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A Study on Water Demand Load Estimation by Using Unit of Living Water - Focused on Micro Water Supply Area in Daegu City

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ABSTRACT

Water supply capability has been significantly reduced as water demand has been increased due to changes of the world's weather, causing the increase of drought frequency, and urbanization. In terms of water production, water can be secured by construction a dam or procuring substitute water. However, the study approaches in terms of management of water supply area to control the existing water efficiently. Therefore, water demand was estimated by buildings, by which water load of micro water supply area was calculated. As a result, the deviation of water demand for 1,357 micro water supply areas could be calculated while the alternatives to dissolve the spatial demand unbalance were suggested by two types. From the study, firstly, we could anticipate the total water supply demand from the total sum by filtration plants but it was not possible to anticipate the characteristics of distribution within urban areas. For this, the study attempted to anticipate the demand of each 250 thousands of buildings, comprehending the demand of micro areas. Secondly, based on the built results, we suggest the directions to dissolve the water demand unbalance between and among regions, which could be the foundation to suggest the concrete methodology in the future.

KEYWORDS

Water Supply Area, Water Demand Estimation, Basic Unit, Water for Living, Smart Water Grid

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