



**Investigating the Relationship between the Background Radiation
and the Physical Properties of the Soils
(Case Study: Osukuru Hills in Tororo District)**

By

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Declaration

I Ochom Peter Reg. No. BU/UP/2017/1384, hereby declare that this Project Report is my original work and has not been published and/or submitted for any other degree award to this or any other University before.

Signature.....

Date: -----/-----/-----

Approval

This Project Report titled “*Investigating the Relationship between the Background Gamma Radiation and the Physical Properties of the Surrounding Soils (Case Study: Osukuru Hills in Tororo District)*” has been submitted for Examination with the approval of the following supervisor

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Dedication

This project work is dedicated to the ALMIGHTY GOD for making me being able to start up and successfully finish in sound health. Also to my beloved mother Mrs. Asere Imoyile, Higher Education Student's Financing Board (HESFB) and my beloved uncle Mr. Obbo Gideon Ologe as well as for the great love and support in the course of this project work in all aspects that is financially, socially, spiritually and academically they rendered to me throughout my entire Education.

May the almighty God bless you all abundantly

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Abstract

This study was aimed at investigating the high levels of concentration and the relationship between the background gamma radiation and physical properties of the surrounding soils in Osukuru hills, Tororo District. The emphasis was put to investigate the public exposure to background gamma radiations, sources of background gamma radiations, how these radiations get into human bodies, health effects and create public awareness about the dangers of these radiations as well as appropriate mitigation measures. The coordinates and the exposure rate for different places around Osukuru hills were determined and recorded as well as their characteristics. These places include; Tororo cement industry village, Opedede village, Tikaff “A” village and Tikaff “B” village. The study found out that Opedede Village registered high average exposure rate of 50.0 $\mu\text{R/h}$ and the Tikaff “B” zone registered the least average exposure rate of 32.4 $\mu\text{R/h}$.

The results obtained from this research study revealed that there is a general negative and on average a low correlation between the background gamma radiation and the physical properties of the soil of Osukuru hills. Therefore, the villages with high background gamma radiation may cause and result into increased risks of lung cancer, infertility among other radiation sicknesses if the people get exposed to these background radiations for a long time.