University of Edinburgh report on carbon emissions

Research by scientists from University of Edinburgh says that carbon emissions from tree felling in African savannas is three times worse than previously thought.

The impact on one of the world's major ecosystems the Miombo woodlands covering 2.5 million square kilometres is particularly highlighted in the study.

Although this is unwelcome news, the study also finds that tree planting elsewhere is helping to offset emissions.

This is the first in depth study of areas which gain carbon where some, not all, trees are removed by logging and fire. This is called **degradation** and has been quite hard to measure using satellite imaging, as the landscape can look just the same.

The research used radar satellite data and found that degradation releases twice as much carbon as simple tree felling or deforestation. The main reason for degradation is to provide fuel for cooking and heating, usually as charcoal. Woodlands provide about 80 per cent of the energy in the region, and the harvesting is often unregulated meaning that areas become exhausted.

The study finds that these increases in carbon might be caused by people moving closer to cities, the reduction in the number of elephants and increased plant growth rates which all lead to rising carbon dioxide levels.

The study is published in the journal *Nature Communications.*

Dr Iain McNicol, of the University of Edinburgh's School of GeoSciences, who co-led the study, said: "While the rates of

carbon loss we found are alarming, there is some cause for optimism. It is clear that in areas far from human influence, trees are taking in more carbon from the atmosphere. If more land is protected or used in a sustainable way, woodlands can recover relatively quickly."

Fellow lead author Dr Casey Ryan, also of the University's School of GeoSciences, said: "We knew that degradation was a problem, but this new approach means it is now much easier and cheaper for countries to monitor their natural resources and to target actions on the ground to mitigate these losses."