The changing climate

Story and images By Annah Tseko

On 16th December 2010, the residents of Orlando, Soweto experienced devastating floods which destroyed homes and belongings...

Due to climate change, South Africa is faced with unusual temperatures and weather conditions. Gauteng Province has experienced unusually high temperatures and heavy rainfall.

The increase in temperature is caused by greenhouse gas emissions. In South Africa, our emissions are due – in part – to our reliance on coal for electricity. Also, as the country becomes over-populated, there is more demand for electricity and other resources – resulting in more coal being used to generate electricity. This contribution (among others) to the environment has caused global warming and extreme events such as these Soweto floods.

In Orlando – and also other parts of Soweto such as Klipspruit – rivers' and dams' capacities became exceeded due to the heavy and prolonged rainfall. The water rose and was soon running in the streets, damaging houses and infrastructure. In some places the water was a metre high!

The Orlando residents are worried that this heavy summer rainfall is going to happen again and even get worse. This flooding destroyed people's electrical appliances and other valuable, essential household items as the water reached half the height of their houses. Residents were in shock and are now afraid to leave their children at home as their fear is that it will happen again.

"This festive season does not favour us," said a resident who wished to remain anonymous, "We have a lot of work to do to restore our homes and belongings."

It is important to realise that these physical phenomena will result in habitat loss, life loss and infrastructure destruction. Many South African children do not know how to swim and this will exacerbate the danger.

It was reported that a taxi sank in the Orlando Dam and another car had to be dragged out of the same dam by the municipality! "My car was parked in my yard and does not move anymore as the water reached halfway up it!" said the anonymous resident.

The residents are disappointed with the government's contribution to this area. There are insufficient stormwater drains to handle the rainwater and many people have built their informal homes on flood plains. These issues need to be addressed immediately.

Research shows that the eastern side of the country is becoming wetter and after prolonged rainfall, the land can no longer absorb the water. Removal of vegetation further aggravates this by contributing to the surface run-off.

Along with heavy rainfall, we are seeing increased lightning. Research has shown that over 200 people are killed by lightning each year in South Africa!

Tornadoes are another danger of this climate change. A tornado is simply an extraordinarily strong whirlwind; it has the appearance of a dark, funnel-shaped cloud hanging beneath a cumulonimbus cloud. It develops during the day when the earth's surface is heated and is more common during the transition between dry and wet seasons.

If a tornado moves over a closed building, the building can explode and the windows and doors are thrown outwards as equalisation of the atmospheric pressure inside the building and outer air takes place. Tornadoes are the most violent windstorms. They occur on all the large continents where hot conditions prevail. The most famous tornado in South African history occurred in Roodepoort (Gauteng) on 26th November 1948 when four people were killed and over 70 were seriously injured!

The world needs to take climate change more seriously. We have to stop removing trees and other natural vegetation. We also need to start using renewable energy resources. Solar thermal power plants could cover everyone's electricity needs in a carbon-free manner. Our government should take on mitigation commitments made at Copenhagen to reduce greenhouse gas emissions and play their part in saving this planet!

Why is it that in a country like ours – where we have more than 300 days of sunshine per year – we are not using more solar power?

We should make an effort to use more renewable energy resources like solar, wind, waves, and biofuels which substitute for fossil fuels and greatly reduce or even eliminate carbon dioxide emissions.

Government also needs to consider sequestration of carbon dioxide as an intermediate solution. This is the long-term trapping of the gas before it enters the atmosphere by pumping it underground or into the ocean. It can also be sequestered by plants.

We need to get out of the mind set which says that one person cannot make a difference. Every effort does make a difference and a combined effort can stop global warming in its tracks!

There are many ways in which South Africa can work towards lowering our carbon dioxide emissions, including:

Using renewable power resources or hydro-electric power and geothermal energy

Driving less

Insulating our houses

Buying organic food or growing your own

Eating less meat

Buying fuel-efficient appliances and vehicles

Planting deciduous trees to shade west-facing windows in summer

Using energy-efficient lighting such as compact-fluorescent or LED lighting

Turning off lights when you leave the room and turning off electrical equipment when it is not in use

Installing solar panels on the roof

Changing our voting priorities: vote for political parties who are committed to real change and who have an economic plan for encouraging conservation and renewables!