

AGRICULTURE AND CLIMATE CHANGE

November 2010, Cancún

Climate change is now producing profound impacts on agriculture and the ways of life of indigenous peoples and farmers throughout the world, and these impacts will worsen in the future.

People's Agreement, April 2010, Cochabamba

Key messages

- Agriculture is not merely about producing food – it is a source of livelihood for billions of people worldwide. Approaches to both mitigation and adaptation in agriculture have to above all protect and secure livelihoods, while building the resilience of farming systems and ensuring food security
- Adaptation is the central challenge for agriculture and food security in a changing climate
- Developed country agricultural emissions are significant. Mitigation in their own agricultural systems must be a priority for Annex I countries
- The agriculture sector of developing countries cannot serve to provide more loopholes for Annex I countries to avoid mitigation and financing obligations
- Business as usual is not an option. Neither technologies nor carbon markets will produce the resilient agricultural systems and robust rural economies necessary for survival in a rapidly changing climate

Climate impacts on agriculture

Many of the first impacts of climate change to be felt around the world have been and will be in the agriculture sector. From the dramatically reduced yields of Russia's current wheat harvest to the thousands of hectares of fields lost in Pakistan's flooding earlier this year, climate change is already threatening food supplies around the world.

Those impacts will only be exacerbated as temperatures increase and rainfall patterns change. Temperature increases are particularly worrying, as key crop processes such as pollination will cease after temperature thresholds are reached. Agriculture thus must be a central consideration as the negotiations move forward.

Agriculture impacts on climate

Industrial agricultural production systems make significant contributions to global greenhouse gas emissions. Around 14% of global emissions are due to the non-CO₂ gases emitted by the agriculture sector, principally nitrous oxide (N₂O) from the production and use of synthetic nitrogen fertilizers and methane (CH₄) from animals.

Climate-friendly agriculture

Climate-friendly agricultural production systems exist. Organic and other ecological agricultural production methods focus on soil-building, using manures, compost, cover cropping and other techniques that reduce or eliminate the need for synthetic nitrogen fertilizers.

Soil-building practices not only significantly reduce the greenhouse gas

emissions of agriculture, but they are also key to building the resilience of agriculture. Healthier soils hold more moisture, thus buffering against drought and changing rainfall patterns. Better soils also allow more infiltration of water, so flooding may be less severe and lead to less soil erosion.

The incorporation of manures and compost into soils also serves to sequester carbon. The IPCC estimates that the bulk of the mitigation potential (89%) in agriculture comes from soil carbon sequestration.

A focus on adaptation is needed

Climate threats to agriculture are real and serious and immediate. As temperatures and precipitation patterns change, crop varieties will need to change with them. Work needs to begin now adapting seeds to the climates that farmers will be farming in ten years from now. Conservation of crop genetic diversity is more important than ever.

Adaptation must serve as the central organizing principle for climate policy related to agriculture. The tasks in front of the global community are too huge and the costs of failure too high to be distracted from the effort required.

Misguided focus on markets and developing country mitigation

Despite the clear need to prioritize the serious adaptation challenges ahead, a number of Annex I countries, along with the World Bank, are trying to orient the agriculture conversation towards mitigation in developing countries. Despite the huge mitigation obligations of developed country agricul-

Key issues for negotiations

- The land-use (LULUCF) loophole must be closed: countries should not be able to choose to count activities that reduce emissions and ignore activities that are significant sources of emissions.
- The CDM should not be expanded to include projects on the sequestration of agricultural soil carbon. Proposals for a subsidiary body (SBSTA) to initiate work programmes towards this end should be rejected.
- A shared vision must consider the consequences of warming for agricultural production in the most vulnerable of places, including on the African continent. A 1°C target is the only option.
- Considerations of agriculture within the convention track, including in chapter IX of the current negotiating text, must provide an appropriate balance between adaptation and mitigation, given the centrality of agriculture, and hence adaptation, to the livelihoods and food security of billions.

ture, reducing emissions in the north is seen as too difficult and costly.

The solution proposed instead is to turn soil carbon into a commodity and to create markets for soil carbon sequestered in the developing world. For the north, it is a deliberate strategy to avoid twin obligations: mitigating their own agricultural emissions and funding the adaptation needs of developing countries.

Business as usual is not an option

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), a multi-stakeholder process initiated by the World Bank and the UN Food and Agriculture Organization, concluded in 2008 that “business as usual is no longer an option.” To continue to produce adequate amounts of food under a changing climate, it is essential to stop the destructive practices of industrial agriculture that are currently destroying soils and water supplies.

Genetic engineering technologies are not an option. Often invoked as a panacea for any and every agricul-

tural problem, genetic engineering cannot solve the challenges posed by climate change. It is a technology oriented toward simple, single-gene problems. Climate adaptation will require addressing multiple variables – temperature, water availability – often at the same time, an unsurmountable challenge for the simplistic technologies of genetic engineers.

Moreover, the use of genetic engineering technologies allows large seed and agrochemical companies to claim intellectual property protection over some of the most valuable resources farmers have for adapting to climate change – the genetic diversity found in the many different crop varieties grown by farmers. Thousands of stress-tolerance genes have already been patented by a handful of companies, preventing access to diversity that is fundamental to the efforts of farmers and breeders to adapt crops to new conditions of changing climates.

Ecological solutions that prioritize soil health and crop diversity are the only way to provide the stability and resilience necessary for surviving in a changing climate.

The immense challenge humanity faces of stopping global warming and cooling the planet can only be achieved through a profound shift in agricultural practices toward the sustainable model of production used by indigenous and rural farming peoples, as well as other ancestral models and practices that contribute to solving the problem of agriculture and food sovereignty.

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ActionAid

Arab NGO Network for Development
Asian Indigenous Women's Network
Campagna per la Riforma della Banca Mondiale (CRBM), Italy
Friends of the Earth International

Institute for Agriculture and Trade Policy

International Forum on Globalization
International Rivers
JS - Asia/Pacific Movement on Debt and Development (JSAPMDD)
Jubilee South

Nord-Sud XXI

Pan African Climate Justice Alliance (PACJA)
Sustainable Energy & Economy Network, Institute for Policy Studies
Tebtebba

Third World Network

Unnayan Onneshan Bangladesh
What Next Forum