

Review of: "Groundwater Potential Zone Assessment Using Remote Sensing, Geographical Information System (GIS), and Analytical Hierarchy Process (AHP) Techniques in Fogera Woreda, South Gondar Zone, Ethiopia"

Jeganathan Jeganathan¹

¹ Birla Institute of Technology, Mesra

Potential competing interests: No potential competing interests to declare.

The study has considered all the variables of importance related to groundwater. However, there seem to be some issues in the variables and a major issue with the Pairwise Comparison. For example, the whole area appears to be under agriculture (yellow colour in the LULC map). But how can one do agriculture in the high-slope conditions? For AHP, it is generally recommended to divide the problems into smaller problems, and hence the number of criteria does not exceed 4 or 5 in one level. But in this study, the authors have considered 10 criteria within ONE PAIRWISE COMPARISON MATRIX (PCM). The scale provided by Mr. Saaty for PCM is 1 to 9, and generally 8 and 9 are rarely used. With this point, the PCM followed is not appropriate. Moreover, the author has not shown the Hierarchical Diagram of the Problem, which itself reveals the basic flaw in the study. Most importantly, the final groundwater potential seems to be providing the answer which is already known to the reader, like the most groundwater potential will be at the river front or at the lower elevation water accumulation zones. But there are water accumulation zones in higher elevation areas also. Hence, the author may include FLOW ACCUMULATION information, drainage density, lineament density, and slope to get another group of GWP maps. Overall, the study has scientific merit but could do much more analysis which may reveal more important unidentified GWP locations.