

BIOFUEL BOOM COULD ACCELERATE WARMING IN TROPICS



The large-scale conversion of land for biofuel farming could make some tropical regions even warmer, according to a study.

Researchers from the US-based Massachusetts Institute of Technology (MIT), assessed the impact on the climate of increased biofuel production by modelling two scenarios: one where trees are chopped down to plant biofuel crops and one where forests are maintained and fertilisers and irrigation are used to intensify the production of biofuel crops.

They found that both scenarios have a negligible impact on global warming. For example, in the first scenario the additional cropland reflects more sunlight, counterbalancing the warming associated with fewer trees and higher greenhouse gas concentrations. Also, in both scenarios, increasing the proportion of biofuels used would reduce warming by using fewer fossil fuel-based energy sources.

But their findings also point to significant regional differences.

Willow Hallgren, a researcher at MIT's Center for Global Change Science, tells *SciDev.Net* that the real significance of the study is that it reveals that energy policies promoting large-scale biofuel plantations as a way of cutting carbon emissions will exacerbate existing warming trends in the tropics.

Hallgren says that the study differs from others looking at the climate impacts of biofuels because it incorporates "numerous 'real world' determinants of where and how much biofuel crops are grown".

The areas where this regional warming would occur are located in the Amazon basin and in central and western Africa, she says.

"It would be logical to link the increase in warming to deforestation rather than to biofuel production."

The policy in which the biofuel expansion is embedded determines how much the local climate will warm, says Hallgren. "If you protect tropical forests, you greatly lessen this regional warming, which would likely have significant ecological, economic and social impact on people living in those regions," she says.

Hallgren's team is looking more closely into biofuel-related climate change in the tropics, as previous research has found that cutting down tropical forests for agriculture could cause climate change and then reduced agricultural yields.

The authors also found that the Arctic regions may experience an overall cooling due to an increase in reflectivity caused by deforestation.

Balgis Osman Elasha, a climate change expert at the Tunisia-based African Development Bank, says the relationship between global warming and biofuels is unclear.

"Deforestation could happen in any part of the world for different reasons including the need for biomass energy, timber production, land use changes, agricultural expansion, fodder production and so on," says Elasha.

"It would therefore be more logical to link the increase in warming to deforestation rather than to [expanded] biofuel production."

Source: <http://www.scidev.net/global/biofuels/news/biofuel-boom-could-accelerate-warming-in-tropics.html>