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Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	Ms_BJAST_22747
Title of the Manuscript:	HYDROGEOLOGIC AND GEOPHYSICAL ASSESSMENT OF GROUNDWATER PROSPECTS AND AQUIFER VULNERABILITY IN ALADE IDANRE, SOUTHWESTERN NIGERIA
Type of the Article	ORIGINAL RESEARCH PAPERS

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<u>Compulsory</u> REVISION comments	Presentation of the work is generally poor. The basic concept of the MS is also lacking. Authors need to rewrite bearing in mind the objectives, available data, interpretation and applicability. INTRODUCTION This section need to be rewritten to make it more robust and focused. Note some comments below. Why was this study carried out in Alade Idanre? What is the research question? This must clearly stated. Poor referencing e.g. line 35 NOT (John E Moore, 2010) BUT (Moore, 2010). Lines 37-39. This is not possible. Lines 45-47 do not convey any information. In addition, the general water problems and environmental issues of the study must be described as a background to the study. LOCATION OF STUDY This section must present a complete picture of the area to include but not limited to: location, climate, physiography, geology and hydrogeology of the area. Lines 56-57. Poorly written.	This study was initiated to investigate the hydro geological characteristics/groundwater potentials and aquifer vulnerability in the study area. Because the area lack potable and quality drinking water. I have made corrections and adjustment in the area mentioned. Thanks The corrections have been made. The corrections have been made. I have described the water problems and contaminations in the introduction. The description of the study area in the paper contains, location, topography, climate, geology and hydrology. Lines 56-57 have been corrected.



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	Fig 1 should include the boreholes indicated in the legend. Also include the VES locations. Besides the figure is poor. Is the no of VES 60 (lines 10 and 75) or 56 (Table with no number, lines 117-118). METHODOLOGY Authors should describe how the data was acquired in the field. It should also include data processing. Lines 97-103 has no relevance. RESULTS AND DISCUSSIONS Generally does not reflect the study. Needs reworking. This section must clearly show: VES results and interpretations to clearly define the aquifereous layers with x-sections as indicated in fig 3. It must be noted that resistivity values > 1000 ohm is an indication of slightly weathered rock/fresh bedrock. In this case borehole control must be used to decipher which is which? Also a geologic x-section should be included to complement the resistivity data. The aquifers and protective layer must be clearly defined and described based on resistivity data and computed longitudinal conductance data. Line 113.....groundwater flow direction.....How was this determine without a map? Data poorly presented. See sample table below	There is boreholes indicator in the legend. The map shows the latitude and longitude of VES locations. The number of VES is 56. The methodology is well described in the article. The results and discussion were based on the study; the results were clearly shown in the paper, the discussion is based on the groundwater potential and the vulnerability of the aquifer in the area. It has been corrected.
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	Caption for fig 2 Typical VES Curves from the study area A (Location name or code) , HA (Location name or code), etc types Line 144-157 does not convey any information. The tables do not have any nos or title. Is it what you have below. Table captions should be on top?. Combine the tables of hydrogeological data and longitudinal conductance. What is the significance of table on hydrogeological measuremnts without using it properly. Fig 4 how was vadose zone obtained from well measurement? There is nothing on vulnerability in this MS. Authors are encouraged to look at literature on vulnerability Sample table of data presentation <table border="1" style="width: 100%;"> <thead> <tr> <th>S/N</th> <th>Location name</th> <th>Code</th> <th>Layer resistivity</th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>ρ_1</td> <td></td> </tr> <tr> <td>1</td> <td>Include here site names</td> <td>AD 1</td> <td>98.6</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>AD 2</td> <td>74.3</td> <td>1</td> </tr> </tbody> </table> References on Vulnerability Ahmed AA (2009). Using generic and pesticide DRASTIC GIS-based models for vulnerability assessment of the Quaternary aquifer at Sohag, Egypt. Hydrogeol Journal 17:1203-1217.	S/N	Location name	Code	Layer resistivity					ρ_1		1	Include here site names	AD 1	98.6		2		AD 2	74.3	1	It have been corrected The tables have title. I have discussed the vulnerability of the aquifer in the paper. The tables are well presented.
S/N	Location name	Code	Layer resistivity																			
			ρ_1																			
1	Include here site names	AD 1	98.6																			
2		AD 2	74.3	1																		



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	Aller L, Bennet T, Lehr JH, Petty RJ, Hackett G (1987). DRASTIC: a standardised system for evaluating groundwater pollution potentials using hydrogeological settings. EPA/600/2-87/035, US Environmental Protection Agency, Washington DC, 455 pp. Almsari MN (2008) Assessment of intrinsic vulnerability to contamination for Gaza coastal aquifer, Palestine. J Environ Manag 88:577-593 Al-Zabiet T (2002) Evaluation of aquifer vulnerability to contamination potential using the DRASTIC method. Environ Geol 43:203–208 Anane M, Abidi B, Lachaal F, Limam A, Jellali S (2013) GIS-based DRATIC, Pesticide DRASTIC and Susceptibility Index (SI): comparative study for evaluation of pollution potential in the Nabeul-Hammamet shallow aquifer, Tunisia. Hydrogeol Journal 21:715-731 Artuso E, Oliveira MM, Lobo-Ferreira JP (2002) Assessment of groundwater vulnerability to pollution using six different methods: AVI, GOD, DRASTIC, SI, EPPNA and SINTACS. Applications to the Evora Aquifer, LNEC, Rel. 184/02-GIAS, Portugal Babiker IS, Mohamed MAA, Hiyama T, Kato K (2005) A GIS-based DRASTIC model for assessing aquifer vulnerability in Kakamigahara Heights, Gifu Prefecture, central Japan. Sci Total Environ 345:127-140 Banton O, Villeneuve JP (1989) Evaluation of groundwater vulnerability to pesticides: a comparison between the land-use index and przm leaching quantities. J Contam Hydrol 4:285-296	
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	Sener E, Sener S, Davraz A (2009) Assessment of aquifer vulnerability based on GIS and DRASTIC methods: a case study of the Senirkent-Uluborlu Basin (Isparta, Turkey). Hydrogeology Journal 17: 2023-2035 Stigter TY, Ribeiro L, Carvalho Dill AMMet (2006) Evaluation of an intrinsic and specific vulnerability assessment method in comparison with groundwater salinization and nitrate contamination levels in two agricultural regions in the south of Portugal. Hydrogeol Journal 14:79-99 USEPA (1985) DRASTIC: a standard system for evaluating groundwater potential using hydrogeological settings. WA/EPA Series, Ada, OK, USA Van Stempvoort, D., L. Evert, and L.Wassenaar. 1993. Aquifer vulnerability index: a GIS compactable method for groundwater vulnerability mapping. Canadian Water Research journal 18: 25-37 Vias JM, Andrcó B, Perles MJ, Carrasco F, Vadillo I, Jimenez, P (2006) Proposed method of groundwater vulnerability mapping in carbonate (karstic) aquifers: the COP method. Applications in two pilot sites in southern Spain. Hydrogeolo Journal 14 Vrba J, Zaparozec A (1994) Guidebook on mapping groundwater vulnerability. IAH International Contribution for Hydrogeology. Heise, Hannover, Germany	
Minor REVISION comments		
Optional/General comments		