ABSTRACT

Sponge City the new amalgamation of gray and green infrastructure helps to improve the degrading ecology of the urban cities. It acts to improve the conditions of urban flooding. Implemented in China in 2013 the idea first started in Maryland in 1999. It acts as an adaptive measure to reducing green cover and increasing UHI in metropolitan cities. The paper prepares for the pre-implementation analysis of Sponge City concept for any city. The VCRAR model determined the optimal capacity of the bio-retention units of the Sponge City architecture. Kolkata is taken up a case study to inspect the people's willingness to pay for Sponge City concept as an adaptive measure to urban flooding. Where the average willingness to pay is around ₹238.67. The paper further provides governance and financial recommendation along with CBA of existing conditions of the Sponge City program.

Key Words: Sponge City, UHI, Green Infrastructure, Kolkata, Willingness to Pay

JEL Codes: