UGANDA CHRISTIAN UNIVERSITY

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UGANDA CHRISTIAN UNIVERSITY

DIRECTORATE OF POSTGRADUATE STUDIES

DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: September 8th 2023

Name of Candidate: Samuel Senfuma **Reg. No:** RS14M45/005

Title of Dissertation: DEVELOPING CHARACTERISTIC REGIONAL GROUNDWATER YIELD CURVES IN DIFFERENT GEOLOGICAL SETTINGS OF PADER, AGAGO AND KITGUM DISTRICTS IN NORTHERN UGANDA.

SN	COMMENTS BY EXTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	Back ground reads more like a government report/Consultant report. Briefly describe the conceptual framework, highlighting how the different variables are anticipated to interact with each other.	The background has been rephrased and scientific references incorporated. The conceptual framework has been briefly described while showing the relationship between the independent and dependent variables leading to the decision for GW exploration as a point source or as a mini piped scheme	Background and Problem Statement have been rephrased (Pages 1 - 7) Comments on conceptual framework addressed on page 12

MPA

2	A lot of text has been provided without providing references. MWE references are not suitable for technical aspects being covered in the literature.	Refences provided. National Water Resources Assessment Report (2013) adopted for referencing.	Comments addressed.
3	Were there any issues in the fieldwork that required conformance to research ethical standards? Sources of figures 16, 17, 18, 19 & 21 were not provided.	Available Secondary data for Schlumberger VESs, drilling logs and aquifer data sheets were used during this research that did not require conformance to any ethical standards since data was readily accessible from the Groundwater Unit, DWD, MWE. Figures were prepared by the researcher using ARCGIS Software. (After getting the UTM Coordinates from VES data.	Section 3.5.5 (Page 68) Captions of the figures 16 - 21 have been improved to include their source i.e., Figure 16 on Page 49 Figure 17 on Page 51 Figure 18 on Page 54 Figure 19 on Page 62 Figure 20 on Page 66 Figure 21 on Page 67
4	Section 4.8.1.2 was not clear. Figures 29 - 31 not adequately explained.	This meant that the relationship between the two variables was statistically significant and that the Total Depth (TD) of the drilled sites was a significant predictor of the well yield. Captions have been enriched with more information.	Statement picked from page 88 (Section 4.8.1.2) Comment addressed under sections (4.8.2, 4.8.3 & 4.8.4)

MPA

	It is not explained how the modified yields data shown in Table 14 were obtained.	This was addressed in the caption of table 14 with the highest observed yield of 40 m^3/hr fixed at $25m^3/hr$.	Caption for table 14 has been enriched to indicate basis for observed yield modification on page 94
5	Inadequate discussion of results It would have been useful to reflect on the extent to which the research objectives were fulfilled, and how the boundaries of knowledge have been extended. What were the limitations of the study?	Summarized discussion of results done as guided Conclusion has been modified to reflect on how the research objectives and aim were achieved. Limitations of the study have been addressed	Page 96 On page 99 Under section 5.2 (Page 101)

MPA

SN	COMMENTS BY INTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	No Comments to address	N/A	N/A

SN	COMMENTS BY VIVA VOCE PANNEL	ACTION TAKEN	INDICATOR
1	What does the 66.8% in the conclusion mean and how does it answer the research topic?	The 66.8% is the coefficient of determination (R^2), which indicates 66.8%(two-thirds) of the dataset is adquately accounted for by the model. In otherwards, the GW yield for a given lithology can be predicted with 66.8% accuracy based on Total Depth and Water Strike Depth within the regions of Kitgum, Pader and Agago districts.	Explained on Page 93
2	Do the 28 data sets in Kitgum bias the conclusion?	NO, its because the conclusion is based on the lithological formation to determine the yield.	
3	Improve discussion of results to improve the meaning.	This has been explained under application to guide groundwater exploration (section 4.10) and conclusions	Page 94 and page 99
4	Show the results of the model (output)	Curves have been generated from the equations using Minitab software.	Appendix 4
5	Explain the meaning of curves developed.	To determine the yield, multiply row by column in Matrix Form from the generated yield curves for different lithologies with an example given.	Page 99

SAMUEL SENFUMA ....

Candidate's Name Signature

Dr. PETER MULAMBA ....

Supervisor's Name Signature