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### Article

A Scheme for a Sustainable Urban Water Environmental System during the Urbanization Process in China

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**Research****Sustainable Infrastructure—Article****A Scheme for a Sustainable Urban Water Environmental System during the Urbanization Process in China**Huibin Yu <sup>a</sup>, Yonghui Song <sup>a,\*</sup>, Xin Chang <sup>a,b</sup>, Hongjie Gao <sup>a,\*</sup>, Jianfeng Peng <sup>a</sup><sup>a</sup> *Department of Urban Water Environmental Research, Chinese Research Academy of Environmental Sciences, Beijing 100012, China*<sup>b</sup> *School of Environment, Beijing Normal University, Beijing 100875, China*

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**ABSTRACT**

Urbanization is a potential factor in economic development, which is a main route to social development. As the scale of urbanization expands, the quality of the urban water environment may deteriorate, which can have a negative impact on sustainable urbanization. Therefore, a comprehensive understanding of the functions of the urban water environment is necessary, including its security, resources, ecology, landscape, culture, and economy. Furthermore, a deep analysis is required of the theoretical basis of the urban water environment, which is associated with geographical location, landscape ecology, and a low-carbon economy. In this paper, we expound the main principles for constructing a system for the urban water environment (including sustainable development, ecological priority, and regional differences), and suggest the content of an urban water environmental system. Such a system contains a natural water environment, an economic water environment, and a social water environment. The natural water environment is the base, an effective economic water environment is the focus, and a healthy social water environment is the essence of such a system. The construction of an urban water environment should rely on a comprehensive security system, complete scientific theory, and advanced technology.

**1. Introduction**

Industrialization, informatization, urbanization, and agricultural modernization were the focuses of the 18th National Congress of the Communist Party of China; all of these are factors that are conducive to the development

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