

# Nuclear energy best option for our needs

The potential of nuclear energy to spur economic growth cannot be underestimated. Its relative friendliness to the environment at a time when global warming due to the use of fossil fuel is wreaking havoc makes it the best option.

Nonetheless, in the midst of these hopes are fears that threaten to drown the benefits of nuclear energy.

Nuclear energy generation utilises the heat resulting from the splitting of atoms. This heat is harnessed and used to heat water which in turn yields steam that drives a turbine generator.

Today, there are over 440 nuclear plants in 47 countries, 104 of them in the USA alone, where they supply more than 20 per cent of the domestic and industrial energy. In Africa, there is only one fully operational nuclear facility in South Africa, with seven others at various stages of development.

The proponents of nuclear energy say that Africa must embrace it to meet the ever-growing industrial demands. But the opponents counter this by saying the continent lacks the capacity to run such high-risk technology while it is yet to fully exploit the abundant geothermal, hydro- and solar-energy resources.

However, Kenya is among the African countries warming up to nuclear energy.

Last year, the Kenya National Economic and Social Council recommended the formation of a committee to lay the ground for nuclear energy generation by 2020. Several sites have been identified.

This will be a critical component if Vision 2030 is to be realised. Should this come to pass, Kenya will produce over 3,000 additional megawatts of electricity which can light a good part of the country and support many industries.

The Fukushima accident has given impetus to those opposed to nuclear energy generation especially in developing countries which may lack the financial and human resources to bring under control nuclear disaster.

On the other hand, the proponents maintain that despite the incident, nuclear power holds the key to clean industrial energy that can economically drive devel-



The Fukushima accident has given impetus to those opposed to nuclear energy generation especially in developing African countries”

opment with minimal negative effects. China has temporary suspended approval of any new nuclear reactors until the government formulates safety guidelines for the inspection of operating reactors, while Germany has shut down its seven nuclear reactors.

Concerns over nuclear waste disposal and the destructive potential of nuclear weapons viewed against the political instabilities on the African continent paint a grim picture of nuclear energy.

Russia's Chernobyl nuclear meltdown in 1986, which was largely blamed on human error, dealt a major blow to the sprouting technology. The disaster led to the displacement of more than 30,000 families, and caused thousands of deaths. The lessons were learnt, and legally binding global safety guidelines developed.

Every scientific innovation carries with it risks. Unfortunately, such weaknesses give ammunition to opponents, but it is the analysis of these risks that subsequently leads to growth of any invention.

Travel by air was considered the most dangerous mode of transport, but the advancement in aeronautics and cross-pollination with other fields has produced the safest means of transport today.

Dr Othieno is a science communication consultant. (jothieno43@yahoo.com)