



## **Evaluation of the efficiency of recharge wells for groundwater recharge in South Tunisia: a laboratory study**

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To ensure the replenishment of the main aquifer of Zeus-Koutine watershed in South Tunisia, gabion check dams have been installed and recharge wells have been drilled to recharge the aquifer with flood water.

Because the flood water is charged with sediment, the main problem in the infiltration systems for artificial recharge is the gradually silting up of the impoundment basin of the gabion check dams and the clogging of the gravel filter of the recharge well.

The efficiency of the recharge well and the blocking effect of the sediment was studied with a laboratory recharge well replica made of two concentric tubes with a gravel filter in between. With a sediment concentration of 5g per liter of flood water, the transmission properties (conductivity) of the gravel filter dropped rapidly from 5.2 m.h<sup>-1</sup> to 0.27 m.h<sup>-1</sup>, reducing the efficiency of the well.