

## Groundwater recharge impact by rain water infiltration device in urbanized huge city

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The flood of river, decrease in groundwater level, evapotranspiration and dry out of spring water are influenced by urbanization. The promotion of the infiltration of rain water becomes important as one of solution. The observation of rainfall, groundwater level and discharge of spring for 16 years before and after the rain water infiltration device installation, and the effect of the device was confirmed in the Mitsuike spring, Setagaya in this study.

The Mitsuike spring is an outcrop of groundwater in Musashino Gravel to the foot of the Kokubunji cliff. The amount of discharge is not clearly changed, groundwater level reach to 32.0m in the aquifer. When the groundwater level exceeds 32.0m, the increasing rates of spring discharge become heights.

Impacts of devices are clearly recognized during the intensive rainfall at the condition of dried soil, and the evidence was recorded in the quick response of groundwater level change below 32.0m. Relationship between the accumulation rainfall and accumulation discharge during the term of over 32.0m in groundwater level, the effects of devices were recognized. Before set it up, the spring discharge was observed according to the accumulation rainfall of over than 856.5mm, on the other hand the spring discharge was recorded even in 200mm of accumulation rainfall, after set it up.

So it is confirmed that the rain water infiltration device have impacted to the recharge of groundwater, and could effected maintain the spring discharge.