

EGU2020-13300

<https://doi.org/10.5194/egusphere-egu2020-13300>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Evaluation of a rain barrel sharing network for sustainable water management

You Jeong Kwon¹ and Yongwon Seo²

¹Yeungnam University, Civil Engineering, Korea, Republic of (my218@ynu.ac.kr)

²Yeungnam University, Civil Engineering, Korea, Republic of (yseo@ynu.ac.kr)

Recently, interested in LID and GI has been increasing for sustainable development. Rain water harvesting system is commonly used in various type as a form of low impact development. This study introduces a rain barrel sharing network, which is a connected system through water-sharing among individual RWHS users. In this study, we developed an evaluation procedure for the reliability, resiliency, and vulnerability of a RBSN based on a SRY relationship. The preliminary result shows that reliability and vulnerability increased with all the users connected. However, resiliency is degraded as the degree of sharing increases. Based on this, we analyzed the benefit from a RBSN with 73 observing data and RCP scenarios in South Korea and investigated the regional characteristics of benefits from the RBSN. The potential benefit from a RBSN implies the important role of social practices under water scarcity and extreme hydrologic events with climate change.