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"

Farooq Ahmad Dar

The title of the paper is too long. I suggest reducing the length and providing an attractive title.

The affiliation of the author is incomplete.

The first four sentences of the abstract are similar and need to be rephrased. I suggest that the abstract be rewritten after thorough review of the manuscript, including all the reviewer suggestions. What valuable information from the study is not mentioned in the abstract. Just providing the zones with their corresponding areal extension is not sufficient for a researcher or policy maker.

'……Water that fills within void spaces in a geological stratum is known as ………. (Ganapuram et al., 2009)'. Such kind of statements in research papers is not encouraged; further, the citations used in this and other such statements need to be properly referenced, as these are not the authors who have defined groundwater. Be careful in citing the work of global researchers.

I suggest the introduction section be rephrased in detail. Read as many research papers as possible and find how the introduction is formulated, as this is an important section of your paper which increases or reduces the interest of any reader. Provide as much valuable information with data/numbers, etc., and develop a research question and hypothesis that you will nullify or accept from your results.

'…woredas…' What is it? Use a proper way to define proper places.

The study area needs to be defined in detail. Discuss all the relevant information of the study area, including climate, land use, population, water resources, etc. This information will be helpful to validate your results and help any policy maker to formulate plans.

Elevation of the map — what are the units, m or ft….

Table caption and table header are repeated????

Data is in UTM and maps are prepared in degree minutes?

Mention the source of datasets in detail (website, department, year, etc.), which is mentioned in the methods section also.

In the methods section, focus on the method and approach, not the datasets alone.

The flow chart of the methodology needs to be discussed in detail. Follow some recent research on the same theme and revise the methodology accordingly. Otherwise, the manuscript is of very less importance and could be rejected.

'…Alluvial deposits have been given more weight than …'. Why? Is not mentioned. Discuss the characteristics of the rock types in detail, their hydrogeological properties, and factors impacting groundwater zonation. Again, the map is not in the UTM system??

'………..The infiltration rate of the soils has been used to determine the rank of the soils in the study area (Table 3)…..'. Where is this data? Mention the soil texture characteristics of the area in detail.

The caption of all the figures needs to be formatted properly.

Discuss the maps like soil, slope, geology, etc., in detail.

Plot the natural drainage and lineaments from geological maps on the developed maps. Particularly, the lineaments, fractures, faults, etc., are important to plot and discuss in the results in the context of groundwater potential mapping.

Rainfall data, collection sources, and variability need to be discussed in detail.

How the maps were generated and which technique of interpolation was used is not mentioned. I suggest discussing these important aspects as they determine the validity and sensitivity/error of the data.

There are no significant numbers of references cited in the methods and discussions as well.

LU-LC map needs further explanation. What type of crops, role in groundwater, etc.,??

For validation of the model, a more detailed analysis is required. You may increase the number of wells, data sets, water levels, etc., to validate your model.

A section on the model sensitivity and feedback mechanism is required to discuss the sensitivity and applicability of the model in similar areas of the study country.

The manuscript does not suggest any areas where the policy makers need to improve the reserves. What could be appropriate techniques that you suggest in the low groundwater potential zones?

Berihun, A. (2019), is not cited in the text. Similarly, check the other references in the text and in the list.

I suggest the paper needs major revision, and then it can be accepted for publication.