

Multi-Scale Green Infrastructure: An Integrated Literature Review

Authors : Panpan Feng

Abstract : The concept of green infrastructure originated in Europe and the United States. It aims to ensure smart growth of urban and rural ecosystems and achieve sustainable urban and rural ecological, social, and economic development by combining it with gray infrastructure in traditional planning. Based on the literature review of the theoretical origin, value connotation, and measurement methods of green infrastructure, this study summarizes the research content of green infrastructure at different scales from the three spatial levels of region, city, and block and divides it into functional dimensions, spatial dimension, and strategic dimension. The results show that in the functional dimension, from region-city-block, the research on green infrastructure gradually shifts from ecological function to social function. In the spatial dimension, from region-city-block, the research on the spatial form of green infrastructure has shifted from two-dimensional to three-dimensional, and the spatial structure of green infrastructure has shifted from single ecological elements to multiple composite elements. From a strategic perspective, green infrastructure research is more of a spatial planning tool based on land management, environmental livability and ecological psychology, providing certain decision-making support.

Keywords : green infrastructure, multi-scale, social and ecological functions, spatial strategic decision-making tools

Conference Title : ICSUDSP 2024 : International Conference on Sustainable Urban Development and Spatial Planning

Conference Location : Rome, Italy

Conference Dates : July 22-23, 2024