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Potential for Nature-Based Solutions in Urban Green Infrastructure

Edited by: Petra Schneider

Ecological engineering (EE), as the synthesis of ecology and engineering, deals with the sustainable design and operation of ecosystems influenced by humans and uses nature-based solutions (nbS). The overarching goal is to ensure sustainability to allow designed ecosystems to function permanently for the benefit of society and ecology. This Special Issue (SI) uses findings from ecology and ecosystem research, material cycle management in the system with small material losses and the lowest possible proportion of technical energy, and the effective use of energy and materials. We aim to outline the characteristics of these technologies, including multifunctional use and the integration of different spatial levels, while using the optimal ecological construction methods and treatment processes. EE uses nbS to create and develop coherent networks of green and blue infrastructure in rural and urban areas. The overview and definition of the World Conservation Union (IUCN, 2016) are helpful for determining the dimensions of nbS: “Measures for the protection, sustainable management and restoration of natural or modified ecosystems that address the societal challenges effectively and adaptively while providing benefits for human well-being and biodiversity”. This SI explores the potential for nbS in UGI at all levels. Addressing: sustainable settlement ecosystems and UGI; multifunctional structural elements executed as nbS; strategies and measures to promote biodiversity in urban areas; sustainable landscape development in rural areas; land recycling and land conversion.



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