Study on nature-based solutions to enhance resilience of urban land space in ecological restoration planning

Hongbin WEI (China, PR)

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Land distribution; Land management; Spatial planning; China; ecological planning; land management; nature-based solutions; restoration; restoration planning; urban space

SUMMARY

As urbanization areas are faced with increasingly serious social challenges such as shortage of land resources, ecological degradation and environmental pollution, and frequent natural disasters, it is an important issue to clarify the various complex problems faced by the current territorial spatial ecological restoration in urbanization areas, and explore the urban land space ecological restoration planning is an important issue to enhance urban resilience and realize the sustainable development. Nature-based Solutions (NbS) advocates the full use of natural resources, natural processes, ecosystems and other sustainable ecological function services, in order to achieve multiple benefits such as ecological restoration, efficient utilization of resources, and multi-function development of ecosystems, transforming environmental and social challenges into innovation opportunities. NbS concept provides new thinking, new goals and new approaches for land space ecological restoration planning to enhance urban resilience in the new era. Combined with the practical experience of NbS for ecological restoration, this paper puts forward the overall goal of ecological restoration of land space in urban areas at five levels of 'ecological environment restoration-landscape function management-ecosystem connectivity-ecological sustainable development-ecological asset appreciation '. The overall idea of urban territorial space ecological restoration planning is proposed from the three levels of "ecological survey - planning and design - project implementation", and the standard system framework of urban territorial space ecological restoration with NbS is constructed from the three aspects of target level, restoration object and planning process, so as to clarify the overall goal, general objects, and content guidelines of ecological restoration. This paper puts forward the strategy of land space ecological restoration planning that incorporates NbS in multiple ways, so as to enhance the resilience of urban land space in the future and improve the scientific and operability of land space ecological restoration planning.

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