Development, agriculture and food security:
Considerations for the upcoming Global Conference on Agriculture, Food Security and Climate Change

The Hague, 31 October to 5 November 2010

Introduction

The Global Conference on Agriculture, Food Security and Climate Change is to be hosted from 31 October to 5 November 2010 in The Hague is of significant importance to developing countries. It aims to set a new international agenda on linkages between agriculture and climate change including through the adoption by Ministers of a "Roadmap for Action".

Active engagement by developing countries will be required to ensure a roadmap that advances their interests both within the UN climate negotiations and more broadly. This note summarizes linkages between development, agriculture and climate change; the role of the Hague Conference; potential areas where the interests and strategies among developed and developing countries may diverge; and possible elements of a development-oriented roadmap to advance the interests of developing countries.

Linkages between development, agriculture and climate change

The agriculture sector is critical to development, including the prospects for "food security, livelihood security and rural development".[1] The agriculture sector is highly vulnerable to temperature change, droughts, floods and other climate change-related events, particularly in developing countries, which are vulnerable to climate change and in which a substantial proportion of the population relies on agriculture for their sustenance and livelihoods.

According to the IPCC "agricultural production in many African countries and regions will likely be severely compromised by climate change" and this would "adversely affect food security and exacerbate malnutrition".[2] In Asia, climate change is expected to cause "declining production and reductions in arable land area and food supply for fish".[3] In Latin America, the number of additional people at risk of hunger is likely to reach "5, 26 and 85 million in 2020, 2050 and 2080, respectively".[4]

Recent studies suggest the IPCC may have significantly understated the potential impacts of climate change on agriculture. New research by Stanford University, for example, suggests that production losses across the continent of Africa in 2050 (consistent with global warming of around 1.5 degrees C) are in the range of 8% to 22% for cassava and maize, respectively, with worst-case losses of up to 27% to 32%.[5] The International Food Policy Research Institute suggests that rice production in South Asia could decline by 23%, maize production by 36% and wheat production by 57% relative to 2000 levels.[6]

The agriculture sector, in turn, can play a role in reducing and removing greenhouse gas emissions, particularly in developed countries, which are largely reliant on fossil fuel- and

[1] Submission by the G33, *Refocusing discussions on the special safeguard mechanism (SSM): Outstanding issues and concerns on its design and structure* (WTO, TN/AG/GEN/30)
[2] Contribution of Working Group II to the IPCC Fourth Assessment Report, Technical Summary, page 48
[3] Contribution of Working Group II to the IPCC Fourth Assessment Report, Technical Summary, page 49
[4] Contribution of Working Group II to the IPCC Fourth Assessment Report, Technical Summary, page 54
[5] Schlenker, W. and D.B. Lobell. 2010. Robust negative impacts of climate change on African agriculture. *Environmental Research Letters* 5, doi:10.1088/1748-9326/5/1/014010. See also, Prof. Doreen Stabinsky, *Summary of recent scientific findings on the potential impacts of climate change on African agricultural production* (on file with author)
[6] International Food Policy Research Institute, *Climate Change: Impact on Agriculture and Costs of Adaptation*, 6 November 2009, p. vii, http://www.ifpri.org/sites/default/files/publications/pr21.pdf. See also, William R. Cline, *Global Warming and Agriculture: Impact Estimates by Country* (July 2007) Chapter 5, p. 49, at http://www.piie.com/publications/chapters_preview/4037/05iie4037.pdf (stating "The results for India are sobering, with reductions in output potential ranging from about 30 to 35 percent in the southern regions to about 60 percent in the northern regions. As discussed later, this model does not include the favorable effect of carbon fertilization. Even after inclusion of carbon fertilization effects, however, the losses would be severe.")

energy-intensive agricultural inputs and practices. Background papers for the Hague Conference, for example, suggest that "agriculture, including forestry, livestock and land use changes, account for over 30 percent of GHG (global greenhouse gas emissions)."[7] Sequestering carbon dioxide in "soil carbon" also presents a strategy for reducing global greenhouse gas concentrations. Many developed countries see this as a means for generating "offsets" in developing countries, to enable them to maintain relatively high levels of emissions domestically.

Linkages between development, agriculture and climate change should be addressed in a holistic manner that places issues of concern to developing countries – including food security, livelihood security and rural development – at the heart of a development-oriented agenda on agriculture and climate change. Advancing such an approach at the upcoming Hague Conference should therefore be a priority.

The Global Conference on Agriculture, Food Security and Climate Change

The Global Conference on Agriculture, Food Security and Climate Change is to be hosted from 31 October to 5 November 2010 in The Hague by the government of the Netherlands in cooperation with Ethiopia, other developing country partners, New Zealand, Norway, the World Bank and the FAO.[8]

The conference seeks to define a new concept of "climate smart agriculture" and to develop a "Roadmap for Action" to be agreed by Ministers. The conference was preceded by a pre-conference of African countries held in Addis Ababa from 6 to 8 September 2010. Pre-conferences were not held in other regions.

According to its Background Note the principal themes of the conference are:

- Agriculture, food security and climate change: framing the issue and taking stock of innovations;
- Scaling up replicable models of climate change-smart agriculture: opportunities and challenges;
- Mobilizing investments from all sources for a transformational change to climate-smart agriculture; and
- A road map for action.

The conference will conclude with a two-day Ministerial-Roundtable to review and adopt a "Roadmap for Action" on agriculture, food security and climate change. A draft Roadmap will be presented by the conference organizers on the morning of Thursday 5 November and adopted by Ministers on the afternoon of Friday 5 November.

Differing interests and approaches between developed and developing countries

Just as developed and developing countries agree that agriculture and international trade are linked, so too they agree that agriculture and climate change are linked. As in the case of international trade, however, parties may converge on the need to address linkages in principle while diverging significantly on how to address those linkages in practice.

Different approaches may have vastly different implications for the development prospects of developing countries. The content of the "Roadmap for Action" to be agreed at the Hague Conference thus has significant implications for developing countries. Broadly speaking, many developed countries are reluctant to change their current intensive models of agriculture, and instead look to developing countries to reduce and remove emissions from

[7] World Bank, The Hague Conference on Agriculture, Food Security and Climate Change: Opportunities and Challenges for a Converging Agenda: Country Examples (2010, World Bank) at page 2.
[8] http://www.afcconference.com

the agriculture sector. This is reflected in their positions in negotiations under the Kyoto Protocol, in which a number of developed countries have sought to:

- Resist the ambitious science- and equity-based emission reduction for Annex I Parties demanded by the developing countries;
- "Elect" which activities should be accounted for in the land-use sector, enabling them to account for activities that reduce or remove emissions while ignoring those that increase emissions;
- Use projected (future) baselines for forest management accounting rather than historical baselines, enabling them to overstate their emission reductions and removals;
- Agree provisions for "force majeure" that would allow them to take some land-based emissions off their accounts altogether; and
- Avoid their Kyoto commitment altogether by ending rather than implementing the Kyoto Protocol and replacing it with a new treaty negotiated through the Convention track of negotiations and based on the Copenhagen Accord. [9]

Second, developed countries are also broadly concerned about reducing the scale of "new and additional" public funding required for climate change (while also reducing the cost of meeting their own emission reduction commitments) and so are focused on carbon-markets rather than funding through public fund-based mechanisms under the UNFCCC. The position of some developed countries in the second track of the climate negotiations, under the Convention and the Bali Action Plan, indicates an intention to:

- Move issues relating to land-use, land-use change and forestry from under the Kyoto Protocol track of negotiations into the parallel track of negotiations under the Convention;
- Draw linkages between agriculture (i.e. land-use) and negotiations on reducing emissions from deforestation and forest degradation (i.e. forests) (together, now comprising land-use, land-use change and forestry under the Convention track);
- Shift emphasis from the reduction of emissions by developed countries (under the Kyoto Protocol) to the reduction of emissions by developing countries (under the Convention);
- Focus on funding emission reductions in developing countries through carbon markets rather than through new and additional public sources of finance provided by developed countries through fund-based mechanisms; and
- Use new carbon markets to create carbon credits or "offsets" that would enable developed countries to circumvent their commitment to provide new and additional public funding, while continuing to continue to emit significant levels of greenhouse gases from their agricultural sector and other sectors, maintain their current intensive model of agriculture, and shift the burden of mitigation to developing countries.

Fourth, developed countries are also broadly concerned about the scale of funding and compensation required for adaptation in the agricultural sector in developing countries, and so are looking to narrow their commitments to cover only those countries that are "most vulnerable".

[9] See, Lim Li Lin, *Addressing the credibility gap: A principled approach to setting Annex I aggregate reductions and closing loopholes in the Kyoto Protocol* (Third World Network), available at: http://www.twnside.org.sg/title2/climate/bonn.briefings.7.htm

Finally, it is also in the interests of developed countries to avoid linkages with certain other issues that play an important role in enhancing economic diversification and building adaptive capacity in the agriculture sector in developing countries, such as the need to address barriers to technology transfer arising from intellectual property rights, the need to improve market access for the products of developing countries to the markets of developed countries, and the need to remove perverse agricultural subsidies in developed countries. Developing countries may wish to raise these issues. For instance, in relation to agricultural subsidies the Group of 33 developing countries at the WTO has noted:

> The crisis in developing country agriculture is exacerbated by the severe distortions that persist in global agriculture trade. Most of these distortions are related to the huge support given to agriculture in developed countries. The OECD estimates that its members spend more than US$375 billion every year on agricultural support. On average, more than a third of farm receipts in developed members of OECD countries come from government programmes. The value of support is more than five times higher than official spending on ODA and twice the value of agricultural exports from all developing countries.[10]

Removing perverse policies such as these in developed countries could make a major contribution to the health and resilience of the agriculture sector in developing countries; reallocating them to climate change could provide a major source of new and additional public financing to enable developed countries to meet their financial obligations under the UNFCCC.

Concerns regarding carbon markets

Developed countries, and some developing countries, have promoted the extension of carbon markets to the agricultural sector.[11] While ensuring a fairer distribution of projects among developing countries is of importance to many developing countries (particularly poorer countries that have been bypassed by the carbon market) there remain some concerns about the role and implications of carbon markets in the agriculture sector. Some of the concerns raised by civil society organizations, for example, include:

- Carbon markets are not a source of "new and additional" finance that developed countries are committed to provide to developing countries under Convention;
- They are a means by which developed countries fund their own efforts to meet their own mitigation commitments under the Kyoto Protocol (with the assistance of the developing countries);
- They have no role in the provision of financial resources by developed countries to developing countries to meet their commitments under the Convention;
- Using carbon markets as a source risks allowing developed countries to double-count market-based financing as part of their financial commitments to developing countries and also their efforts to meet their mitigation targets;

[10] Submission by the G33, *Refocusing discussions on the special safeguard mechanism (SSM): Outstanding issues and concerns on its design and structure* (WTO, TN/AG/GEN/30) at page 3. See also OECD, *Agricultural policies in OECD countries: monitoring and evaluation 2009* (2009, OECD Directorate) (stating, "Total support to the agricultural sector, combining producer support (the PSE), support for general services to agriculture such as research, infrastructure, inspection, marketing and promotion, as well as subsidies to consumers, was estimated at USD 368 billion (EUR 271 billion) in 2006-08. This is equivalent to 0.9% of OECD GDP, down from 2.5% in 1986-88. The reduced burden of agricultural support on the overall economy is characteristic of all OECD countries and primarily a reflection of the falling share of agriculture in their GDP")

[11] According to the World Bank's background note for the Hague Conference "despite the role of agriculture in GHG (over 30 percent), carbon payments related to agriculture have remained a very small part of the market…. There would be great benefits in including reduced emissions from soil carbon sequestration in future carbon trading regimes."

- This would delays a shift onto a low-carbon pathway for developed countries, and allows them to continue high-carbon lifestyles while shifting the burden of mitigation onto developing countries;
- Carbon markets are uniquely vulnerable to price volatility, fraud and other deceptive marketing and accounting practices;
- Carbon derivatives are currently traded in advance of GHG reductions resulting from the issuing of offset credits (i.e. trading on the value of a non-existent asset);
- There is a serious risk of fraud when such offsets do not result in permanent and additional GHG reductions; and
- Carbon, when combined with other commodities in index funds, can also destabilize global agriculture prices through increased price volatility, thereby contributing to greater food insecurity, particularly for net-food importing countries.[12]

Further consideration, in particular, is required on the implications of linking soil carbon (yielding potentially significant removals of emissions) with carbon markets – including the potential to create major new loopholes allowing Annex I countries to further increase their domestic emissions, while circumventing their commitment to provide public funding, and shifting the burden of emission reductions to developing countries (see box).

Carbon market versus public funding

The distinction between carbon market-based funding and public funding provided through a fund mechanism (e.g. the Adaptation Fund) requires further clarification in negotiations under the UN Climate Convention and its Kyoto Protocol. The following example serves to illustrate one aspect of the difference – that relating to the global carbon budget:

If in 2030 the world is hypothetically limited to emissions of 30 billion tons of carbon dioxide, and developed countries are limited to say 8 billion tones, then developing countries would be entitled to emit the remaining 22 billion tons (or to emit more and suffer the adverse effects of additional warming).

Funding provided to developing countries through a fund-based mechanism should cover the "incremental cost" of reducing their emissions from their projected "business as usual" emissions down to the lower 22 billion tons level without experiencing major reductions in GDP or development.

Funding provided to developing countries through the carbon market, by contrast, "offsets" or transfers the carbon budget to the developed countries. So if a developed country pays for 2 billion tones of "offsets" through the carbon market, they would be entitled to emit 10 billion tons (8 plus 2) while the developing countries would be tasked with the more difficult challenge of living with 20 billion tons.

Whereas public funding helps developing countries achieve their mitigation actions, carbon-market finance helps the developed countries achieve their mitigation commitments, and increases the ultimate mitigation burden on developing countries (or increases the absolute emissions, thus increasing the adaptation burdens suffered by developing countries).

In sum, public finance are a means by which developed countries enable developing countries to achieve their development objectives while remaining within their allocation of the remaining global carbon budget. Carbon markets, by contrast, are a means by which developed countries secure more of the carbon budget thus avoid the burden of reducing emissions in their own economies, while shifting the burden to the developing countries.

The implications of carbon markets for the agriculture sector and for prospects of a development-oriented outcome to the climate negotiations more generally (e.g. implications

[12] Letter from civil society groups to Prime Minister Jens Stoltenberg of Norway and Prime Minister Meles Zenawi of Ethiopia, co-chairs of the UN Secretary General's High-Level Advisory Group on Climate Change Finance, signed by 27 NGOs and networks (8 October 2010)

for developing country positions on the Kyoto Protocol on the scale and adequacy of Annex I emission reductions, on equitable burden sharing, on the need for public funding and so on) arguably requires further consideration.

Opportunities for a development-oriented roadmap

A development-oriented "roadmap for action" should advance the interests of developing countries in the climate negotiations and in other relevant international forums. It should encompass developing countries interests in each track of negotiations under the UN Climate Convention and its Kyoto Protocol as well a actions that should be taken in other areas to enhance the viability and resilience of the agriculture sector in developing countries.

Key concerns under the Kyoto Protocol might include:

- Ensuring adequate emission reductions by Annex I Parties;
- Ensuring adequate emission reductions by Annex I Parties in the land-use and forest sectors;
- Ensuring coverage of all relevant activities in the forest and land-use sectors (rather than "election" of some not others);
- Ensuring robust international accounting rules including use of verifiable historical (not projected future) baselines; and
- Closing "loopholes" in land-use accounting rules as well as loopholes relating to market mechanisms and carry over surplus allowances that risk undermining Annex I Parties real emission reductions.

Key concerns under the Convention might include:

- *Shared vision*: Ensuring a shared vision and global goal capable of avoiding dangerous climate change "in a time frame sufficient to ensure food production is not threatened";
- *Mitigation*: Ensuring that:
    - Adequate emission reductions by Annex I Parties that are not Parties to the Kyoto Protocol; and
    - New and additional financing, technology transfer and capacity building is available to meet the "full incremental costs" of mitigation actions by developing countries, including in the agriculture sector;
- *Adaptation:* Ensuring that funding and compensation, and appropriate institutions including a mechanism to address loss and damage, are available to address the adverse effects of climate change on developing countries, including in the agriculture sector;
- *Finance:* Ensuring that new and additional funding is provided to developing countries through a fund under the authority of the COP – including windows for adaptation and possibly also agriculture – rather than through carbon markets; and
- *Technology transfer:* Ensuring that technology transfers are appropriate to the needs of developing countries (i.e. sustainable technologies rather than genetically modified organisms) and that barriers associated with intellectual property rights are addressed.

Key concerns in other international forums might include:

- Protection of forced climate migrants;
- Removal of barriers associated with intellectual property rights;

- Removal of perverse agricultural subsidies in developed countries;
- Improved market access to agricultural markets in developed countries;
- Refocusing of fossil-fuel related subsidies in the agriculture sector in developed countries towards sustainable agriculture; and
- Development of emergency plans and funding to address adverse impacts from climate change and related market instability in developing countries.

Regardless of the ultimate elements to be included in a development-oriented "roadmap for action" developing countries may wish to ensure a common and coordinated approach to discussions in The Hague Conference, particularly in the final two-day Ministerial session at which a roadmap will be agreed and publicly launched with the objective, among other things, of influencing the UNFCCC negotiations in Cancun, Mexico.