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## SUMMARY

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### A Study on Development of Performance Indicators for Life-Oriented River Management and Its Policy Applications

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The necessity of life-oriented river management is increasing due to the increase of national income and the demand for quality of life. Most cities in our country have developed around rivers, and since a large number of people live near rivers, the rivers form the core axis of urban spaces and living zones, thus enhancing the value and utilization of rivers is directly linked to the quality-of-life(QoL) and competitiveness of cities and regions.

In response to these changes, the Ministry of Land, Infrastructure and Transport(MOLIT), revised the 'River Design Standards' in December 2018 which contains new river environment surveys and plans, river hydrophilic surveys and plans, and river maintenance plans to consider urban watershed basin characteristics.

However, the economic evaluation and policy performance management of existing river projects were centered on the watershed, and systematic investigation on the comprehensive benefits and utility of river projects to

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society were insufficient. In the past, performance and value evaluations focused on simple values such as ‘River M/P establishment rate’ and benefits limited to flood damage reduction, resulted in missing performance and benefits that are difficult to quantify, such as improving the river environment and creating a hydrophilic space.

The demand for river use is diversified (strolling and jogging, nature experiences, recreation, etc.), and as a result, the socio-economic benefits provided by rivers are diversified, and thus, the multi-faceted performance measurement of rivers is necessary. In order to promote river maintenance projects in line with changes in demands such as hydrophilicity of river spaces, performance management that emphasizes the satisfaction of local residents should be introduced beyond performance evaluation based on existing structural maintenance levels.

This study develops and presents qualitative performance indicators for life-oriented river management. Through factor analysis method and survey of local residents in a case region(Taejeon), 24 indicators are defined in three fields; minimal hydrophilicity base, safety and cleanliness, support for hydrophilic activity. In addition, the study examine the discrimination and applicability of the proposed performance indicators by identifying the difference in performance indicators between national and local rivers through another survey.

This study proposes three major policy applications. The first is the introduction of monitoring on the life-oriented performance of river projects. Through periodic investigation of life-oriented performance indicators, it is possible to secure and accumulate time series data of them, which can be used to compare river management performances over time, and share best practices. The second is to use proposed life-oriented performance indicators as

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a basis for national financial investment. The performance indicator system and survey contents of the residents' satisfaction can be used as a reference for the financial evaluation of river projects, as a basis for determining priorities among projects, and for establishing and executing plans. The last is to improve the legal framework for the introduction of performance indicators. It is necessary to designate satisfaction surveys on the 'River Master Plan Guideline' and specify frequency and investigation methods to build a consistent and reliable performance measurement system.