

## Research on Design Methods for Riverside Spaces of Deep-cut Rivers in Mountainous Cities: A Case Study of Qingshuixi River in Chongqing City

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**Abstract :** Riverside space is an important public space and ecological corridor in urban areas, but mountainous urban rivers are often overlooked due to their deep valleys and poor accessibility. This article takes the Qing Shui Xi River in Chongqing as an example, and through long-term field inspections, measurements, interviews, and online surveys, summarizes the problems of poor accessibility, limited space for renovation, lack of waterfront facilities, excessive artificial intervention, low average runoff, severe river water pollution, and difficulty in integrated watershed management in riverside space. Based on the current situation and drawing on relevant experiences, this article summarizes the design methods for riverside space in deep valley rivers in mountainous urban areas. Regarding spatial design techniques, the article emphasizes the importance of integrating waterfront spaces into the urban public space system and vertical linkages. Furthermore, the article suggests different design methods and improvement strategies for the already developed areas and new development areas. Specifically, the article proposes a planning and design strategy of "protection" and "empowerment" for new development areas and an updating and transformation strategy of "improvement" and "revitalization" for already developed areas. In terms of ecological restoration methods, the article suggests three focus points: increasing the runoff of urban rivers, raising the landscape water level during dry seasons, and restoring vegetation and wetlands in the riverbank buffer zone while protecting the overall pattern of the watershed. Additionally, the article presents specific design details of the Qingshuixi River to illustrate the proposed design and restoration techniques.

**Keywords :** deep-cut river, design method, mountainous city, Qingshuixi river in Chongqing, waterfront space design

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