



Identification of Suitable Sites for Water Harvesting Structures in Wadi Al-Meleh Using GIS

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Abstract: Water harvesting can be effectively used to harness unused surface runoff and increase groundwater feeding. This research identifies suited locations for rainwater harvesting designs in the watershed of Wadi Al-Meleh, which is located in the northern part of Iraq. Thematic maps were created for slope, stream order, land use–land cover, runoff depth, and types of soil using ArcGIS program. Suitable locations for the selected water harvesting structures were identified by overlaying these thematic maps according to the required criteria. Check dams and farm ponds can be constructed in a wide region of the study area. Subsurface dyke structures can be constructed in a limited region at the south west of the basin. The study provides a quick and socioeconomically beneficial solution for the planning and construction of rainwater harvesting designs within the drainage basin.

Keywords: GIS, Overlay map, Rainwater harvesting, Locations property analysis
