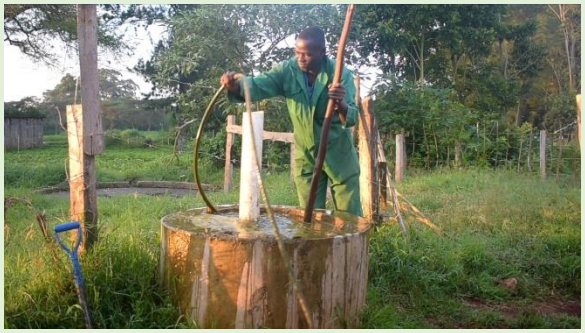
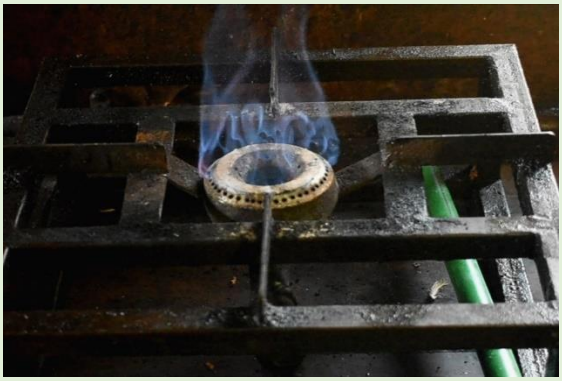
Creating Resilience to Climate through Bio-gas

Climate has been changing since the industrial Revolution, but the most worrying trend is the speed at which the change has been occurring in recent years. The change currently being experienced has become the biggest threat. Continuous burning of non-renewable fuels and the resulting emissions of greenhouse gases is one of the most pressing environmental issues affecting the world today. The growth rate of greenhouse gases being emitted into the atmosphere has tremendously increased over the years.

The EU Commission's Climate Action and Renewable Energy package published in 2008, sets target of reducing greenhouse gas emissions by 20% in the period 1990–2020 and increasing the share of renewable energy to 20% of total energy consumption by 2020 (EC, 2010). (https://ec.europa.eu/clima/policies/strategies/2020_en)



In Kenya, reduced or no tree cover in most parts of the Country has been as a result of climate change effects and continuous use of fossil fuels which generally accounted for almost 81% of the energy consumption in 2009 (https://www.iea.org/reports/world-energy-balances-overview)



Wood and wood fuels are a finite resource and their exploitation is increasingly becoming expensive and damaging to the natural environment.

Biomass has become the primary source of fuels used by poor households in developing countries who can hardly afford other fuel types. (Akunne et al., 2006). At the same time emissions from biomass combustion has remained to be a major source of indoor pollution resulting to millions of premature deaths worldwide annually.

Focusing and adapting to the use of renewable energies will in the long run help mitigate climate change thus enhancing sustainability towards meeting the energy demand for both current and future generations.

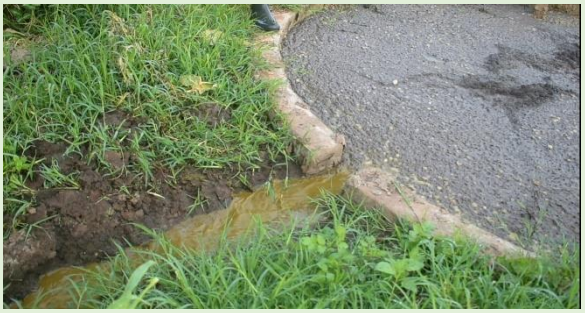
Over-reliance on fossil fuel has resulted to the buildup of greenhouse gases, such as carbon di-oxide, methane and nitrous oxide which is believed to be the main cause of the temperature rise.

Because of the above mentioned, the need for renewable energy to satisfy human social and economic development, welfare and health is increasing.

Currently, sustainable development of human society faces a great challenge due to shortage of resources, energy deficiency and environmental deterioration, particularly the greenhouse gases leading to global effect.

Wood fuels are the dominant sources for cooking in communities within Trans Nzoia. However, the prices of these fuels have sharply risen. Thus, they are becoming scarce and limited. To satisfy this persistent fuel demand, there is an urgent need for these communities to adopt alternative and renewable sources of energy particularly biogas.

Biogas appears to be the most promising technique of generating cooking fuel and a method that takes care of many aspects. Manor House Agricultural Center in Kitale has been converting animal wastes into renewable energy that they use as cooking fuel in the kitchen.



"Biogas use can assist in reducing greenhouse gas emissions significantly if replaced with other fossil fuels". Says a staff from the institution. He goes ahead and states that accessing animal wastes is quite easy and the entire process of preparation is extremely friendly to all.

Renewable energy such as biogas has become a sustainable source of energy that limits emission of greenhouse gases, and does not threaten biodiversity as a whole.

Apart from providing clean energy for cooking, the by-product from the anaerobic digestion process, termed, "slurry" provides a perfect organic manure that can be used to replace the synthetic fertilizers.

The value of slurry as fertilizer is beyond mentioning. Bio-slurry improves soil health which then accelerates plants growth resulting to increased income within households owning the unit.

Communities embracing Bio gas technology will never go wrong in terms of energy consumption but rather have an improved livelihood and clean environment.

Finally sustainable development has become the center of recent national policies, strategies and development plans of many countries. For instance, the global Sustainable Development Goal (SDGs) numbers 7, 11 and 13 have great ambitions for attaining affordable and clean energy, having sustained communities and stepping up climate action.