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## Extended Abstracts

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**Managing aquifer recharge**

title: **Artificial recharge in the office yard of Jakarta, Indonesia:  
An optimization effort**

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High rainfall intensity combined with the densely populated area are making the greater area of Jakarta is almost always experiencing flood disaster every rainy season.

Average annual rainfall of Jakarta is between 2500 mm and the rainy season is lasting from October to April. On the other hand groundwater shortage problem occurs during dry season. To resolve the situation an experiment to artificially recharge the runoff water from an office area have been done using combination method of pond, gallery and well. Roof top water from an office building is diverted into the pond that has been completed with several recharge wells and gallery. Recharge into the aquifer is made through the well and gallery. After 4 months no flooding took place in the office area.

The groundwater level in the monitoring well increases from -6 m to -3.8 m below the surface. This artificial recharge also resulted in the improvement of water chemical properties of  $\text{Fe}^{2+}$  and  $\text{Mn}^{2+}$ . One problem in this experiment is the clogging of the recharge well. Run off water used for recharge contains too much suspended solid. Surging and flushing was carried out to solve the problem. This paper elaborates some efforts and results which have been carried out to increase the recharge capacity in the study area.



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