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Putting Agriculture on the Global Climate Agenda

Remarkably, global climate negotiations have historically paid little attention to agriculture. But that has changed over the course of 2009. The need to put agriculture on the agenda in Copenhagen has become more widely accepted. The focus has been on identifying ways to tap agriculture's mitigation potential while reinforcing the ability of the sector to adapt to new challenges posed by climate change. Now, efforts to define a specific treatment for agriculture in the next global climate agreement are developing quickly.

The rise of industrial agricultural practices has increased the sector's contributions to global greenhouse gas (GHG) emissions, both directly (methane emissions primarily from industrial livestock operations, carbon emissions from tilling, etc.) and indirectly (the destruction of forests, grasslands and other carbon sequestering landscapes to convert them to agricultural uses—a major factor in increased concentrations of GHGs in the atmosphere).*(For more, see IATP issue brief Agriculture and Climate: The Critical Connection.)*

Three other important characteristics of agriculture are relevant to the climate discussion:

- Agriculture not only emits greenhouse gases: it also has the capacity to contribute to the removal of GHGs from the atmosphere through soil carbon sequestration.
- Agriculture is the primary source of livelihoods for about 3 billion people around the world, and it produces the food we all need to live an active and healthy life.
- Climate change also affects agriculture, shifting growing seasons and creating new challenges to food production, especially in sub-Saharan Africa.

We present a brief overview of the state of climate negotiations and the proposals at hand. What are the benefits of developing a special treatment for agriculture in the climate framework? Can the complexity of the sector, and its multiple functions, be properly accounted for by climate negotiators? We put forward recommendations to ensure a positive contribution.

Agriculture in Global Climate Negotiations

1. AGRICULTURE IN THE KYOTO PROTOCOL: ANNEX A, LULUCF AND FLEXIBILITY MECHANISMS The UN Framework Convention on Climate Change (UNFCCC) mandates action to reduce or avoid emissions from "all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors" (Art. 4 c.). Consequently, agriculture was also included in Annex A of the Kyoto Protocol, which lists sectors responsible for GHG emissions and subject to emission reduction targets. Once national targets for emission reductions are set, it is up to each country to define the contribution of its agriculture sector to the effort. In this sense, agriculture has always been part of the climate framework.

Agriculture also appears in the Kyoto Protocol under rules for counting emissions from Land Use, Land Use Change and Forestry (LULUCF). Accounting for carbon stock changes in agricultural lands is voluntary, and limited to certain types of land, mostly because of difficulties with measurement, reporting and verification (MRV). Only a handful of countries included agricultural land in their reporting to the UNFCCC.[1]

Rules for LULUCF are being reformed as part of the current negotiations. The focus of the discussions has mostly been on rules to account for forest lands, but some discussions around the inclusion of agricultural lands were triggered by the 2006

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IPCC Guidelines.[2] The IPCC argues in favor of a shift from LULUCF to Agriculture, Forestry and Land Use (AFOLU) with a view toward "improv[ing] consistency and completeness in the estimation and reporting of greenhouse gas emissions and removals."[3] AFOLU is the integration of the previously separate reporting categories "agriculture" and "LULUCF." In addition to the original LULUCF categories, AFOLU integrates emissions from livestock raised on the land, methane emissions from rice cultivation, field burning of agricultural residue and emissions from fertilizer use among other additions. However, given remaining hurdles with MRV techniques, and suspicion around Annex I countries' interest in "gaming the system," these discussions will likely not conclude in time for the next implementation period (post 2012).

Finally, the Kyoto Protocol also created flexibility mechanisms designed to enable Annex I countries to meet their commitments by buying credits from emission reductions in non-Annex I countries. The record of these mechanisms for agriculture is thin: only a handful of forestry projects have been allocated funding through the Clean Development Mechanism (CDM). And yet, according to the IPCC, close to 90 percent of the mitigation potential from agriculture stems from soil carbon sequestration, with about 80 percent of this potential located in developing countries. As they reform rules for the flexibility mechanisms, negotiators are under pressure to include possible benefits for the agriculture sector, notably by making soil carbon sequestration eligible as a source of carbon credits.

2. DIGGING DEEPER ON AGRICULTURE Discussions on designing special provisions for the agriculture sector started with a June 2008 decision of the Ad-Hoc Working Group on Long Term Cooperative Action (AWG-LCA) requesting the UNFCCC secretariat to prepare a technical paper on "challenges and opportunities for mitigation in the agriculture sector." A group of countries led by New Zealand[4] submitted a non-paper in July 2008 to signal their particular interest in the subject. The UNFCCC technical paper[5] was published ahead of COP 14 in Poznan, Poland, in December 2008. The paper "provides an overview of mitigation practices for the agricultural sector, and identifies relevant policies and measures." Based on this report, a workshop on agriculture mitigation was held on April 4, 2009, in Bonn, where all Parties had an opportunity to make presentations and raise questions in relation to the sector.[6]

The outcome of this year-long process was the introduction in the first draft LCA text, published in May 2009, of a paragraph on agriculture under "cooperative sectoral approaches and sector-specific action." This paragraph is currently subject to negotiations led by New Zealand and Uruguay.[7] Recently, various developing country delegations raised concerns over the lack of time and resources to properly conclude this discussion before Copenhagen. It is thus likely in Copenhagen, that any agreement will include only broad language to allow for a continued work program on agriculture in 2010.

New Zealand has played a key role in ensuring the inclusion of agriculture in the text. Because 50 percent of New Zealand's emissions come from agriculture and the sector is also crucial to their national economy, they call for the creation of a "policy framework that provides incentives for mitigation in the agriculture sector" so as to support their ability to meet their emission reductions targets. New Zealand is also proposing to create a "virtual world research center on agriculture mitigation" to fund and coordinate research efforts and speed up development and diffusion of new technologies[8] and they support further trade liberalization as a way for the agricultural sector to confront the climate challenge.

3. REDD, REDD+ AND AFOLU: TOWARDS INTEGRATION OF THE TREATMENT OF AGRICULTURE AND FORESTRY A special work program on Reducing Emissions from Deforestation and Forest Degradation in Developing countries (REDD) was launched in Bali in 2007. REDD is intended to design incentives to curb emissions from deforestation.

In December 2008, a group of East African countries presented the Africa Climate Solution which "entails the reduction of green house gas emissions by forest resources (REDD) and carbon sequestration through agriculture, forestry and land use (AFOLU) in Africa and throughout the developing world."[9] In practice, these countries are calling for the inclusion of agriculture under the same (or similar) mechanism as for REDD, arguing that agriculture and forestry are closely integrated on the ground in Africa, and that it does not make sense to treat them separately on paper. The new draft LCA text includes bracketed mentions of agriculture in the provisions on REDD. But given the complexities of negotiations (parties still have to agree on the scope and scale of REDD, as well as on mechanisms for funding or for identifying emission baselines), the addition of agriculture to the framework at this stage is perceived by many observers as a recipe for failure.

B. Integrating Agriculture in a Global Climate Deal: Benchmarks for Copenhagen

Agriculture has recently made a spectacular comeback on the international agenda. Its emergence in the climate discussions is no coincidence. Existing agriculture production systems are failing the hungry—1 billion people are suffering from hunger around the world[10]—and the climate.[11] As negotiators decide how to deal with these challenges, we highlight some key principles they should bear in mind.

1. SET UP A TRANSPARENT AND INCLUSIVE PROCESS Decades of experience in developing agricultural and food policies have proven the fundamental importance of transparency,

inclusiveness and ownership to guarantee successful outcomes. A rushed language-drafting process at the UNFCCC, dominated by a small group of food exporters, would risk creating counterproductive or useless outcomes. Some developing country delegations have expressed concern over the attempt to add a separate negotiation stream around agriculture when the pre-Copenhagen agenda is already very crowded. Discussions about the integration of agriculture in a post-2012 agreement need to be transparent and inclusive—not informal or behind closed doors. All stakeholders must be allowed an equal voice, and the perspectives of smallholder farmers, women and Indigenous peoples, in particular, are crucial to a successful outcome.

2. ASSESS ALL PROSPECTIVE CLIMATE SOLUTIONS AGAINST A BROAD SET OF METRICS FOR IMPACTS ON FOOD SECURITY, WATER, BIOLOGICAL DIVERSITY AND RURAL LIVELIHOODS It is essential that the contribution of agriculture to global warming, and its potential for helping mitigate climate change, be addressed in the negotiations. But negotiators must not, in their eagerness to lower emissions from farming, lose sight of agriculture's central place in global human welfare and in the relationship between humanity and nature. In addition to producing the world's food, agriculture provides livelihoods for about half of the planet's inhabitants. It is responsible for the vast majority of human use of surface and ground waters, as well as alteration and destruction of natural ecosystems.

A range of technologies—including biofuels, genetically engineered plant and animal species, geo-engineering and variations of industrial farming—have been put forward as agricultural climate solutions, based solely on claims for their ability to sequester carbon or reduce GHG emissions. There is a real danger that large-scale adoption of these technologies could bring unanticipated impacts on human communities and ecosystems that would outweigh any possible mitigation benefits. The devastating impact of land conversion for industrial biofuels development demonstrates the cost of such narrow thinking. Therefore, assessment of prospective agriculture-based climate change mitigation and adaptation technologies must include not just carbon balance accounting but also a wider set of social and environmental impacts.

3. PRIORITIZE SOCIALLY AND ENVIRONMENTALLY SUSTAINABLE SOLUTIONS THAT BREAK AWAY FROM A FAILING BUSINESS-AS-USUAL SCENARIO Food systems globally are breaking down. Existing production structures are failing the hungry and the climate. It does not have to be this way: the climate framework can support a shift towards resilient and sustainable food production.

The UN Environmental Program argues that "changing the ways in which food is produced, handled and disposed of across the globe—from farm to store and from fridge to landfill—can both feed the world's rising population and help the environmental services that are the foundation of agricultural productivity in the first place."[12]

More specific recommendations are provided by the report "Agriculture at a Crossroads," the outcome of a six-year effort coordinated by the World Bank and the UN Food and Agriculture Organization (FAO). The report, known as the IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development) provides recommendations to "simultaneously meet development and sustainability goals while increasing agricultural production." Fifty-eight governments have endorsed that report. A new climate framework provides an opportunity to implement its recommendations.

Unlike proposed "solutions" that remain rooted in the high-input, fossil-fuel dependant farming model, the new paradigm will address multiple crises simultaneously: climate, soil fertility, biodiversity, water scarcity and food security.

4. SUPPORT AGRICULTURAL RESEARCH, BUT RETHINK ITS FOCUS Major scientific uncertainties remain and hamper decision making in relation to agriculture and climate change. More research is needed, particularly to develop mitigation methods that are measurable and verifiable. Interdisciplinary research is critical to get a better understanding of the connections between different stages of agri-food systems and the UNFCCC should support that approach.[13] Pilot projects are needed to improve measurement, reporting and verification technologies, and to make these projects more accessible.

The U.S. recently announced that it would support New Zealand's proposal for a "virtual world research center on agriculture mitigation." Based on New Zealand's domestic "LEARN" program, the initiative has yet to demonstrate any progress in developing the kinds of low-input, sustainable agriculture systems that IAASTD and others say are most urgently needed. In a recent report, the International Trade Center stresses that "as 99 percent of the world's public and private research funds have focused on optimizing conventional and integrated food and farming systems during the last decades, major progress and solutions can be expected as a result of agro-ecological and animal welfare research activities."[14] Initiatives supported through the UNFCCC need to give priority to this reorientation.

5. REFRAIN FROM USING CLIMATE NEGOTIATIONS AS A FORUM TO ADVANCE TRADE INTERESTS One of the solutions put forward by New Zealand as a way to meet the climate challenge is to design an "optimal global production pattern" for agriculture. Such a proposal is biased to suit the economic interests of agricultural exporters: the idea, in broad strokes, is to identify which countries have the most GHG-efficient agriculture and allow them to feed the world. In fact, the over-reliance on international trade mechanisms to allocate food in recent years at the expense of localized food security measures has weakened, not strengthened, the global food system. As UNEP stresses, "Food security is not simply a function of production or supply, but of availability, accessibility, stability of supply, affordability and

the quality and safety of food."[15] The climate footprint of agriculture cannot be considered in isolation from other economic and social imperatives—notably, respect for the right to food.

6. CRITICALLY ASSESS THE ROLE OF CARBON MARKETS FOR AGRICULTURE Another major conversation around agriculture at the UNFCCC has to do with the opportunities that soil carbon sequestration holds in terms of offsetting emissions from other sectors. Many governments favor making soil carbon sequestration eligible under the Clean Development Mechanism (CDM). There are expectations that carbon markets will become a new source of investment for agriculture.

But the CDM's record in contributing to emissions reduction is widely questioned.[16] It is even clearer that existing CDM rules do not fit the needs of small farmers or sustainable agriculture. The risks involved with attracting more large investors to land acquisitions by creating new incentives—primarily displacing family farms or Indigenous peoples, thus worsening food insecurity—are not properly acknowledged in current discussions. Furthermore, there is still considerable scientific uncertainty regarding the measurability and permanence of soil carbon sequestration. Although it is desirable to encourage soil carbon sequestration, it should not be promoted as an offset to allow polluters to keep polluting.

7. TAKE STEPS TO PREVENT EXCESS SPECULATION ON CARBON MARKETS The UNCTAD Trade and Development Report 2009 details how the domination of commodity markets by financial speculators contributed to the ongoing food price crisis in at least 30 developing countries.[17] Climate negotiators need to consider how excessive speculation could also undermine carbon markets. Within carbon markets being established at the national level in the U.S. and other countries, a secondary market of carbon derivatives is being created. Carbon derivatives are financial instruments based on the value of carbon credits.

In the case of the U.S., a huge influx ($2 trillion USD in notional value by 2017 according to the U.S. Commodity Futures Trading Commission[18]) of lightly regulated carbon derivatives investments could have two devastating effects. First, if carbon derivatives are bundled into commodity index funds, the volatility of agricultural futures prices will increase, with negative consequences both for agricultural mitigation and food security. Second, if the legislative design of carbon markets facilitates extreme carbon price volatility, investments in GHG-reducing technology risk being delayed or reduced, as confusing price signals would inhibit rate of return investment estimates.[19] *(For more, read IATP issue brief, Speculating on Carbon: The Next Toxic Asset.)*

Conclusion

There is no question that agriculture's contribution to climate change needs to be addressed if we are to keep global warming below 2°C. Similarly, the need for agriculture to adapt to a changing climate cannot be underestimated. Copenhagen can open the door to a reorientation of priorities in agricultural research and practices to meet the climate challenge—much more work will remain after 2010 to make that shift a reality.

References

1. For more details see: JRC European Commission GHG AFOLU Data, "Summary of elected activities under Art 3.4 of the Kyoto Protocol," http://afoludata.jrc.ec.europa.eu/events/Kyoto_technical_workshop1/presentations/m2008/Activities%20elected%20under_3.pdf

2. IPCC, 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4: Agriculture, Forestry and Other Land Use, (Hayama, Kanagawa, Japan, 2006), http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html

3. Ibid.

4. Countries co-sponsoring the paper: New Zealand, Argentina, Australia, Canada, Chile, Environmental Integrity group, E.C., Iceland, Japan, New Zealand, Norway, Paraguay, Russian federation, South Africa, United States and Uruguay.

5. The reference of the document, available on the UNFCCC website, is FCCC/TP/2008/8

6. All presentations are available on http://unfccc.int/meetings/ad_hoc_working_groups/lca/items/4815.php

7. At the time of writing, the latest version was included in Non-paper No. 49, produced in Barcelona in November 2009: http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/awglca1bivnp49051109.pdf

8. See New Zealand's presentation at the UNFCCC workshop on agriculture in April 2009: http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/5_new_zealand.pdf

9. SADC, COMESA and EAC, "Launching The Africa Climate Solution—A REDD-AFOLU Bio-carbon Coalition," Press release, Africa Climate Solution, http://www.afrcaclimatesolution.org/features/Poznan_Press_Release_20090414.pdf

10. FAO, "1.02 Billion People Hungry in 2009," (October 14, 2009) http://www.fao.org/news/story/en/item/36207/icode/

11. Greenpeace, Cool Farming: climate impacts of agriculture and mitigation potentials (Amsterdam: Greenpeace, January 2008).

12. UNEP, The Environmental Food Crisis – The Environment's Role In Averting Future Food Crises, (Norway: United Nations Environment Programme, 2009).

13. J. Thompson and I. Scoones, "Addressing the dynamics of agri-food systems : an agenda for social science research," Environmental Science & Policy 12, no. 4, (June 2009): 386–397.

14. ITC and FiBL, "Organic agriculture and climate change," intracen.org, 2007, http://www.intracen.org/Organics/documents/Organic_Farming_Climate_Change.pdf

15. UNEP, The Environmental Food Crisis – The Environment's Role In Averting Future Food Crises, (Norway: United Nations Environment Programme, 2009).

16. Friends of the Earth UK, "A Dangerous Distraction," foe.co.uk, June 2009, http://www.foe.co.uk/resource/briefing_notes/dangerous_distraction.pdf

17. UNCTAD, "Trade and Development Report 2009," unctad.org, 2009, http://www.unctad.org/en/docs/tdr2009_en.pdf

18. CFTC, "Commissioner Bart Chilton: U.S. Regulators Gearing-Up for Climate Change," Press release, U.S. Commodity Futures Trading Commission, http://www.cftc.gov/newsroom/generalpressreleases/2009/pr5648-09.html19.

19. Joseph R. Mason, "The Economic Policy Risks of Cap and Trade Markets for Carbon Emissions: A Monetary Economist's View of Cap and Trade Market and Carbon Market Efficiency Board Designs," The U.S. Climate Task Force, September 2009, http://www.climatetaskforce.org/2009/09/09/the-economic-policy-risks-of-cap-and-trade-markets-for-carbon-emissions/