How varsity plans to save Sh3m through the kitchen

A pilot biogas project at Pwani University promises several cost-saving benefits, and the institution is now planning to have it installed large-scale.

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Dr Reeve Thomas, a con-
tented senior lecturer in the department of animal sciences at Pwani University in Kilifi County, and that’s because a pilot biogas project he has introduced at the university promises to save the institution millions of shillings once put to large-scale use.

The good news is that the university officials are ready to do so.

He calls his creation “Flexi-
biogas” produced from decomposed waste readily available at the university, such as cow dung, kitchen waste, cashew nuts, and food leftovers among other decomposable matter, and channelled to the university’s kitchen to be used for cooking.

University officials say they are hoping to save up to Sh3 million in fuel costs once the plan to install Dr Reeve’s Flexi-Biogas units on a large scale is implemented.

“The moment the university management realised that the Flexi-Biogas was working well at a farm house during its pilot phase, they commissioned us to assess the university kitchen and see if they could be run on the same. I am currently doing a cost analysis of installing it in all the kitchens we have,” announced Dr Reeve during a recent tour of the gas unit at the university’s farm.

He uses the term “flexi” in reference to the biogas storage container as well as the portability of the unit. The storage container is a bag made from a very tough Polyvinly (PVC) material which is waterproof, air tight and specially treated to last all weather conditions.

The Flexi-Biogas kit is also lightweight and can be trans-
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the advantage of the biogas fuel is its continuous supply because of the readily available waste from the university kitchen and farm. The production unit is also made from accessible materials that are stored in regular hardware shops.

Beside saving costs, biogas helps in managing agricultural and household wastes that would otherwise incur costly disposal logistics.

The production of the gas in the long run keeps the environment green, fresh and watered, by preventing destruction of forests and reforestation for firewood and charcoal,” argues Dr. Rewe.

The system produces usable volumes of gas in just about four days of its installation, and would have sustainable volumes within one to two weeks.

A 20-litre bucket of waste can produce sustainable volumes of gas for a five-member family.

The compost that is derived from the production of the gas is then used to grow healthier crops, creating an eco-friendly cycle that is self-sustaining.

For domestic users, Dr. Rewe’s team can design biogas kits that suit different needs. Interested users can be quickly trained on its installation and maintenance.

The cost of a DBG model for domestic cooking for a typical four to five-member household keeping one cow costs Sh50,000. The BSG model for an eight to 12 member home with increased fuel demand is Sh55,000, whereas BSG is suitable for a small farm energy requirements, Dr. Rewe explains.

“Ram and humid coastal temperatures provide a convenient environment for the rapid decomposition and production of the gas. Says Pwani University Deputy Vice Chancellor in charge of Administration, Finance and Planning Prof. Adwoloe Tole: “BioSand Biogas is one of the areas we are championing because it can save the institution up to Sh9 million shillings we spend yearly on gas and energy bills for the kitchen alone."

He continues: “It is also an initiative that goes in line with our motto of using green or natural sources of energy as a way of conserving the environment.”

Dr. Rewe says the gas unit was developed in partnership with The Biogas International Company, which based in Nairobi.