

Ground Water Recharge Potential and Impact on Supplementary Irrigation in Spate Irrigation Areas

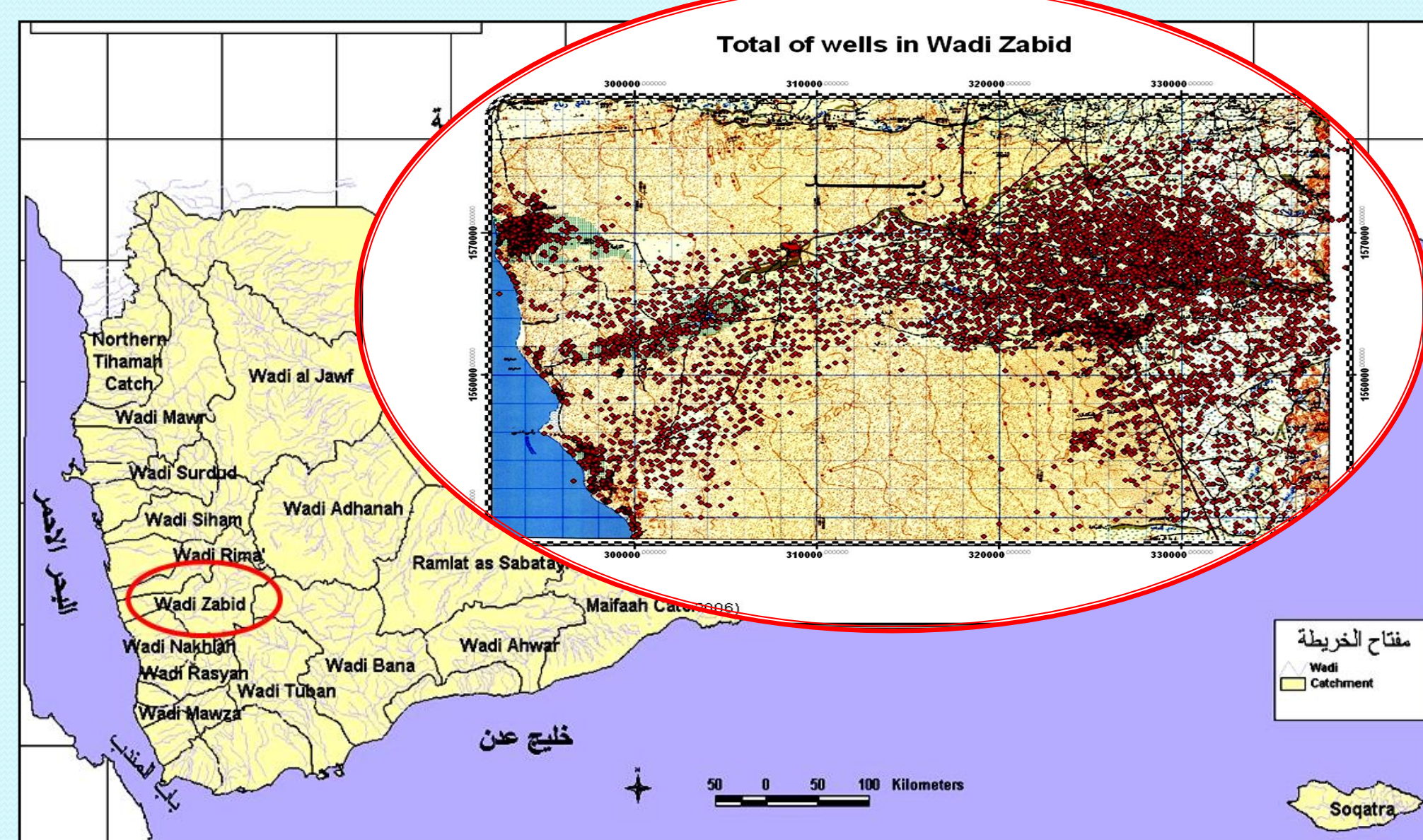
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WHAT & WHY

This study focused on groundwater recharge in spate irrigated areas of Wadi Zabid, where the floods have played an essential role in groundwater recharge. Additionally, there is a high groundwater-resource abstraction that may affect its sustainability. This research explored and studied these issues and proposed the suitable solutions.



The study was conducted in Zabid district, a district in Al- Hudiadah governorate. The study area is placed in a coastal plain located at spate irrigated areas that cover about 15215ha.

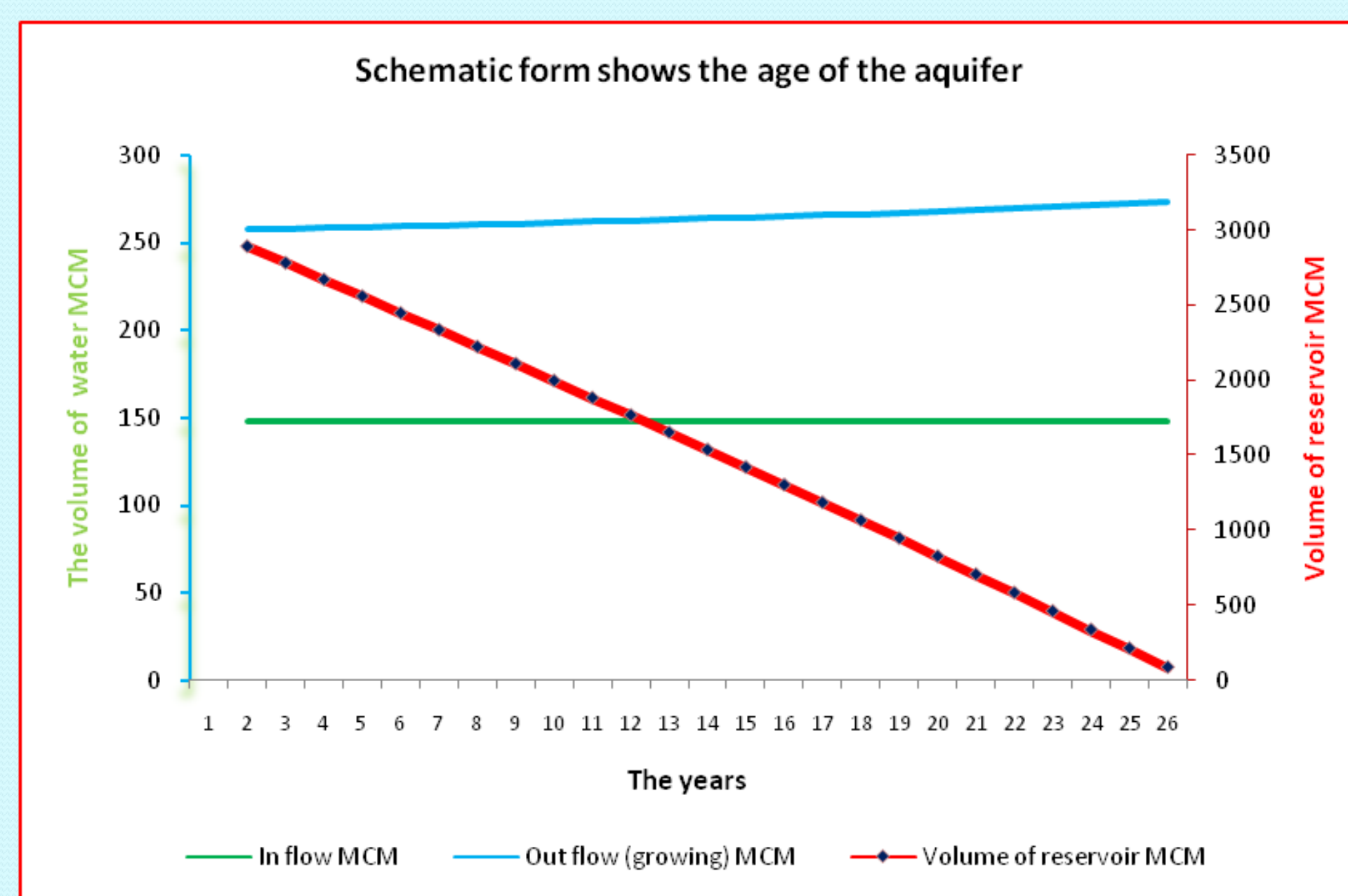


METHODS



RESULTS

- The deficit groundwater storage in Wadi Zabid led to a declination in the water level in wells especially in midstream and downstream areas.



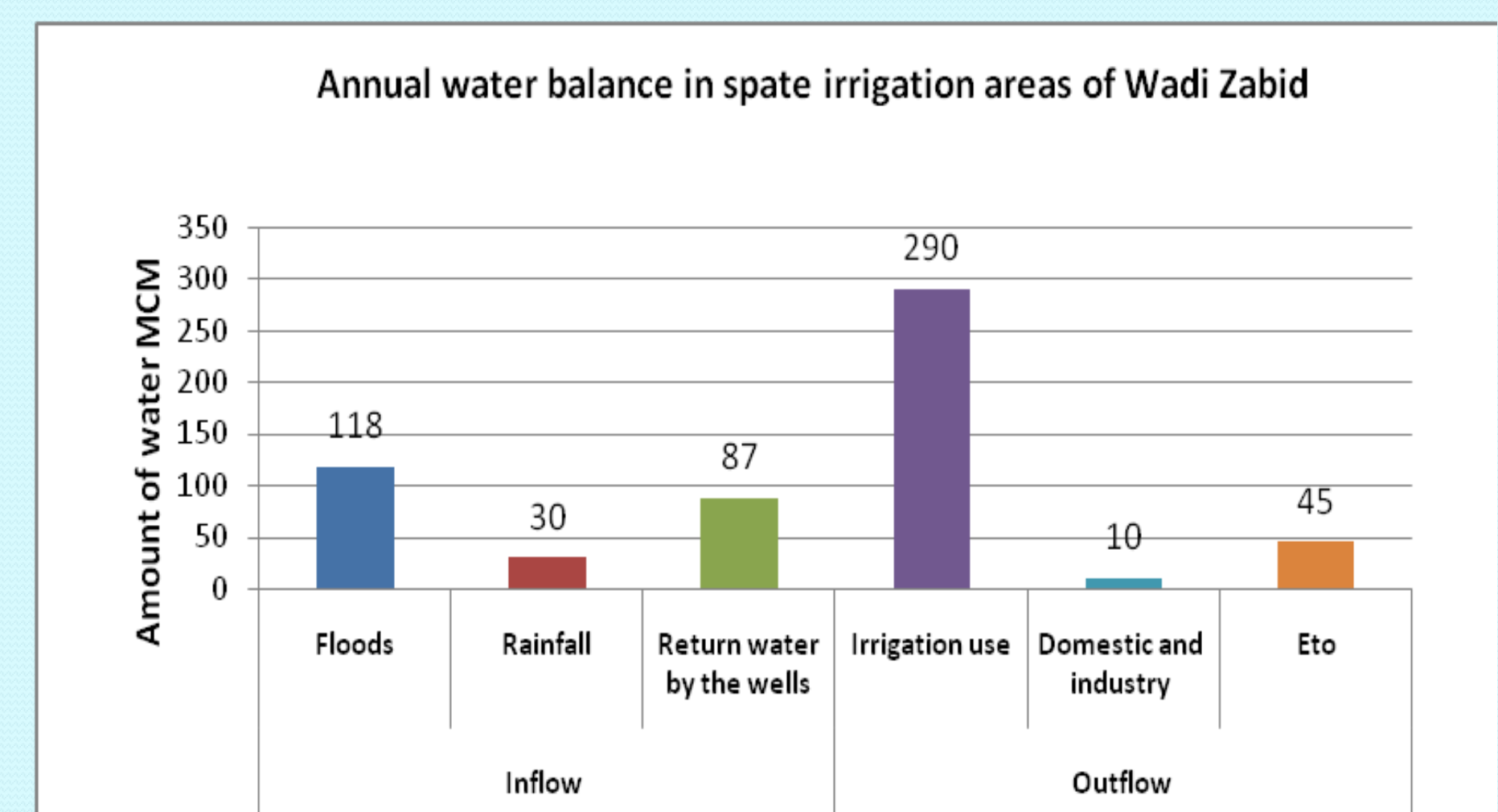
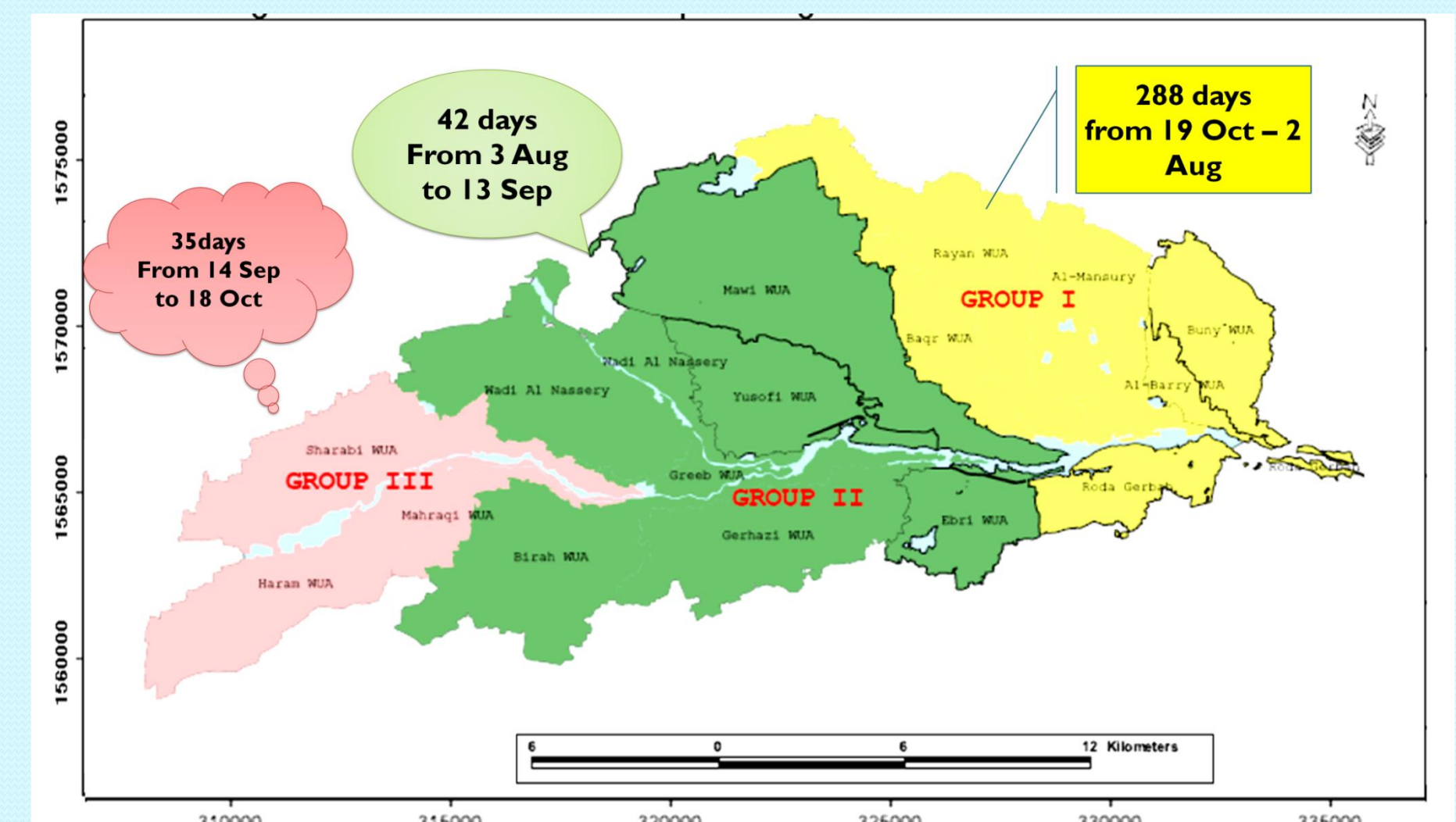
- There are many factors affecting the groundwater recharge in spate irrigation areas as follows:

Technical: The structures which block the subsurface flow.

Regulatory: water rights unattained with modern diversion structures

Social: The violation of water rights among flood water beneficiaries in Wadi Zabid has led to a pressure on groundwater resources.

- Absence of IWRM between related stakeholders led to the deterioration of groundwater resources.



- There is a high over-exploitation of groundwater reaching 300 MCM annually, of which agriculture consumes more than 290 MCM, providing that banana crops consume more than 75% of it .

RECOMMENDATIONS

- The role of integrated water resources management (IWRM) should be activated which leads to the typical use of water resources in an equity-driven and sustainable way.

