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Sponge city” concept helps solve China’s urban water problems

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Description / Abstract

The scale of China’s urbanization in recent decades is almost unprecedented in human history. Urban water problems are always prevalent and have been intensifying during the rapid urbanization process. In response, the “sponge city” concept was put forward by Chinese government in 2013, which represents a new urban development mode that is intended to manage effectively urban rainwater. This concept gives priority to protection and remediation of natural environments in urban planning and construction to ensure their ecosystem service function of water conservation. “Sponge city” vividly describes an urban environment that is devoted to finding ecologically suitable alternatives to transform urban infrastructures into green infrastructures so these could capture, control and reuse precipitation in a useful, ecologically sound way. Moreover, the idea behind sponge city is to promote the renovation of drainage systems, the improvement of connectivity of water systems, the division of rainwater and sewage pipe networks, and other modern engineering measures to enhance the city’s ability to cope with water problems. By building sponge cities, the multi-objective integrated rainwater management of sponge cities that involves infiltration, stagnation, storage, purification, utilization, and discharge is expected to be achieved, so as to use the full potential of rainwater under the premise of not suffering urban flooding.

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