A SOLUTION TO LOGISTICAL CHALLENGES OF REMOTE BIOGAS PLANTS IN CENTRAL DISTRICTS OF UGANDA

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Feb 22, 2018

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1 Introduction

Biogas typically refers to a gas produced by the biological breakdown of organic matter like animal dung in the absence of oxygen also known as anaerobic digestion or fermentation. It can also be produced from other biodegradable materials such as sewage, garbage/refuse, plant materials and energy crops. Biogas comprises primarily methane(60-70)percent and carbon dioxide(30-40)percent.

1.1 Background

Carbon Credits fund is emerging as one of the potential source of income for rural households that constructed biogas plants. A fully functioning Biogas plant that is 3 (Three) years old and above benefits from the Carbon Credits fund. This is a measure of how much Methane the household has burnt through use of Biogas and prevented it from from damaging the Ozone layer.

Considering the number of Biogas plants installed/constructed, SNV has categorised a total of 18 districts as remote hard to reach places. Alot of expenses are incurred to reach these areas.

Its is for this reason therefore and more that Mutambuze Paul a computer Science student in second year came up with an online form to be filled in by both the new farmers acquiring the Biogas technology and those with the technology already. This will simply require the farmer to fill it on their smart form and data will be compared with what already exists in the database.

1.2 Problem Statement

SNV and TAALI have constructed over 2000 Biogas plants in the central region alone. Most of the beneficiaries of this technology are rural farmers which poses a challenge of logistics in terms of getting information about the operation of the plants. Alot of expenses have been incurred to get these *Maunal paper* forms filled and yet information required from the farmers can be inserted in an online form.

1.3 Objectives

1.3.1 Main Objective

The main objective of this report therefore is to automate the information on a paper form to make it fillable by the unlearned (illiterate) farmer.

1.3.2 Specific Objectives

- To collect all the data necessary for completion of Form.
- To train farmers on how to fill the form.
- To perform a thorough analysis on the collected data.
- To come up with a conclusion from the data analysis.

1.4 Scope

The research is mainly for all potential farmers both in rural and peri-urban areas. Farmers who already have Biogas plants and those without. Training of extension workers who will in turn train other farmers.

1.5 Research Significance

The aim of the research solves the problem of incurring expenses by SNV in getting information about the plant so as to make payments for carbon credits. Further more the research improves on the knowlgde base of the farmers by training them on how to use the new technology. We believe these and make this research significant for both the Organizations SNV and TAALI and also the common farmers.

2 Methodology

The proposed methodology consists of two phases, data collection and data analysis.

Data will be collected using ODK Collect, which will later on be uploaded to the ODK aggregate server to carry out all the required analysis.

- Enter Your Full Name: *Mutambuze Paul*
- Enter Your Phone Number: *07752222529l*
- District: *Gomba*
- Village: *Jjagala*
- Tap to Record GPS Location: *Tap to record GPS Coordinates*
- Map Location: *Tap to view and record Map*
- Plant Image: *Take picture of Plant*
- Mason Name: *Ssenvewo*
- Date of Completion: *25/02/2018*
- Biogas Construction Enterprise: *Dropdown Menu*

References

[1] SNV, *Logistical Challenges in Operations*, Available at `https://www.snv.org`