FACULTY OF ENGINEERING.

DEPARTMENT OF MINING AND WATER RESOURCES ENGINEERING.

DESIGN AND CONSTRUCTION OF A PEDAL POWERED CONCRETE MIXER.

Case study: Nakabira Village, Kaguru Sub-county, Buyende District.

BY

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A final year project report submitted to the Department of water resources and mining engineering in partial fulfillment for the award of the Bachelor of Science in water resources engineering of Busitema University.

ABSTRACT

There are currently many non-profit organizations and social enterprises working to alleviate the hardships of living in Uganda, such as lack of proper homes, and bathrooms in rural areas. The solutions to these problems rely on concrete, and are currently limited by the mixing time for these batches of concrete in rural and remote areas. Mixing with shovels is inefficient and imprecise, produces non-uniform of the mixture leading to a weak compressive strength and the possible solution of a portable diesel engine powered concrete mixer and motorized concrete mixer is too expensive and too immobile for remote areas. The pedal-Powered Concrete Mixer (PPCM) provides an alternative to these methods that is more efficient and more precise than hand mixing with shovels, yet cheaper than a portable diesel engine powered concrete mixer and motorized concrete mixer. I was able to successfully design a mixer that, in comparison to mixing with shovels, reduced mixing time from 10 minutes to 3 minutes, reduced the necessary number of laborers from 4 to 2, and produced structurally sound concrete, and the cost of the mixer makes it more economically viable for non-profit organizations and social enterprises than a gas-powered alternative. In sum, the pedal powered concrete mixer provides a low cost, efficient, and reproducible alternative that enables non-profit organizations and social enterprises to more effectively help more people.

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May the good Lord reward you all!

DECLARATION

I **WALUMBE JOSEPH,** here by certify and confirm that the information I have written in this final year Project report is a result of my own effort, research and has not been submitted before to any university or institution of higher learning for any academic award.

Name. Walumbe joseph

Signature.……Date……

APPROVAL

This final year project report is submitted to the Faculty of engineering for examination with approval from the supervisor.

NAME OF SUPERVISOR: MR. ASHABAHEBWA AMBROSE.

Signature……

Date……

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SDG	Sustainable Development Goal
PPCM	Pedal Powered Concrete Mixer.
GNP	Gross National Product.
W/C	Water content.