
**INCORPORATION OF A WATER LEVEL INDICATOR IN THE DESIGN AND
CONSTRUCTION OF SEPTIC TANKS**

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DECLARATION

I **Odema Robert Moris** do hereby declare that this research project report is my original work and has not been submitted for the award of a bachelor's degree in any other university.

Signature:

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DEDICATION

This project is heartily dedicated to my parents Mr. Hannington Otiti and Mrs. Sophia Otiti for the inculcation of a strong positive drive in me that led to this achievement, may the Almighty God bless you abundantly as you live to see the fruits of your labor.

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I say that may the good Lord see you through in your respective capacities.

ABSTRACT

Septic tank blockages and overflows have always been a common problem. Mitigation of this problem would require an automatic sensing mechanism which would always help to alert people early in advance. This project was therefore intended to incorporate a water level indicator in these systems to curb the above problem. A circuit was designed and its sensors installed at different depths of the septic tank such that when the level of wastes rose and reached these preset levels, different warning lights glowed and a buzzer sounded at the last level. This therefore gave early warnings so that the manholes of the septic tank could not burst open to ooze out foul wastes which would disrupt normal activities of man.

This project is geared towards improving hygiene in private homes, residential facilities and public places of convenience where septic tanks not connected to sewage lines are used.

CHAPTER ONE

INTRODUCTION

This section introduces the background of the study, problem statement, and objectives as well as the significance of the project.

1.1 BACKGROUND OF THE PROJECT

In our modern world, we often take for granted the infrastructure and facilities that technology provides- including septic systems. If it were not for the intervention of septic systems, we would still be funneling our sewage to our nearby rivers and creeks.

We have come in a long way since then and for good reason; to protect the environment and our health.

Septic tanks' timeline dates back to the 1860s where France's John Louis Mouras designed the first septic tank of its kind around his dwelling in Vesoul, France (**Chaffee, 2008**). He built his first prototype of the tank using concrete into which he discharged the sewage from his small dwelling with the help of clay pipes to funnel wastewater from his home into the tank (**Lay, 2005**).

Around 1870s, after dismantling the tank, it was surprisingly found out that the tank contained mostly liquid effluent and almost no solid waste. After granting him patent for his septic tank design in 1881, septic systems started appearing throughout the US- around 1883 (**Gikas, 2008**).

In the 1940s, septic systems became cheaper and in the period of the post-World War II economic boom, they had become more popular.

Septic systems therefore range through a variety of them such as Septic Tanks, Conventional Systems, Chamber Systems, Drip Distribution, Aerobic Treatment Unit, Recirculatory Sand Filter System, Evapotranspiration, Constructed Wetland and Cluster Community Systems which are all means of treating domestic wastewater.

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