



FACULTY OF ENGINEERING

DEPARTMENT OF WATER RESOURCES ENGINEERING

FINAL YEAR PROJECT REPORT

**RE-DESIGN AND CONSTRUCTION OF SEMI-AUTOMATED SOLAR POWERED
MACHINE FOR REMOVING FLOATING WASTES IN DRAINAGE CHANNEL.**

(CASE STUDY: NAKAMIRO DRAINAGE CHANNEL IN BWAISE)

BY

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A final year project proposal submitted to the Department of Water Resources Engineering as a partial fulfilment of the requirements for the award of a Bachelor of science degree in Water Resources Engineering of Busitema University.

May, 2024.

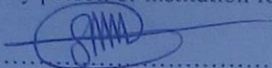
ABSTRACT

Waste are substances or objects which are disposed or are intended to be disposed or are required to be disposed off. Solid wastes are any tangible and non-free flowing unwanted materials or substance that results from human activities. Due to the ever-increasing world population, there has been resultant increase in resource consumption which has been manifested by increased waste generation. Waste management is a very crucial aspect of society organization, especially in urban areas. In the case of poor waste management, toxic waste is hazardous to living animals, aquatic life and plants. When solid waste is not managed well especially in line with disposal, it accumulates in drainage channels. Accumulation of solid waste in drainage channels is associated with its negative effects such as clogging/blockage of the drainage channels, flooding and breakout of waterborne diseases due to stagnancy of water. A semi-automated solar powered machine for removing floating waste in drainage channel will be designed and constructed to counter accumulation of solid waste in the Nakamiro drainage channel. This machine will effectively minimize on the accumulation of solid waste in the flowing water in wide channel. Upon significant reduction of solid waste in the channels, blockage will also be significantly reduced and its negative effects.

Key words: Drainage, floating solid wastes, urbanization and solid waste management.

DECLARATION

I Stella Iziku Ondo, a student of Busitema University with a registration number of BU/UP/2020/0324 hereby declare that, this report is a true work of my hands and has never been presented by any person or institution for an academic award.

Signature: 

Date: 28th August, 2024

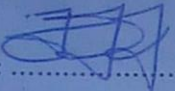
APPROVAL

This proposal is submitted as partial fulfilment for the award of Bachelor's Degree in Water Resources Engineering of Busitema University, with my approval from my project supervisor.

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ACKNOWLEDGEMENT

I take this opportunity to thank the Lord almighty for the courage and strength but above all for the gift of life. Indeed, He is and will always be my guide and protector. A special acknowledgement goes to my supervisor **Eng.Dr. Lwanyaga Joseph Ddumba**, for always being positive and responding promptly when reached out to. Also, to the project coordinator **Mr. Maseruka Benedicto** for his continuous guidance in the choice of the final year project. I would like to acknowledge Mercy Beyond Borders for their continuous support throughout my academic journey. I also thank all those who were involved directly or indirectly during my project proposal writing and finally, the entire department for the opportunity granted. May the almighty God bless you all.

DEDICATION.

This report is dedicated to my sponsor MBB and to all who have had an impact on my academic journey up to this very moment.

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List of acronyms.

D.C	Direct current.
HC-SR04	High-conductance ultrasonic sensor.
KCCA	Kampala Capital City Authority
LCD	Liquid Crystal Display.
MBB	Mercy Beyond Border.
Pcs	Pieces
Qty	Quantity
SDG	Sustainable Development Goals