4.3.6 Climate Change and Variability

Climate change is a global phenomenon that is attributed directly or indirectly to anthropogenic activities, thus resulting in the change of composition of the global atmosphere (IPCC[1], 2001). It has been observed that in the last 150 years these activities have caused an increase of CO_2 emissions and an increase of temperature of about 0.3^0C to 0.6^0C. Studies at global level have predicted climate change impacts to cause frequent droughts and floods, sea level rise, change in disease patterns and alteration of ecosystem; thus affecting the existing ecological balance

Climate change predictions have been extensively carried out in Tanzania but most of the studies have focussed on GHG[2] emissions and their removal (Mwandosya *et al.*, 1998; VPO, 2003). Apart from studies carried out at industry sector, there is scanty information on other sectors such as agriculture, tourism and health. More research is therefore required in order to develop mitigation and adaptation measures at different levels in line with what has been proposed in the National Adaptation Programme of Action on Climate Change (2006).

Priority Research Themes

- Impacts of climate change on (agriculture, health, tourism, land use and energy) sectors and their cross-sectoral linkages in ecosystems sustainability
- Linkages between climate change and climate variability
- Systematic observation of changes in climate and detection of trends and cycles
- Vulnerability to climate change impacts
- Carbon Emission Trading: Challenges and opportunities for development
- Adaptation mechanisms in the context of Tanzanian communities
- Cultural aspects and gender impacts on climate change

[1] Intergovernmental Panel on Climate Change
[2] GreenHouse Gases