

عنوان مقاله:

An investigation on the potential of rainwater harvesting from building's roof tops in Seoul city, South Korea

محل انتشار:

ششمین کنفرانس بین المللی پژوهش های کاربردی در علوم و مهندسی (سال: 1401)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Shiva Neshastegar - *Diploma in experimental science from Javad-al-Aemme high school, Yazd, Iran*

Mohsen Taghavijeloudar - *PhD, Department of Civil and Environmental Engineering, Soul National University, Seoul, Korea*

Mooyoung Han - *Professor, Department of Civil and Environmental Engineering, Soul National University, Seoul, Korea*

خلاصه مقاله:

Considering the fast track of population growth and urbanization, supplying clean water becomes one of the main concern of human beings. Annually, a huge amount of clean rainwater directly discharges to surface and ground water and becomes polluted. Irrationally, an extensive energy and cost should be spent to extract the same water from surface and ground water by building huge dams and using pumps, respectively, and remove the pollutions to supply clean water. In this research, the potential of rainwater harvesting from building's roof top was investigated in Seoul city, South Korea. For this purpose, the total area of roof tops in each ۲۵ districts of Seoul were estimated using Google Earth latest images. Then, the total area of these roof tops as available rainwater catchments was multiple to average annual of rainfall in Seoul to find the total volume of rainwater in Seoul. The results indicated that about ۱۹۴.۴ million m^۳ of clean rain water can be harvested from current building's roof in Seoul. Considering the water cost of ۵۰۰ \$ for each ۱ m^۳, annually ۹۷.۲ million\$ can be saved

کلمات کلیدی:

Water management, Rainwater harvesting, Seoul

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1447524>

