

Agriculture and Climate Change:

A post-2012 agreement must give agriculture the attention it deserves

An IISD Commentary

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Agriculture is responsible for 14 per cent of global greenhouse gas emissions. The most critical emissions are from agricultural land use where unsustainable farming practices cause deforestation and soil degradation. These practices emit large amounts of greenhouse gases into the atmosphere that contribute to climate change. Agriculture deserves attention in a Copenhagen climate change agreement because of the potential significant benefits for developing countries associated with mitigation actions in the sector.

One of the major benefits is emission reductions. Agriculture has the potential to contribute to significant greenhouse gas reductions—from 5 to 20 per cent of total carbon dioxide emissions by 2030. Most of the opportunities to reduce emissions in this sector—about 90 per cent—are through carbon sequestration in agricultural soils. The uptake of carbon in soils can be encouraged through such practices as low disturbance tillage, organic agriculture, reduction of summer fallow and restoration of degraded land.

Another benefit is agriculture provides a way to engage developing countries, which are responsible for 70 per cent of emission reduction opportunities, in mitigation efforts. Agriculture impacts livelihoods and well-being around the world, but especially in developing nations where most of the world's agricultural production occurs. Agriculture is the principle source of overall economic growth for many developing countries and a large proportion of rural communities, especially the rural poor, are dependent on agriculture.

Numerous benefits beyond emission reductions are associated with mitigation in the agricultural sector. Carbon-rich soils are healthier, better at storing water, and can more readily cope with rising temperatures and less reliable rainfall. These improved soils can help increase crop yields, which in turn can enhance food production and contribute to higher incomes for farmers.

The strong linkage between mitigation and adaptation is another benefit. Projected changes in temperature, rainfall patterns and extreme weather events will have serious implications for food security and rural livelihoods in all regions of the world, but particularly in developing nations. The benefits of improved soil fertility and higher incomes can help farmers adapt to climate change.

Another benefit is that cost-effective actions can be implemented relatively quickly in the agriculture sector. The world needs time to make the necessary changes to energy systems and infrastructure because of technology lock-in, meaning that agriculture potentially can be a large factor in meeting emission reduction targets in the short and medium term.

The potential to generate income for farmers in developing countries through the carbon market is another benefit. For many developing countries, especially a number of African nations, involvement

in the carbon market will be dependent on their ability to generate offsets in the agricultural sector through soil carbon sequestration.

Given the expected and significant benefits, why are there questions about including agriculture in a climate change agreement? The perceived difficulties in measurement, reporting and verification (MRV) have been cited by some as possible reasons. Others point to the lack of permanence of reductions in the soil sector, and the large number of farming systems and farmers that need to be engaged.

But the science has improved and carbon sequestration in soils can be measured with greater accuracy. The advancements in resolving technical and monitoring issues, combined with a real and recognized need to provide support for emission reductions in poor developing nations, indicate that agriculture can and should be included in a new climate change agreement.

Giving agriculture the attention it deserves in a Copenhagen agreement involves: 1) ensuring that agriculture is mentioned in any high-level political declaration, and 2) agreeing to a work program for agriculture. Such recognition will help to ensure that: resources are allocated to agriculture; research and development programs focus on developing country issues; countries begin to build capacity for MRV and its implementation; and countries embark on discussions to determine the best way to include agricultural mitigation in developing countries in a future commitment period—be it part of the Reducing Emissions from Deforestation and Forest Degradation in Developing Countries program, through sectoral cooperation or through a separate approach for agriculture.

Capacity can be built and research undertaken with the aim of establishing by 2015 an international framework for agricultural mitigation in developing countries. Giving agriculture the attention it deserves in a Copenhagen agreement will lay the groundwork to help achieve substantial emission reductions and co-benefits.