



Blending Climate and Agriculture Finance to Support Climate-Smart Landscapes

The climate-smart agriculture financing disconnect

Agricultural landscapes must provide food, fiber and energy to a growing global population in a changing climate, while potentially serving as instruments for climate change mitigation. However, there is a disconnect between the ways that climate-smart landscapes will need to be managed and the current financing systems available to support them. Funds for agricultural development, food security, climate mitigation and climate adaptation generally come from different sources even though these goals are inextricably linked in agricultural systems (FAO 2010). The consequences of this separation are inefficiency and insufficient access to financing for climate-smart agricultural development.

For example, a new CARE-supported agricultural carbon project in Western Kenya based on agroforestry faces a conundrum: while it was assumed that voluntary carbon emission offset buyers would provide much of the financing, the project's primary objective is livelihood development and resilience to climate change for farmers. CARE is working to fully reconcile these agendas to make sure that the livelihood objective maintains primacy throughout the life of the project. Meanwhile, given the current low price of carbon, costs of project implementation, and the length of time required for credit development, carbon revenues are far less than the full costs of the project. This kind of project requires more appropriate financial mechanisms that reflect the project's positive impacts on agricultural development, food security, ecosystems, adaptation to climate change, as well as mitigation.

This policy focus was originally produced by Seth Shames and Sara J. Scherr in November 2011. In light of recent developments and additional information, it was revised in November 2012.

This brief first lays out the current financing landscape for climate and agriculture in the developing world. It then analyzes the implications for the development of climate-smart agriculture, particularly for smallholders. Finally, it suggests steps towards more effective integration of climate and agriculture finance.

The status of climate and agriculture financing

It is instructive to consider the relative orders of magnitude and diverse sources for climate and agriculture finance, although these numbers are quite difficult to identify with a high level of precision. The following represents a broad-brush picture.

Climate Finance

Multilateral funding and donors – Climate finance in the form of official development assistance (ODA) from multilateral and bilateral sources provides support through a variety of mechanisms. These include multiple different funds for adaptation or mitigation, Nationally Appropriate Mitigation Actions (NAMAs), and the Green Climate Fund. The Copenhagen Accord committed US\$100 billion per year by 2020 for a balanced allocation between mitigation and adaptation efforts (Persson 2011). However, there seems to be a large disparity between pledges and actual transfers of funds, with some concern that this climate money in some cases does not actually represent new funds (Schalatek, Bird and Brown 2010).

Green Climate Fund (GCF) – The development of the Green Climate Fund (GCF) - jointly managed by the UNFCCC and the Global Environment Facility (GEF) and hosted in the Republic of Korea - has been an effort to make climate funds more transparent and easier to access. It is the proposed operating body for the financial mechanism of the UNFCCC, and pledges for the Fund and associated 'fast start' financing have been made for US\$30 billion by 2012 and US\$100 billion a year by 2020. However, it is unclear on what criteria these funds will be distributed, how much of this is set to come from public vs. private sources, and to what extent these funds will ultimately

materialize. Moreover, of the US\$30 billion a year more generally promised in the Copenhagen Accord, only 8% has been disbursed, in many cases drawing from development aid funds (Martone and Rubis 2012).

Other Climate Funds – The Climate Investment Funds (CIF), administered by multilateral development banks, manage US\$6.4 billion to support mitigation and adaptation in developing countries. Most of these funds are pledged towards a Clean Technology Fund (US\$4.1 billion) whose scope is generally outside of the realm of land use. However, the CIF also includes a Pilot Program on Climate Resilience (PPCR) and a Forest Investment Fund (FIP) (Climate Investment Funds 2011). Many of the submitted projects to PPCR include agricultural and rural resilience components (PPCR Sub-Committee 2011). Depending on how agriculture is integrated into projects for Reducing Emissions from Deforestation and Forest Degradation (REDD), PPCR could play a significant role through those projects as well.

The place of agriculture in REDD will also remain a significant issue in the administration of other forest related funds such as the Forest Carbon Partnership Facility and the UN-REDD Programme. The Global Environment Facility (GEF) is expected to provide about US\$2 billion for mitigation projects from 2010 to 2014, and agriculture and sustainable land use is represented in one of the six objectives of the funding strategy. However, it is not clear how much has been committed to this objective (Climate Funds Update 2012).

The UNFCCC-linked Least Developed Country Fund (LDCF) and Adaptation Fund (AF) have provided the majority of financial support for the development of National Adaptation Programs of Action (NAPAs) and implementation of associated adaptation projects, with additional support from the adaptation window of the Special Climate Change Fund (SCCF)

(UNFCCC 2007; UNFCCC 2011). The LDCF and SCCF committed over US\$350 million from 2002-2010, and a projected US\$305 – \$408 million will be dispensed by the Adaptation Fund by the end of 2012 (Persson 2011). Of the specific projects supported with these funds, 39% from the LDCF targeted food and agriculture, and nearly all 18 AF projects implicated agriculture and food security in some way. Agriculture and food security will likely continue to be a primary focus of any new climate funding streams.

NAMAs -Nationally Appropriate Mitigation Activities (NAMAs) generally refer to voluntary actions pledged by developing countries to reduce their emissions, contingent on support from developed countries. While progress was made at the UNFCCC COP17 in 2011 on institutionalizing NAMAs (e.g. developing terms of a registry), many details about definitions and implementation processes have yet to be defined, and it is difficult to estimate the size of funding required for NAMAs as most governments have not fully scoped their targets. Moreover, the funds required will likely be too high to rely on public sector funding alone. NAMAs do, however, have the potential to provide flexibility in the design and implementation of climate projects and programs, making them more amenable to agriculture than the current carbon markets.

Private investment – Private sources of capital for climate mitigation can be split into flows towards the regulated carbon markets or to the Voluntary Carbon Markets (VCMs). However, the lines between private and public investment funds blur within carbon markets, because public institutions can be buyers of credits. Private companies may also invest in projects that could be considered 'low carbon' outside of carbon markets, through their Corporate Social Responsibility (CSR) programs or supply chain sustainability efforts.

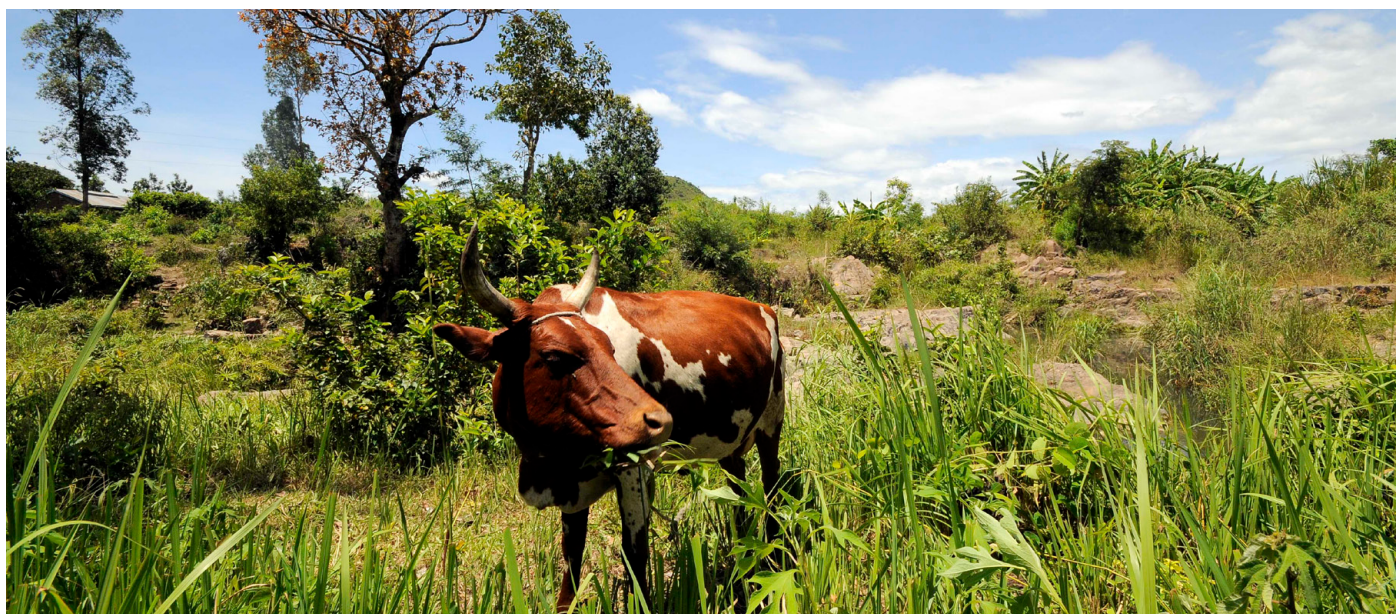


Photo credit: Niel Palmer, CIAT

Regulated carbon markets - So far, mitigation funds have come mostly from carbon emission offset markets, but the outlook for demand from global carbon markets for land based agricultural offsets in the near term (pre-2015) is rather bleak. Although in 2011 the total value of the regulated markets was US\$175 billion (Peters-Stanley and Hamilton 2012), this was principally for energy projects. Land use sequestration projects in developing countries have largely been omitted because of the relative difficulty in meeting CDM standards and the ban by the European Union Emissions Trading Scheme (ETS). While nearly 150 CDM projects are registered as “agriculture”, the majority of these are renewable energy projects and not actually on-farm, climate-smart projects that provide yield and resilience climate benefits. With the emergence of new regulated carbon markets (e.g. California and Australia), there may be more scope to produce land use carbon credits.

Voluntary carbon markets -Land use projects have been more successful in the voluntary carbon markets, although these represented a small portion of the total value of carbon offset markets in 2011 (US\$576 million) (Peters-Stanley and Hamilton 2012). Voluntary carbon markets have been a laboratory for land use projects, with a growing number of methodologies in agriculture and sustainable land management from the American Carbon Registry (ACR), Climate Action Reserve (CAR), and Verified Carbon Standard (VCS). While land use carbon projects as a share of the total voluntary markets ramped up steeply in 2010, to 49% of the total, or about US\$208 million worldwide, only US\$13 million was related to agricultural soil management, US\$8.5 million for livestock projects, US\$25 million for afforestation and reforestation projects, and US\$123 million was attributed to REDD, which includes the use of agroforestry practices (Peters- Stanley et al. 2011).

Supply chain standards and certification - Market demand for eco-certified agricultural products is growing rapidly, particularly in Europe and North America, and these markets totaled approximately US\$64 billion in 2010 globally (Ecosystem Marketplace unpublished). While some of these include certification criteria that have indirect climate benefits (e.g., improved soil management, incorporation of shade trees in crop fields, protection of riparian vegetation), only a small proportion of these systems are linked explicitly to climate. However, this is beginning to change with the work of the sustainable commodity roundtables and the development of climate certifications such as Rainforest Alliance’s climate module.

Philanthropic funding - A growing cohort of private foundations and international NGOs, such as Rockefeller, CARE, Oxfam and Conservation International are joining with national NGOs and farmer organizations to invest in climate-smart agriculture.



Solutions for smallholders, like this cattle farmer from Ninigui Village in Burkina Faso will be necessary for adapting to climate change. Photo credit: *Peter Casier, CGIAR*

Mainstream agriculture finance

Multilateral funding and donors – FAO has estimated an average annual public investment of US\$33 billion went toward agriculture and hunger reduction from 1997- 2007 (Ghanem 2009). From 2007-2008, US\$7.2 billion in ODA was directed to agriculture, with the majority going to sub-Saharan African and South and Central Asia (OECD 2010). Between 2005 and 2050, US\$9.2 trillion will be needed for the maintenance and expansion of the capital stock required across the agricultural supply chain to double production, an average of US\$204 billion annually (Schmidhuber et al. 2009). This includes investment for machinery, irrigation, land development, processing facilities, energy, livestock, perennial crops, soil and water conservation and flood control. Overall, ODA to the agricultural sector has fallen since its peak in the 1980s, but recent commitments by the Group of Eight (G8) indicate increased support for food security initiatives, with a focus in Sub-Saharan Africa.

Foreign direct investment (FDI) – FDI in agricultural production had reached US\$3 billion annually by 2007, and FDI for the entire agriculture value chain is upwards of US\$40 billion per year (UNCTAD 2009). Foreign land acquisitions, a subset of FDI, have risen dramatically since the food price spikes in 2007 and 2008 (Anseeuw et al. 2012). Approximately 83.2 million hectares of land in developing countries, 56.2 million of which is in Africa, have been documented as part of these agricultural land deals. Multi-national corporations also play a significant role in the agricultural investments, with considerable resources available to invest in food production and the agricultural value chain as a whole.

Domestic funding – Lowder and Carisma (2011) calculated total average national government spending for agriculture along the entire value chain (excluding auxiliary development-related activities) for low and mid-income countries to be around US\$160 billion annually between 2005 and 2007.

Yet most agricultural investment for smallholder agriculture comes from the farmers themselves. It also comes through private domestic sources including banks, micro-finance institutions, and domestic agri-business throughout the agricultural supply chain. In Africa, for example, small and medium scale enterprises serve as the primary investors for inputs like seeds and fertilizers, without providing resources for the complimentary natural resources management (Mhlanga 2010). While traditionally low, domestic private investment in the agriculture sector on the continent has recently been on the rise.

Constraints of the Current Finance Structure

These climate and agriculture financing realities present major barriers to creating appropriate and efficient financing structures for climate-smart agriculture in developing countries.

International public funding sources are uncertain – One of the reasons it is difficult to clearly track levels of climate change and agricultural development by international donors is that there are often substantial differences between funds committed and those that are disbursed. An important consequence of this uncertainty of funding levels is that countries are not able to implement long-term programs to build the institutional capacity required across sectors to support large-scale transitions to climate-smart agriculture.

Scale of climate finance is modest relative to overall agricultural investment finance - Private investment in agricultural supply chains and land uses dwarfs the current climate finance directed towards agriculture. Agricultural climate funds have the potential to grow and encourage low-emission/high resilience land use activities. The extent to which this happens will be decided through national and

international policy debates, likely over the next few years.

Climate finance is fragmented - Climate finance streams for adaptation and mitigation have been treated separately within the UNFCCC negotiations, and consequently, it has been difficult to blend these funds strategically in a single project or program. While this may make sense for many sectors, within the land use sector and agriculture in particular, the interventions that produce mitigation benefits are often identical to the ones that will be necessary for adaptation.

Synergies are lost across landscapes - Climate-smart agriculture necessarily includes investment across the landscape, to maintain healthy watersheds and ecosystem services and to supply the full range of food, fiber, raw materials and bio-energy products. One of the key pillars of the climate-smart framework as introduced by FAO in 2010 is “adopting an ecosystem approach, working at landscape scale and ensuring intersectoral coordination and cooperation...”

A landscape approach includes a spatial understanding of land uses and their interactions, as well a process for coordination that reflects the institutional diversity of stakeholders. However, with individual climate or agricultural objectives supported by various funds, it is difficult to develop these landscape synergies. For example, the Rainforest Alliance has developed a climate module for its certification system and works at a large scale in many landscapes. However, it continues to face the challenge of accessing climate and agricultural development funds that will support the integration of these certification efforts with other actors throughout landscapes, so livelihood and ecological synergies can be realized.

National public investment remains in sectoral silos - National policy coherence on agriculture and climate change will be critical to the success of climate-smart agriculture.



Photo credit: Niel Palmer, CIAT

Steps towards climate and agriculture finance integration

- 1) Donors should meet current commitments and increase support for climate-smart agriculture;
- 2) Use international climate funds to mainstream climate considerations into agricultural investments;
- 3) Develop funding mechanisms and models that support integrated climate-smart agriculture;
- 4) Private investors can take advantage of emerging certifications and standards;
- 5) Coordinate investments across sectors;
- 6) Improve monitoring systems to track the multiple benefits of climate smart agriculture.

Unfortunately, at the national level, as at the international level, conventional sectoral structures often hinder integrated projects and programs. For example, Kenya, a country relatively advanced on issues of cross-sectoral coordination, currently has a climate governance system in which the Prime Minister's office, the Ministries of Environment and Mineral Resources, Agriculture and Finance are all responsible for elements of the country's climate/agriculture strategy, and coordination has become a challenge (Shames 2012).

Steps towards climate and agriculture finance integration

While further analysis is needed of climate and agriculture finance source, some concrete steps can be indentified to advance effective integration of climate and agriculture finance:

1) Donors should meet current commitments and increase support for climate-smart agriculture.

There is a substantial gap between the promised funding for agricultural development and climate change from donors and the amount that has materialized. The first step towards meeting climate-smart agriculture funding needs will be fulfilling these commitments. However, these funds would not be sufficient to meet estimated needs, and additional investments will be required among donors to scale-up support in the future.

2) Use international climate funds to mainstream climate priorities into agricultural investments.

Climate finance for mitigation and adaptation directed towards agriculture will remain a small fraction of total agriculture investment, and therefore the effectiveness of these climate funds will rely on their ability to strategically

leverage agricultural investment in support of climate-smart agriculture. At the national level, climate finance could support countries in the difficult work of cross-sectoral policy integration. At the landscape scale, climate funds could be coordinated with other co-located rural development activities and support multi-stakeholder, landscape planning exercises, extension support and rural credit programs to upscale for climate-smart agriculture. National green growth initiatives - donor-supported, low-emissions economic development strategies - are being designed across sectors, but have generally focused on infrastructure, housing and energy, while neglecting land use. However, cases in Liberia and Southern Tanzania among others are beginning to demonstrate what a land-based green growth plan could look like.

3) Develop funding mechanisms and models that support integrated climate-smart agriculture.

Beyond using climate funds to influence agricultural investments, another opportunity is to actually integrate some of the public sources of climate finance (for mitigation and adaptation) with those supporting agricultural development or food security into a single mechanism that could flexibly support climate-smart agriculture. For example, the Green Climate Fund might create a financing window specific to agricultural landscapes, aimed at meeting multiple objectives. A similar structure could be developed within countries. Short of full integration, common elements of NAMA and NAPA plans could be identified so that funding could be accessed from both mitigation and adaptation funds.

4) Private investors can take advantage of emerging certifications and standards.

Private sector agriculture investors, and agribusiness generally, will need to consider the ways in which they can manage risk by climate-proofing investments, while also working to reduce emissions. In addition to building partnerships with public sector agencies, opportunities are growing for the private sector to take advantage of incentives to support their own sustainable and climate-smart investments. Certification systems such as Rainforest Alliance, which certifies based on a wide range of environmental and social criteria, and pre-competitive commodity roundtables (e.g. palm oil, soy) that often create industry-wide standards are gaining traction.

5) Coordinate investments across sectors.

While coordinating across sectors is a challenge in many countries, to effectively support climate-smart agricultural initiatives, national government actors will need the flexibility to plan and work across ministries and sectors. Along with investments linking the agriculture and climate sectors, funds targeted for other natural resources

including water, forestry and biodiversity conservation can also be incorporated into climate-smart agriculture planning.

6) Improve monitoring systems to track the multiple impacts of climate-smart agriculture.

Essential to the development of integrated climate and agriculture projects and programs is measuring their multiple benefits (on yield improvements, food security, adaptation, mitigation and ecosystems) and communicating to those who would support them. While work is ongoing to simplify and improve the efficiency of climate mitigation measurement systems for agriculture within public research institutions and among carbon project developers, much more research is needed to establish adaptation metrics for agriculture as well as cheap and easy-to-use, integrated indicators for the effectiveness of climate-smart systems that cover their full range of livelihood and ecological benefits.

Prepared by:

Seth Shames, Sara J. Scherr, and Rachel Friedman with research support from Tanja Havemann. An expanded analysis can be found in Shames, Friedman and Havemann 2012. We appreciate support provided for this work from the Rockefeller Foundation.

References:

- Anseeuw, W., M. Boche, T. Breu, M. Giger, J. Lay, P. Messerli and K. Nolte. 2012. Transnational land deals for agriculture in the global south: analytical report based on the land matrix database. Bern, Montpellier, Hamburg: CDE, CIRAD, GIGA.
- Climate Funds Update. 2012. GEF Trust Fund – climate change focal area. Heinrich Böll Stiftung (HBF) and Overseas Development Institute (ODI).
- Climate Investment Funds. 2011. Forest Investment Program. Washington, DC: World Bank.
- Ecosystem Marketplace. Unpublished. Payments for ecosystem services markets matrix, version 2. Washington, DC: Ecosystem Marketplace, EcoAgriculture Partners.
- FAO. 2010. "Climate-Smart" Agriculture: Policies, Practices, and Financing for Food Security, Adaptation and Mitigation. FAO, Rome.
- Ghanem, H. 2009. World food security and investment in agriculture. *International Economic Bulletin*. Washington, DC: Carnegie Endowment for International Peace.
- Lowder, S.K. and B. Carisma. 2011. Financial resource flows to agriculture: A review of data on government spending, official development assistance and foreign direct investment. *ESA Working Paper* no.11-19. Rome: FAO - Agricultural Development Economics Division (ESA).
- Martone, F. and J. Rubis. 2012. Indigenous Peoples and the Green Climate Fund. Moreton-in-Marsh and Sabah: Forest Peoples' Programme and Indigenous Peoples' Network of Malaysia.

Mhlanga, N. 2010. Private sector agribusiness investments in Sub-Saharan Africa. *Agricultural Management, Marketing and Finance Working Document* no. 27. Rome: FAO.

Persson, A. 2011. Institutionalising climate adaptation finance under the UNFCCC and beyond: Could an adaptation 'market' emerge? *Working Paper* no.2011-03. Stockholm: Stockholm Environment Institute.

Peters-Stanley, M. and K. Hamilton. 2012. Developing dimensions: State of the voluntary carbon markets 2012. Washington, DC and New York: Forest Trends and Bloomberg New Energy Finance.

Peters-Stanley, M., K. Hamilton, T. Marcello and M. Sjardin. 2011. State of the voluntary carbon markets 2011. Washington, DC and New York: Ecosystem Marketplace and Bloomberg New Energy Finance.

PPCR Sub-Committee. 2011. Semi-annual report on PPCR operations. Meeting of the PPCR Sub-Committee, 28-29 June, Cape Town, South Africa.

Schmidhuber, J., J. Bruinsma and G. Boedeker. 2009. Capital requirements for agriculture in developing countries to 2050. Rome: FAO.

Shames, S. 2012. National policy for climate-smart agriculture: The Kenyan experience. *Ecoagriculture Policy Focus* No.9. Washington, DC: EcoAgriculture Partners.

Shames, S., R. Friedman and T. Havemann. 2012. Coordinating finance for climate-smart agriculture. *Ecoagriculture Discussion Paper* No.9. Washington, DC: EcoAgriculture Partners.

UNCTAD [United Nations Conference on Trade and Development]. 2009. World investment report: transnational corporations, agricultural production and development. New York and Geneva: United Nations.

UNFCCC. 2007. The Least Developed Countries Fund. Bonn: UNFCCC Secretariat.

UNFCCC. 2011. Adaptation Fund. Bonn: UNFCCC Secretariat.

Zagama, B. 2011. Land and power: the growing scandal surrounding the new wave of investments in land. *151 Grow Briefing Paper*. Oxford: Oxfam GB.

Ecoagriculture Policy Focus Series

The Policy Focus series, produced by EcoAgriculture Partners in collaboration with other organizations, highlights issues relevant to policy experts and decision makers in the fields of agriculture, conservation and rural development to promote integrative solutions.

