INSTITUTE FOR AGRICULTURE AND TRADE POLICY

Climate and Agriculture

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Climate and Agriculture: A Just Response

Documented increases in global air and sea temperatures over the last century have demonstrated unequivocally that our planet is warming. As local, national and international policy negotiations continue over appropriate solutions to this environmental crisis, it is critical that the value of agriculture as a provider of basic human needs is recognized and addressed. Agriculture is the primary source of livelihoods for about 3 billion people around the world. It produces the food we all need. And it affects land, water and energy use and production. Moreover, unlike other emitters, such as coal plants or automobiles, the agriculture sector is a natural part of the carbon cycle.

Yet until recently, agriculture has not been a major focus of climate discussions. This has to change. And agriculture's multifunctional role in the world makes it critically important that climate policy gets it right.

In the lead up to the United Nations Framework Convention on Climate Change (UNFCCC) talks in Copenhagen in December 2009, the Institute for Agriculture and Trade Policy has written a series of six issue papers on different aspects of agriculture's role in responding to the global climate crisis. First, we provide an overview of the science on agriculture and climate change. We look at agriculture's place within the UNFCCC negotiations and within U.S. climate legislation. We examine the role carbon markets may play in negatively influencing agriculture and achieving GHG-reduction goals. Because water is so central to effects of climate change, and to agriculture in particular, we look at integrated approaches to climate, water and agriculture. And finally, we emphasize the historical inequities that have contributed to the climate problem and propose a more equitable approach to climate policy.

These papers collectively call for an integrated framework for climate change policy that emphasizes the unique role agriculture plays in the world. The papers reinforce the following principles:

1. All agricultural systems are not equal. Addressing climate change in the agricultural sector requires recognition of historical differences in agriculture, and different country contributions to the problem of climate change.

2. In its historical role as a leading GHG emitter, the United States has a special responsibility and obligation to play a positive role in meeting necessary reduction targets.

3. Climate mitigation and adaptation efforts must complement—not impede—the production of a safe and healthy food system.

4. Agriculture must not be used as a "dumping ground" for other sectors to avoid addressing their climate change obligations.

5. Climate policy must adopt an integrated approach that supports the importance of sustainable agriculture to long-term development and viable, healthy rural livelihoods.

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6. Climate policy must include a transparent and inclusive process where all stakeholders are allowed an equal voice, including the perspectives of farmers, women and Indigenous peoples.

7. Climate change is not just an environmental problem, but one of social equity as well that must be addressed within proposed solutions.

Below is a brief summary of each paper. The entire series can be found on IATP's climate page: iatp.org/climate.

Agriculture and Climate—The Critical Connection

This paper provides an overview on the multiple ways agriculture impacts and is impacted by climate change. It makes the case that sustainable farming systems can reduce agriculture's GHG emissions and be a primary vehicle to stabilize and reverse climate change, while continuing to provide food, feed, fiber, and energy in a changing climate. Achieving "climate-friendly" agriculture systems requires a shift in focus, research and investment away from industrialized, input and fossil-fuel intensive agricultural practices toward low-input, resilient agricultural systems that increase carbon sequestration in the soil and lessen output of greenhouse gases. Ultimately, agriculture systems that are both adaptive and mitigative need to be supported. Government investment needs to be redirected from proprietary seed and crop technologies towards enhancing traditional plant breeding, integrated livestock production and effective, low-input cropping systems. Other policies, particularly those related to energy and trade, also need to be modified to support—not impede—this shift in agricultural development.

Putting Agriculture on the Global Climate Agenda

This paper reports on agriculture's role within the United Nations Framework Convention on Climate Change (UNFCCC), including its responsibilities for GHG emission reductions as well as part of a carbon credit system to mitigate climate change. In 2009, agriculture's role within climate negotiations has become much more prominent, becoming part of the official negotiating text. Many developing country delegations are concerned that UNFCCC negotiators have not yet devoted adequate time or resources on the best ways to deal with agriculture within the text. This paper outlines a series of benchmarks for including agriculture within global climate talks including: setting a transparent and inclusive process; assessing climate solutions against a broad set of metrics for impacts on food security, water, biological diversity and rural livelihoods; prioritizing socially and environmentally sustainable solutions that break away from high-input agricultural production; supporting agricultural research for more low-input, sustainable systems; refraining from using climate negotiations to advance trade interests; critically assessing the role of carbon markets for agriculture; and taking steps to prevent excess speculation on carbon markets.

U.S. Climate Policy and Agriculture

This paper reviews the role of agriculture within U.S. climate policy discussions. The United States, one of the world's largest GHG emitters, has seized upon agriculture and forestry-related sequestration as a mechanism to reduce its overall GHG emissions. Recent U.S. cap-and-trade legislation proposals have set no caps for agriculture emissions. Rather than considering agriculture in its entirety—what practices would be best for not only the climate, but also for farmers, consumers, the soil, air and water—U.S. climate policy instead reduces agriculture to a carbon storage coffer, enabling other sectors to avoid real emission reductions. The paper finds U.S. climate policy's orientation toward agriculture offsets troubling for several reasons. First, carbon offset projects are notoriously difficult to measure and verify. Second, making the incentive for on-farm carbon practice improvements subject to the whims of a speculative market dominated by Wall Street banks makes it difficult to ensure that offsets will be a long-term, reliable solution to climate change. Instead, the paper argues for a separate, equally urgent process to develop and enact policies that recognize the multifunctionality of agriculture; provide predictable and sufficient payments to farmers for climate-friendly practices; ensure flexibility for farmers as climate science evolves; hold agriculture accountable while accounting for scale and types of operation; and strengthen rural resilience.

Speculating on Carbon: The Next Toxic Asset

This paper reviews efforts within U.S. climate legislation and the UNFCCC to create a new carbon emissions derivatives market—which supporters claim is necessary to provide adequate capital for carbon trading. But proposals for a new carbon derivatives market include the same regulatory loopholes that led to excessive speculation on commodity futures markets in 2007 and 2008, dramatically disrupting global agriculture markets. A poorly regulated carbon derivatives market could have a systemic effect on agriculture. First, if carbon contracts are bundled with agricultural and non-agricultural contracts in commodity index funds, the sharp projected increase in volume and value of carbon derivatives contracts will induce volatility in agricultural futures prices. Secondly, if carbon derivatives are traded over the counter (between firms and not on regulated public exchanges), it will be more difficult to determine when and how much excessive speculation in carbon derivatives is distorting agricultural

futures prices. Finally, extremely volatile carbon price signals could delay investments in GHG-reducing technology, as such signals will inhibit rate of return analysis on investments. If carbon markets are to be the basis for U.S. climate policy, then it is imperative to limit carbon trading only to emitters and offset project developers; create an independent body to set stable prices for allowance credits; and ban commodity index funds from bundling carbon.

Eye of the Storm: Integrated Solutions to the Climate, Agriculture and Water Crises

This paper reviews the interconnected nature of the climate, water and agriculture crises—and points to the need for an integrated approach to all three. There is growing recognition that water ecology will be severely impacted by climate change, which in turn has equally critical implications for agriculture. Moreover, the type and scale of irrigation methods influences the degree of farmer vulnerability in a changing climate. Because rain-fed crops are particularly critical for many subsistence farming communities, climate change will have a significant impact on the potential for reducing hunger and food insecurity. On the other end of the spectrum, industrial agriculture and its intensive water use, has resulted in widespread soil and water contamination from pesticide and fertilizer runoff, degrading habitats, and greatly affecting quality and quantity of water available for other uses. In addition, women—as primary stewards of water in many parts of the world—must be central to responses to these three crises. The paper recommends agriculture-based climate strategies that include water efficiency; ecosystem and socioeconomic impact assessments; respect for the Right to Food and the Right to Water for people to meet their basic needs; prioritization of water availability, including support for organic matter management, rainwater harvesting, small-scale water storage, community-based irrigation and water maintenance for grazers and small-holder livestock.

Climate Inequity

This paper reviews the disproportionate role of wealthy nations in contributing global GHG emissions, contrasted with the role of poorer nations and people. It finds extreme inequity in terms of who contributes to climate change and who benefits from GHG-intensive development patterns. The paper links the eradication of the Indigenous commons in the U.S., and the capture of agriculture and farming by agribusiness, to the same market-based philosophy underlying the industrial world's approach to climate change. For Indigenous peoples, the establishment of Reducing Emissions from Deforestation and Degradation (REDD) initiative is a reminder that climate change is now a vehicle for global disenfranchisement and exploitation. When considering climate change and equity, the paper calls for a recognition of historical policies that have created much of the disparities in development, energy use and GHG emissions around the world. We contend that the dominant climate policy proposals perpetuate the status quo, drawing from a market-based policy regime that relies on free trade and technofixes. Instead, effective climate policy must support real benefits at the local community level in housing, jobs, sustainable livelihoods and community infrastructure. This requires support for localized, regulatory and commons-based initiatives and a shift away from market and commodity-based solutions. The paper concludes that long-lasting solutions to climate change must inherently be equitable in order to be sustainable.

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