

ENERGY AND ITS IMPORTANCE TO THE POOR

A PERSONAL IMPACT STATEMENT

By Herman William Mollel, a proud Tanzanian and Catherine Duffett

Energy is important for all of us. We need it for cooking, powering lights, running refrigerators and other electrical items. However, about 33 million people in Tanzania, almost half of the population, still don't have access to cheap and reliable electricity. Instead, Tanzanians rely on a variety of different energy sources, both **renewable** and **nonrenewable**, to meet their needs.

Tanzania's electricity sources

Some of Tanzania's electricity comes from hydropower. Even though it's a renewable energy source, there are problems during periods of drought when the water in the dams gets too low to generate enough electricity to meet demand. This means that electricity needs to be rationed, leading to blackouts that might last for hours. Tanzania has natural gas reserves, which are sold to other countries, but they are also used to produce electricity for Tanzania. Given the expense of connecting houses to mains electricity, there are many people without electricity due to the cost of building this **infrastructure**.

Electricity and pollution

Many governments around the world are investing in renewable energy sources that don't produce greenhouse gases which contribute to climate change and are wanting Tanzania to do the same. However, these energy options are often more expensive than using fossil fuels. If these costs are passed on to Tanzanians, they can increase the cost of energy for people who are already struggling. While many parts of the world might have the luxury of choosing clean energy sources, I don't believe it is fair to hold Tanzania to the same standard as wealthy countries.

Lack of cheap and reliable energy keeps people poor

Without reliable energy, schools and businesses can't use computers and printers. Food stored in fridges can spoil. Students have difficulty studying at night. If street lights don't work at night, there is an increased risk of accidents. Restaurants need reliable energy to cook food. In hospitals, reliable energy keeps people alive. Poor households can spend up to a third of their income on energy, leaving little money to spend on other essential items.

Alternative energy sources

Firewood

Many Tanzanians still rely on traditional energy sources such as firewood (Figure 1) and don't have access to mains electricity due to the high installation costs. Firewood is a cheap source of renewable energy because people simply collect it from the surrounding areas. However, using firewood for cooking and heating water causes significant problems. It is usually the job of women to collect the wood, and this may take many hours each day.

Charcoal

Charcoal is made from wood that is covered in sand and allowed to burn very slowly. It is another common source of energy for cooking (Figure 2).



Figure 1: Goat meat being cooked over the open fire.



Figure 2: Two charcoal burners used for cooking

There are significant problems caused by using firewood and charcoal as sources of fuel. Both contribute to deforestation, which is the thinning and removal of trees that leads to environmental concerns. The smoke from burning firewood and charcoal causes respiratory problems in children and women who spend a large amount of their time cooking over the fire.



Figure 3: A gas burner used for cooking.

Liquid Petroleum Gas

If people can afford it, they will use gas burners to cook with (Figure 3). These don't produce the harmful smoke that burning charcoal and wood produce. They also don't contribute to deforestation. Unfortunately, however, most people find the cost of buying bottled gas too expensive.

Biogas

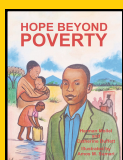
One thing we have a lot of in my country is cattle, and where there is cattle, there is cow dung. Cow dung is added to a sealed digester where bacteria break it down, producing gases such as methane and carbon dioxide, which can be used to generate energy for cooking. An added benefit is that, in the process, fertilizer can be produced, which can be used by farmers to improve soil quality. However, the drawback of relying on biogas is that the initial cost of buying the sealed digester is out of reach for most Tanzanians.

Solar energy

Tanzania is located very close to the equator, meaning that it is an ideal location to harness solar energy. While solar energy is free, many people still find the cost of buying solar lights too expensive, let alone installing solar panels to provide electricity. Of course, solar lights don't work if it's cloudy, so during the rainy seasons, people might need to use other forms of lighting.

Life without access to electricity

I have lived most of my life without electricity. Living without electricity meant that my family couldn't have a fridge, and we had to use other options for lighting at night, such as a torch for walking to our outdoor toilet. Recently, a solar light was installed outside, but it doesn't work well during the rainy seasons when it is cloudy. We still use firewood and charcoal for cooking. My family owns a gas burner, but the gas costs too much for us to use the burner to cook every meal. I consider myself fortunate that I now have access to electricity, but I still only use it to provide lighting and to charge my phone and laptop. We don't use it for heating or cooling, or to power washing machines.



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