



WHAT & WHY

This research studied applying an integrated water resources management (IWRM) approach in Sana'a to assess the effectiveness of the supply management applied in the Sana'a basin, and to slow down the depletion of its aquifer.

The region has no perennial surface water runoff, and is practically dependent on the use of groundwater. Over-exploitation is causing the groundwater table to deplete, with a water table drawdown of about 3 meters per annum. Thus, Sana'a is amongst the worst affected areas in the country. Intermittent and intense rainfall events over an arid watershed can lead to short term surface water availability. This study also investigated ensuring that the available surface water remains within the catchment in the form of stored groundwater.

RESULTS

- The simple approach developed carefully can provide acceptable results for estimation of induced recharge under dam constructed in minor ephemeral wadis.
- De-siltation of reservoir bottom should be thought of as an essential management practice to extend dam lifetime, too.
- Check dams show higher efficiency of recharge than smaller gravity dams. They proved to be an excellent vehicle to engage local communities in practical action for water resources conservation. They provide a better chance to recharge through wadi bottom and increase infiltration opportunity. The number of the check dams should be evaluated accurately, though.
- The key mitigation measure is the need for the establishment of the WUA.
- For an optimized recharge management, the recharge flow should be adjusted in such a way that the available water can infiltrate in an area as small as possible for as long as possible.

MORE INFO

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*Integrated Watershed Management
for Small Catchments within
Sana'a Basin, Yemen*

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