Locating Site Selection for Rainwater Harvesting Structure using Remote Sensing and GIS

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Abstract

. Rainfall is a key source to diminish the problem of water scarcity in the arid and semi-arid regions. Rainwater harvesting is considered an imperious tool for rainwater conservation. Locating the appropriate location for rainwater harvesting structure plays an important role to increase water availability and improve water resources planning. The main goal of this paper is to recognize the proper location for a rainwater harvesting structure using a suitability model generated with ModelBuilder in ArcGIS. Six thematic layers i.e. soil structure, slope, drainage density, vegetation cover, distance to the roads, and runoff depth, are considered to find the proper site for rainwater harvesting structure. The result shows that 12% represents the suitable zone of the total study area, 42% represents the medium suitable area, and 46% represents not suitable areas to implement rainwater harvesting structure. The application of this scheme should maintain any policy adoption for site selection for rainwater harvesting.