Environmental Engineering and Management Journal

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URBAN BUILDING AND ECOSYSTEM SERVICES: A CRITICAL REVIEW

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Abstract

With the rapid advancement of global urbanization, urban buildings have become increasingly important in shaping the ecological environment and enhancing quality of life. In recent years, researchers have shifted their focus from solely examining the environmental impact of buildings—such as energy consumption and pollution—to exploring their potential to provide ecosystem services. This study adopts a systematic review approach, analyzing relevant literature from the Web of Science (WOS) database to summarize and evaluate the types, mechanisms, and optimization strategies of ecosystem services provided by urban buildings. The findings reveal that urban buildings can offer a variety of ecosystem services. However, the effectiveness of service provision varies across different building types and is influenced by factors such as climate conditions, design strategies, and management practices. Moreover, current research lacks standardized evaluation methods and robust data support, limiting its applicability in urban planning and policy-making. Future studies should focus on developing quantitative assessment methods for building-related ecosystem services, optimizing green building design strategies, and enhancing policy guidance to support sustainable urban development.

Key words: ecological infrastructure, ecosystem services, green buildings, sustainable development, urban buildings

Received: January, 2025; Revised final: September, 2025; Accepted: November, 2025

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