



**BUSITEMA
UNIVERSITY**
Pursuing Excellence

**FACULTY OF ENGINEERING
DEPARTMENT OF CHEMICAL & PROCESS ENGINEERING
BSc. AGRO-PROCESSING ENGINEERING**

**DESIGN & CONSTRUCTION OF A CASSAVA PEELING
MACHINE**

By

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DECLARATION

I **ADIGA RAYMOND** declare to the best of my knowledge that work presented in this project proposal report is my own and has never been presented to any University or institute of higher learning for any academic award.

SIGNATURE:

DATE:

APPROVAL

This final year proposal report has been submitted to the Department of Chemical and Process Engineering for examination with approval from the supervisor.

MADAM KABASA MARY SALLY

SIGNATURE:

DATE:

DEDICATION

With great pleasure I dedicate this report to my family especially Mr. Onzima Robert, Malia Christine and my mother Ayikoru Gloria for the great contribution towards my studies in guidance and their relentless support.

To my lecturers and teachers who have led me every step of the way to reach where I am and for their unceasing efforts.

To my friends with whom I have fought all the way up to this point, through team work.

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May god bless you.

ABSTRACT

Cassava (*Manihot esculenta* Crantz) is one of the most common economic and productive root crops grown in tropical countries.

Cassava, introduced in Uganda between 1862 and 1875, is currently one of the most important staple food crops in the country. Approximately 3.5 million tonnes have been produced from 0.4 million ha of land. The crop is grown in mixtures of legumes and cereals in small plots of land as stated by NAARI. In Uganda, the districts that are leading producers of cassava include; Lira, Apac, Gulu, Arua, Nebbi, Soroti, Kumi, Tororo and Iganga.

Manual peeling is tiresome and full of drudgery. Cassava peeling has been mechanized, however, most of the existing cassava peeling machines are batch type with high retention time thus reducing capacity. Therefore, a cassava peeling machine with a continuous mechanism was constructed. It utilized a concave shaped mild steel plate with knife edges cut into it to form knife edges.

The cassava peeling machine was successfully constructed and tested for performance at 200, 300, 400, 500 rpm using different diameter ranges. It had an average output of 196.5 kg/hr and an average efficiency of 61.8%. Its payback period was 9 months with a Net Present Value of 4,471,800/= .

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