



Odwar (L) mixing the cowdung with other additives such as poultry droppings, vegetable manure before pouring in the digester where biogas is generated. (R) she lights her gas cooker with biogas. PHOTO BY ALICE ADIKIN

Dairy farmer gets power from waste

Margret Odwar, a farmer based in Gulu, has set up a biogas plant on her dairy farm using cow dung to generate power which is saving her monthly electricity bills, Writes **Alice Adikin**.

Products such as, milk, meat, ghee, butter, hides and skin are the instant benefits that a dairy farmer might consider.

For Margret Odwar it is miles beyond this for she has found gold in the waste of the cattle by generating biogas from the slurry.

Frustrated by consistent power blackouts and heavy bills, Odwar a resident of Kasubi in Gulu Municipality decided to enhance the bovine composts which she already sold as natural excrement to a few agriculturists.

Odwar, who began dairy farming way back in 1997, says she was introduced to biogas technology in 2011 after attending a workshop

in value addition in Gulu. She immediately began operating a biogas plant at her farm fueled by cowdung.

Structure

The biogas plant has a dome like structure built with bricks. It is a semi-permanent structure which is strategically placed near the collection points of the dung on the farm. According to Odwar, the digester must be six feet under.

Process

Slurry of cowdung, pig, goats' wastes, poultry dropping, vegetable wastes and crop residues mixed with

BIOGAS BENEFITS

Save money

With biogas, you can reduce your cooking fuel expenses by as much as 80 percent. Biogas replaces firewood, charcoal and kerosene.

Cook easily and quickly

Cooking on biogas is faster and easier than cooking on charcoal or firewood. Biogas stoves do not take time to heat up, so as soon as you've turned on the stove you can start cooking!

Improve your home

Biogas is a modern source of energy for cooking and lighting. It is quick, easy and clean. Cooking on gas keeps your kitchen clean and tidy.

Reduce your household waste

Biogas systems convert organic household waste or manure into gas for cooking and lighting, his waste can be leftovers (rice, ugali), vegetables (tomatoes, cabbage), peels of potatoes and fruit, etcetera. Instead of throwing this away or leaving them, you can use it to produce energy!

water is fed into the digester. The digester is a sealed chamber in which there is no oxygen.

Microorganisms that do not require oxygen decompose or breakdown complex compounds of the cowdung to generate gases such as methane, carbon dioxide, hydrogen and hydrogen sulphate.

The biogas gets stored in the gas tank above the digester from which they are drawn through pipes for use.

The slurry left behind is removed periodically and can be used as excellent manure rich in nitrogen and phosphorous.

Odwar reveals that to get the best quality slurry, she mixes the cowdung, with chicken droppings, pigs wastes, goats, human waste and urine to make a robust biogas.

Power

Besides running the energy obligation at her farm, Odwar told Daily Monitor that the power generated by her biogas plant is also supplied to her home for domestic use.

"The power generated from my biogas plant is sufficient to run the farm and my home," said Odwar.

50,000

COST OF EACH BAG OF SLURRY AT ODWAR FARM

Slurry

She says the slurry left over after generating power is sold to farmers as manure. "The slurry is very profitable. I use some on my farm and the extra is sold to farmers at a handsome fee," she adds.

She packs the slurry in bagfuls weighing 25kilogrammes each. Each bag goes for Shs50,000 while the liquid waste is sold at Shs10,000 per five litre jerrycan.

Wilfred Oketch, the northern region biogas expert, advises farmers to install the institutional biogas which has 80kilovolts generation capacity. Oketch says any dairy farmer can own a biogas plant.