

Title: Identification of Groundwater Reservoir Suitability for Drinking Purpose using GIS based Multi Criteria Decision Approach, a case study of Faisalabad City.

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Industrialization is the major phenomenon due to high trend of urbanization in many developing and under developed countries. Growing demands of the population in urban areas lead to settle out the various industries. So these industries not only improve the socio economic development in the area on one side but also have a lot of adverse environmental impacts by degrading its quality. This study also focuses on these adverse impacts of such industries on our groundwater reservoirs. For the purpose, land suitability analysis of ground water reservoir for drinking purpose were performed in an industrialized City Faisalabad. GIS based Multi Criteria Decision Approach (MCDA) was applied and various criteria were set as EC, pH, TDS, TH, CA, Mg, Bicarbonates, Sodium and chlorides for analyzing the drinking quality of the reservoir. An Analytical Hierarchical Process was used for ranking the suitability factors. Suitability map layers were constructed using resulting weights. Weighted sum overlay tool in ARC GIS 10.2 was used to construct the final land suitability map for drinking quality of groundwater reservoir. Only 2.91 % of total area was found highly suitable for drinking purposes which indicates that groundwater reservoir of the study area has highly been contaminated by the hazardous waste released by these industries. At the end of this study, certain valuable suggestions and recommendations for the industries of study area have also been presented to control and minimze the adverse impacts towards environment.

Biography

UMAYYA ZAFAR has completed his M.Phil degree in Geography from University of Sargodha, Punjab, Pakistan at the age of 25. She Joined Govt Degree College Gojra after the Completion of her MSC from Govt College University Faisalabad. She is now serving the University of Gujrat, Gujrat, as a regular Lecturer of Geography.

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