CRITICAL REVIEW OF GREEN RATING SYSTEMS IN BUILDING - INTEGRATED VEGETATION AND APPLICATION CHALLENGES IN SRI LANKA

M. Ekanayaka*, A. Senalankadhikara and S. Chathurika
Department of Urban Bioresources, Faculty of Urban and Aquatic Bioresources, University of Sri Jayewardenepura, Sri Lanka

Today's world faces many burdensome issues, such as climate change, biodiversity loss, resource depletion, urbanization, and food insecurity. There is a growing attention to circularity and sustainable development. In this context, sustainable built environments that promote nature's regeneration play a vital role in leading to numerous benefits for overpopulated urban environments. Several studies have explored different types of Building Integrated Vegetation Systems (BIVSs) and their benefits, as well as the challenges/barriers to adopting them in both the global and Sri Lankan contexts. However, very few studies have focused on the role of vegetation in Green Rating Systems. This study categorizes the literature on different types of BIVSs, their role in Green Rating Systems (GRSs), common implementation and maintenance challenges, and the main barriers to adopting in the Sri Lankan context. The main objective of the study is to investigate the main reason why many green-certified buildings achieve the certification without integrating vegetation systems, specifically in the Sri Lankan scenario. This study is based on a critical review of 26 scholarly publications from relevant journals and online scientific databases. According to the findings, most Green Rating Systems do not offer direct points for incorporating vegetation systems into green buildings. Instead, points can be achieved through the benefits these systems offer. Those benefits can be achieved by other alternative sustainable practices. This has resulted in buildings obtaining the green certification without integrating any BIVSs. Furthermore, the study identifies the cost as the main barrier to adopting BIVSs in the Sri Lankan context, which is associated with their installation and maintenance.

Keywords: building integrated vegetation, circular built environments, cost, Green Rating Systems, Sri Lanka, sustainability

**Corresponding Author: br104926@fuab.sjp.ac.lk*