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URBAN HEAT ISLAND- IMPACTING FACTORS, MEASUREMENT AND MITIGATION MEASURES: SCOPING REVIEW

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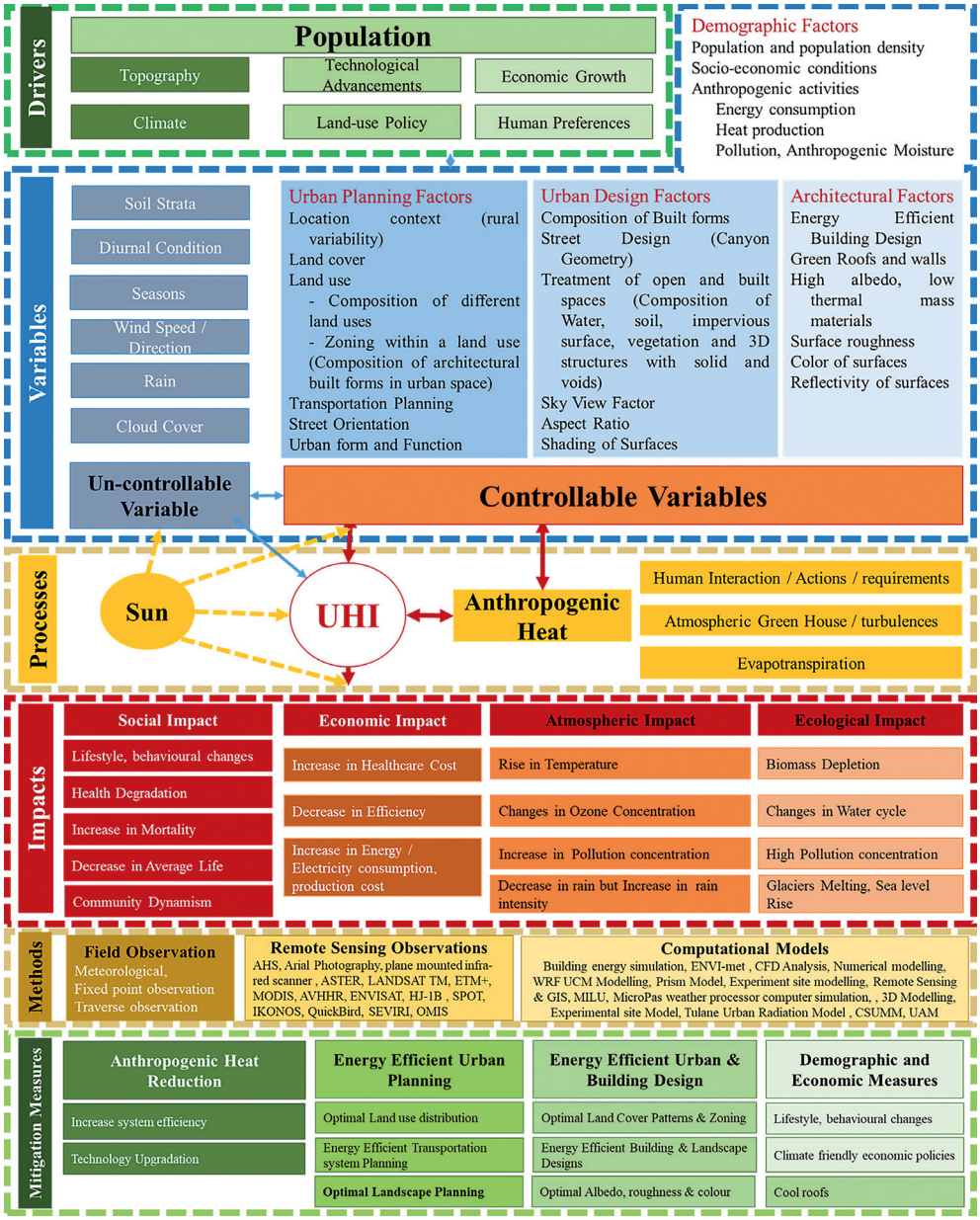
Abstract – Urban settlements are considered as the engine of socio-economic development and have rendered various benefits to human development. Along with numerous benefits, these settlements are disturbing the balance of nature through gradual increase in surface and atmospheric temperature as compared to their surrounding non- urban counterparts, termed as Urban Heat Island (UHI). The objective of this paper is to provide a comprehensive review of factors responsible for proliferation in the temperature in urban areas and mitigation measure purposed by various scholars. The published literature on UHI from 2000 to 2025 has been considered for the study purpose. Literature using keywords UHI, Urban Heat Island, UHI mitigation available online is collected for analysis and then snowball technique is used for identification of important literature. This paper presents account of most noted researches carried out so far in the field of UHI, which will act as library and shall help in guiding future researches and implementation of mitigation measures in the field. The level classification, of factors contributing to UHI and mitigation measures providing relief, is presented first time in literature. The study concludes with the ranked factors and mitigation measures on the basis of their relative importance mentioned in the literature.

Keywords – Mitigation measures; ordered factors and mitigation measures; region-wise; relative order; responsible factors; Urban Heat Island



Drivers, variables, processes, impacts of urban energy interaction in the urban system