

Farmers: both perpetrators and victims of climate change

Agriculture is extremely vulnerable to climate change, but it also produces about 14% of the world's greenhouse gas emissions, says the *Mail & Guardian's* Yolandi Groenewald. The consensus is that climate change will have a significant impact on agriculture in developing countries.

South Africa's white paper on climate change warns that crop failures could therefore have a significant economic impact and, at the upcoming COP17 conference in Durban, one of the debates will be whether agriculture deserves special treatment.

Even though South African agriculture contributes up to 12% of gross domestic product (GDP) and 30% of national employment, it has been on the fringes of negotiations, but voices are getting stronger that agriculture should get its own work programme at the talks. One of the debates will be whether the agricultural sector should be exempt from any greenhouse gas caps because of food security. In fact, farmers are both perpetrators and victims of climate change; they may be responsible for up to 30% of greenhouse gas emissions, because agriculture is the leading cause of forest and woodland conversion.

Agriculture accounts for about 90% of deforestation in Africa, with subsistence agriculture as the main culprit, followed by intensive production.

Farmers who change uncultivated land, especially forests, into croplands or pastures are responsible for greater emissions of carbon than any other land-use change. In addition, the anaerobic decomposition of manure produces significant quantities of methane. These conditions occur most readily when large numbers of animals are managed in confined areas such as on dairy farms, beef feedlots and pig and poultry farms. Farm animals also release significant amounts of methane through their digestive systems. Increasing nitrogen inputs, such as manure, nitrogen fertilisers and nitrogen additions by grazing animals, lead to nitrous oxide emissions, a greenhouse gas.

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