Greetings!

Climate change and why you should care

Happy New Year! It’s the beginning of another year, and climate change is once again, like in the previous years expected to remain a major focus of attention for scientists, governments, private sectors and civil societies across the world. However, climate change itself can be a complex topic to understand. What is climate change? What are the causes and what are the effects? And most importantly what can you do to tackle this phenomenon? So this week, we are going to outline some answers to these questions, as a way of encouraging you to make an individual as well as collective effort in tackling climate change.

The concept of climate change and causes

Climate change refers to a significant change in the measures of climate such as temperature, rainfall or wind lasting for extended period-decades or longer. The Earth’s climate has changed with events such as long periods of warmth being experienced. Human activities have contributed significantly to this change, through emission of greenhouse gases. The emissions end up forming a ‘blanket’ leading to heat that would have otherwise escaped into the upper
atmosphere being trapped closer to the Earth surface—a phenomenon commonly referred to as the Greenhouse effect. The illustration below depicts how this happens.

Source: https://www.testbig.com

The greenhouse gases include: carbon dioxide and methane among others, and are generated from the following six sectors (human activities): energy, transport, manufacturing and processing industry (such as cement production and oil refinery among others), agriculture, forestry and waste management. In the energy, transport, manufacturing and processing industry, these gases are generated from burning of fossil fuels such as petrol, diesel, paraffin and coal. In forestry, human activities such as deforestation, lead to inadequate presence of trees to absorb and utilize the carbon dioxide from the atmosphere, in growth and making their own food. Inappropriate waste management such as disposal of waste in the dump site leads to generation of methane gas, thereby contributing to the overall greenhouse gases in the atmosphere as well.

**Effects of climate change**

Observed changes over the 20th and 21st centuries which include: increases in global average air and ocean temperature, rising global sea levels which also contribute to greater storm damage, long term sustained widespread reduction of snow and ice cover, and extreme weather events such as droughts, floods, landslides and fires can all be attributed to global warming and climate change. These events have hampered sustainable economic growth especially in least developed countries, which are regarded as the most vulnerable. The illustration below depicts Lake
Olbolosatt in Nyandarua County that was on the brink extinction before gazettement by the Government of Kenya, in January 2018.

Source: https://www.nation.co.ke/counties/nyandarua/Lake-Olbolosatt-on-the-verge-of-extinction/3444764-4110928-4pkxioz/index.html

What you can do

To reduce the emissions of greenhouse gases into the atmosphere, it is highly encouraged that facilities with potential to generate greenhouse gases implement the following measures:

a) Enhanced energy use efficiency. This basically means using less energy to provide the same service! For example, LED lights or even a compact fluorescent bulb, is more efficient than a traditional incandescent bulb, as they use much less electrical energy to produce the same amount of light. Increasing energy efficiency always requires high initial financial investment, but this is a very attractive starting point towards reducing your carbon emissions, especially if the energy is supplied from fossil fuels such diesel or petrol.

b) Implement use of renewable forms of energy such as solar energy and wind energy. Renewable energy is one of the most important solutions to global warming and should
be pursued strongly and quickly as possible if we want to have any hope of reducing climate change effects.

c) Enhancement of carbon sinks and reservoirs through measures such as reforestation. Combined with the sun’s energy, the captured carbon is converted into trunks, branches, roots and leaves, through the process of photosynthesis. It is stored in this ‘biomass form’ until it is returned to the atmosphere through the natural processes; thus completing the carbon cycle. You are therefore highly encouraged to implement tree planting activities in the communities, schools and degraded forests.

d) Sustainable agriculture practices. Adoption of practices such as no-till farming has been identified as a critical practice in reducing carbon emissions in the agriculture sector. It involves leaving un-harvested crop stalks and other plant matter undisturbed. Basically, the carbon stored inside the remains sinks into the soil, instead of being stirred up into the atmosphere, when the soil is ploughed in preparation for planting.

e) Sound waste management, for example in the case of food waste decomposting and using the resulting compost in your garden rather than disposing in the dumpsite. Food waste can also be used innovatively, through measures such as production of biogas fuel; which is regarded as a cheaper and clean energy.

We need to work together, faster, purposefully, with raised ambitions and passion for the common good to avoid adverse impacts on Earth brought by climate change. It is our hope that through this article you have been enlightened about the steps you need to undertake towards climate action and we wish you all the best!