicators function.
Keywords : environmental sustainability indicators, principal component analysis, urban sustainability, urban clusters, benchmarking