

Climate Finance for Mitigation and Adaptation for the Agriculture Sector - with reference to Africa

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Food and Agriculture Organization of the United Nations

www.fao.org/climatechange

Agriculture and Climate Change

- Contributing to Climate Change: Source of greenhouse gas emissions (30%)
- Affected by Climate Change
- Part of solution to Climate Change
- Adaptation & mitigation linked
- Multiple benefits for food security, adaptation, mitigation & development



Climate-Smart Agriculture

- Build synergies across mitigation, adaptation and food security & minimize potential trade-offs within agricultural development strategies
- Capacity of agriculture sector to support food security:
 - à availability, access, utilization & stability
- Capacity of agriculture sector to contribute to development
 - farmer incomes/livelihoods; growth/GDP



SUSTAINABLY INCREASES
FARM PRODUCTIVITY AND INCOME



STRENGTHENS RESILIENCE
TO CLIMATE CHANGE AND VARIABILITY



REDUCES AGRICULTURE'S
CONTRIBUTION TO CLIMATE CHANGE
- greenhouse gas emissions
+ carbon storage on farmlands



ENHANCES THE ACHIEVEMENT OF NATIONAL FOOD SECURITY
AND DEVELOPMENT GOALS

A collection of logos and icons related to international agreements and development goals. It includes the Rio+20 United Nations Conference on Sustainable Development logo, the United Nations Convention to Combat Desertification (UNCCD) logo, the World Food Summit logo, the MDGs (Millennium Development Goals) icons, the Convention on Biological Diversity logo, and the United Nations Framework Convention on Climate Change (UNFCCC) logo.

Climate Change & Agriculture

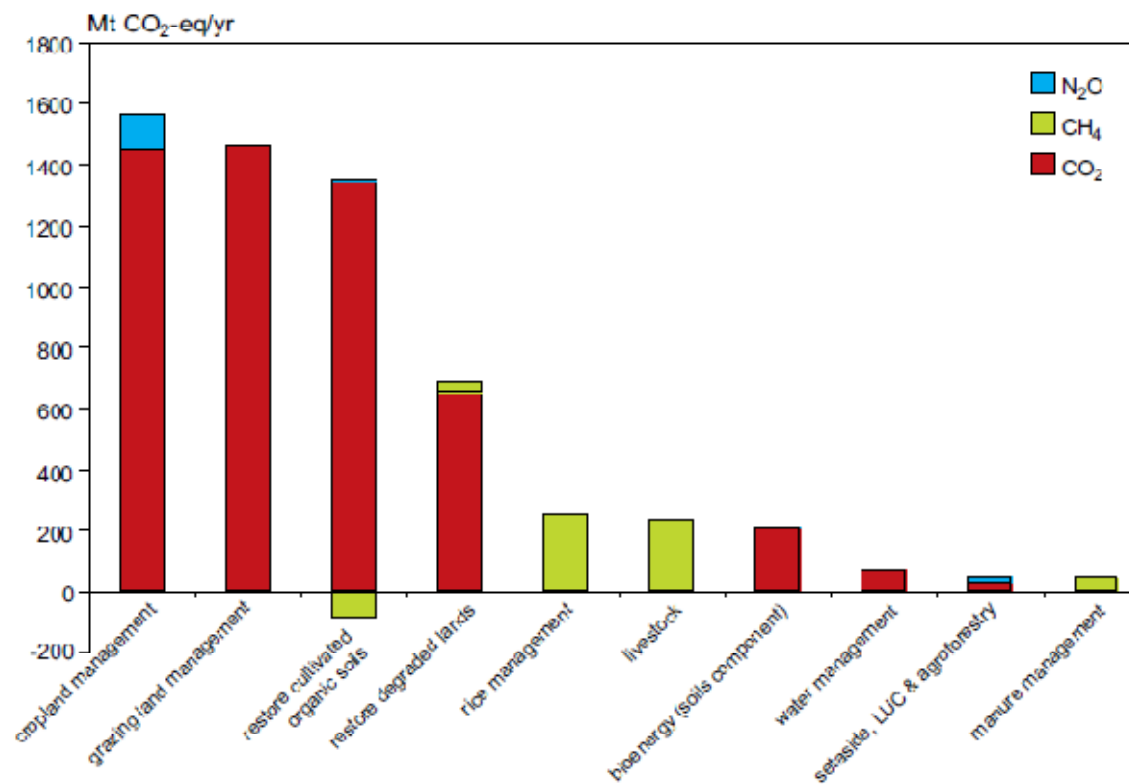
Mitigation and Adaptation

- Crop diversification
- Soil and water conservation
- Use of integrated systems
- Livestock management
- Restoration of degraded lands
- Reducing emission from deforestation and forest degradation (REDD)
- Restoration of organic soils
- Cropland management
- Rangeland management
- Agroforestry
- Afforestation
-



Food Production and Mitigation

- 4 important practices in agriculture (IPCC 2007)
- Synergies with sustainable land management practices



Food Production and Adaptation

- Effective adaptation policies should increase capacity of farming and food systems to adapt to CC in order to maintain or increase food production, security and incomes
 - Crop diversification for more resilience
 - Plant and animal breeding to develop adapted varieties
 - Soil and water conservation, more efficient irrigation systems
 - Use of integrated systems: Conservation Agriculture, Agroforestry systems, Rice-Fish culture
 - Watershed management and community based natural resources management, participatory negotiated territorial development
 - Adapted pasture, rangelands and livestock management



Barriers for Adoption and Implementation of CSA

Financial	Social/Institutional	Technological
Lack of assets and savings	Poorly functioning markets	Lack of technical expertise
Little access to credit	No or limited market access	Lack of baseline data (e.g. forest or soil carbon content)
Lack of infrastructure and equipment	Limited marketing information or understanding	Existing resource degradation
Little access to insurance	Weak tenure security	
Up-front financing costs		

Source: Climate Focus, 2011



Overcoming Investment Barriers

Direct Financial Incentives

- PES Schemes
- Carbon Markets
- Credit



Risk-transfer Mechanisms

- Insurance
 - Crop-based
 - Index-based
- Bonds



Private Sector Investment

- Public-Private Partnerships
- Labeling & Certification





Climate Finance

- Climate Finance: resources that catalyze low-carbon and climate-resilient development.
- Financing needs to create enabling environment:
 - Cross-sectoral planning & policy development
 - Capacity building
 - Research and technology transfer
 - Implementation and monitoring of mitigation & adaptation practices
- Support farmers to overcome barriers to implementation of CSA



Aggregation of farmers

Transaction costs and risk management important issues for smallholders, aggregation for financing and risk can help

Model	Sub-model
<i>Driven by smallholder</i>	
Farmer-controlled institutions	Associations, trusts, enterprises, cooperatives, farmer owned companies, Farmers' Unions
Contract farming	Leases
<i>Driven by third-party</i>	
Contract farming	
Tenant farming / share cropping	N/A

Source: Beyond Carbon, 2011



Climate Finance Options

Private

Public

Fund-based finance	Market-based finance
UNFCCC	UNFCCC Mechanisms:
Bilateral	Project-based approaches: -CDM -JI
Multilateral	- International Emissions Trading
National	Voluntary carbon market



Financing for Agriculture (UNFCCC)



- Global Environmental Facility (GEF) Trust Fund – 2010-2014: US\$4.25 billion of which 1.35 billion for CC mitigation
- Under GEF: Special Climate Change Fund (SCCF) – support adaptation and technology transfer projects and programmes: US\$ 143 million
- Under GEF: Least Developed Countries Fund (LDCF): to assist least-developed countries in preparing & implementing NAPAs: US\$254 million
- Adaptation Fund: finance adaptation projects; 2% share of proceeds from CDM activities: US\$ 224 million
- Green Climate Fund (GCF): goal of mobilizing US\$100bn/yr by 2020 for mitigation, adaptation



Multilateral, bilateral and national

- UN-REDD : supports capacities of countries to prepare and implement national REDD strategies – US\$ 97 million
- WB- Forest Carbon Partnership Facility (FCPF): assist DC with REDD: US\$ 320 million
- WB- Climate Investment Funds: Clean Technology Fund US\$ 4.4 billion and Strategic Climate Fund US\$ 1.15 billion, which embraces Forest Investment Program - US\$262 million
- UNDP MDG Achievement Fund - tackle poverty and speed up progress on MDGs – US\$ 710million





- Bi-literal financing:
 - International Climate Initiative (Germany),
 - Hatoyama Initiative (Japan),
 - Norway International Climate and Forest Initiative,
 - UK Environmental Transformation Fund
- National Funds:
 - Brazil National Fund on CC,
 - Ecuador Yasuni ITT Trust,
 - Indonesia Climate Change Trust Fund,
 - Bangladesh Climate Change Resilience Fund



Private and Public sector Financing: Market-based approach

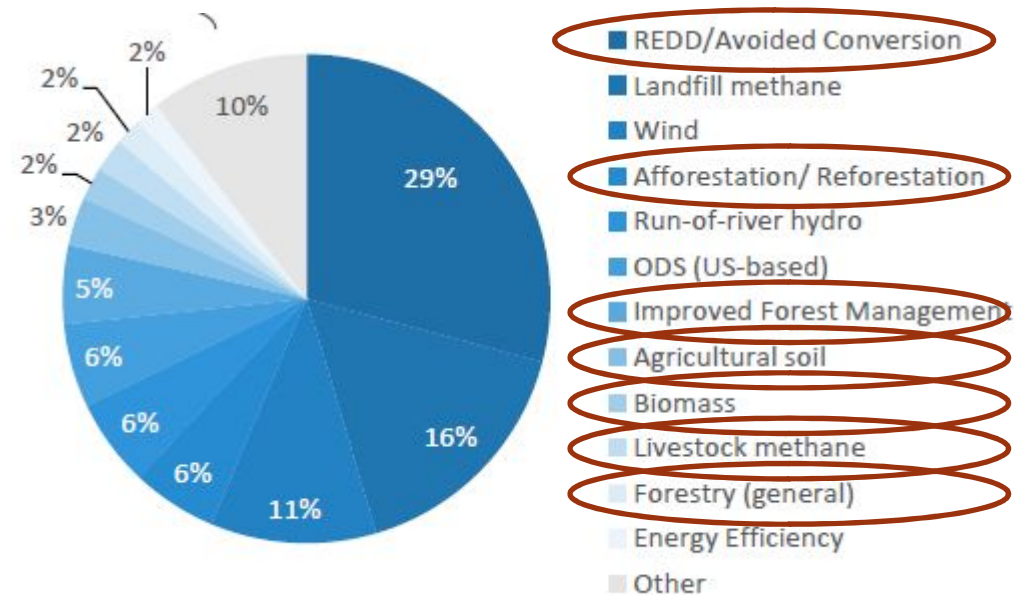
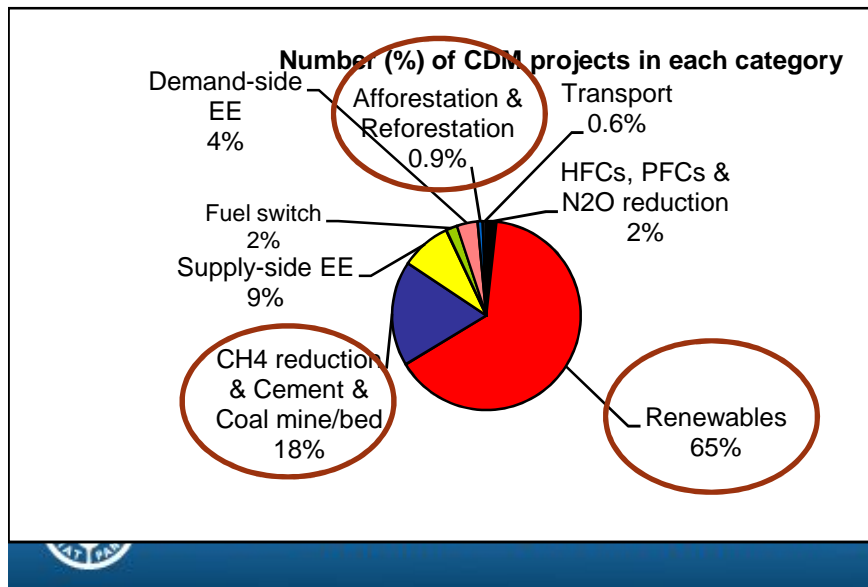
- Under UNFCCC and Kyoto Protocol: Clean Development Mechanism (CMD) – generate Certified Emission Reductions (CERs) –approx. 17,200 US\$ million (2010)
 - Manure management, urea offset, afforestation/reforestation, bioenergy
- CDM Programme of Activities (PoA): umbrella structure to include multiple bundles of subprojects
 - Reducing nitrous oxide emissions, reducing methane
- Voluntary carbon market: transaction of emission reduction credits by entities outside of compliance GHG target – approx 424 US\$ million (2010)
 - Agroforestry, nitrogen-, farm energy-, crop-, land use-, livestock-, and soil management



Market-based approaches and agriculture

- Discussions to expand CDM, but limited opportunities for agriculture, especially smallholders
- Voluntary carbon market: offset standards encourage agricultural mitigation, less rigid in accounting, open for small projects
- Ag activities: 46% of the voluntary carbon market trade (2010)

From: UNEP RISOE 2011 and EcoSystem Marketplace, 2011



Nationally Appropriate Mitigation Actions (NAMAs)

- Conceived in Bali in 2007 (COP13), confirmed and elaborated in Cancun 2010 (COP16)
- Voluntary mitigation actions by developing countries
- Any government sponsored & prioritized policy, programme, project resulting in measurable GHG reductions
- Performance based, reported to UNFCCC, subject to MRV
- NAMA Registry will record information & facilitate matching of action and support
- 44 submissions, 20 include agriculture: 2 voluntary sector-wide ag mitigation targets, 4 quantitative ag reduction targets, rest broad priorities for ag sector development/ specific actions



REDD+

- Cancun agreement established formal REDD+ mechanism for mitigation activities in the forest sector
- Phased approach
 1. Readiness: national strategies & action plans;
 2. Implementation,
 3. Results-based-payment-for-performance
- As agriculture is often driver of deforestation, it could be considered in REDD+ strategies
 - Tree-based farming practices, agroforestry, improved agricultural practices to reduce pressure on forests
- FCPF (WB) & UN-REDD support country's readiness, REDD+ Interim Partnership enhances policy coordination



National Adaptation Programmes of Action (NAPAs)

- Least Developed Countries (LDCs) identify priority activities that respond to their urgent and immediate needs to adapt to climate change
- 38 NAPAs from LDCs
- 7 priority sectors, among which food security and agriculture, early warning and disaster risk management, Community Based Adaptation, Natural Resources Management
- Funding available in LDC Fund
- 2010: \$ 154 million
- Each country has on average, USD 10 million available for projects, given the current status or funding in the fund



How to access funding?

Public funding:

- Support NAPA/NAMA formulation with integration of CSA activities
- Revise calls and eligibilities GEF funds
- Aggregate farmers
- UNDP: Guidebook for Design of National Funds

Market-based approaches

- PES and voluntary carbon market projects – define type& scope, aggregating institutions & project developers
- Support pilot projects



Africa: Climate Change & Agriculture

- Agriculture main source of employment: rural areas support 70-80% of population
- Agriculture accounts for 90% of deforestation
- Overall agricultural investment demand: US\$ 48 bn/yr (FAO, 2009) (food storage, processing)
- Agricultural adaptation investment needs: US\$ 3 bn/yr (WB, 2010) (rural roads and irrigation)
- Dominance of domestic private investment (70%) in scale and scope in ag sector
- ODA inflows in Africa larger than foreign direct investment (FDI), but FDI is increasing
- Most ag investment is from smallholders, but they also face greatest investment barriers



Africa: Climate Change & Agriculture

- CDM 4% share, Voluntary Carbon Market 4%
 - REDD projects (58%), agroforestry, IFM
- Adaptation Fund: agriculture-based adaptation projects (25%), 2 projects
- NAPAs: 7 from SADC LDC countries
- NAMAs: 14 submissions
- Concessional loans and grants: aid targeted to CC 20% of total to Africa (2009): US\$1.86bn
- 9 REDD + readiness proposals
- Norway's International Climate & Forest Initiative for national REDD strategy development and REDD readiness efforts in Tanzania US\$ 83 million/3 years



Western Kenya Smallholder Agricultural Carbon Finance Project

- promotes SALM practices and aims to reduce GHGs emissions through carbon sequestration by trees and soil for food security, economic and environmental services
- 40,000 ha; 65,000 farmers; duration of 30 years
- Vi-Agroforestry Programme, World Bank, Unique Forestry
- Emissions reductions purchase agreement with BioCarbon Fund



Recommendations

- Aggregate farmers
 - Support pilots and testing of CSA
 - Support integration of CSA into NAMAs & NAPAs
 - Include agriculture in REDD+ strategies
 - Use both mitigation and adaptation financing streams for agriculture, as well as ODA for capacity building
- => Need to mobilize more international public resources & leverage domestic & international private financial flows

