

**Submission to the UNFCCC on Agriculture – The Gaia Foundation
Monday 5 March 2012**

Why a Work Programme on Agriculture in the UNFCCC would exacerbate climate change and food insecurity

INTRODUCTION

There is no question that global agriculture, and hence future food security, is one of the major - if not *the* major - concerns about climate change. The high likelihood that climate change can and will affect millions of people's access to food, highlights the urgency of the UNFCCC's task in dealing effectively with climate change.

However, it is precisely *because* the issue of agriculture is so important, that *how* and *where* it is dealt with must be carefully questioned. Although climate change will severely affect agriculture, it does not necessarily follow that the UN Climate negotiations offer the best framework to deal with the complex realities and challenges of agriculture. While there may still be hope that the UNFCCC can offer solutions to climate change, the framework's track record and process have yet to prove it to be the ideal place to deal with such major and complex challenges.

This is an urgent opportunity to recognise the achievements and the potential, as well as the failures and the limitations of the UNFCCC. We need to recognise that the Convention's gradual lowering of ambition, and over-emphasis on market mechanisms, mean that the placing of agriculture into such a framework could serve to undermine – not strengthen – agriculture, food security and the interests of the most vulnerable nations in the face of the multiple and complex challenges of climate change.

There are other forums, such as the Committee on World Food Security (CFS) that are better equipped to focus on the complexities of agriculture and its interaction with climate change, and better structured to respond to the real needs and expertise of farmers and civil society groups. The UNFCCC can and should acknowledge the CFS' leadership on this issue.

Proposals at COP17 in Durban for a Work Programme on Agriculture, under the discussions on Mitigation, raised significant concerns among many developing countries that placing agriculture under Mitigation would undermine the more urgent work on Adaptation, and bring agriculture and soils into carbon markets. The persistent failure of carbon markets to address climate change or benefit communities makes these concerns extremely valid.

Having questioned the UNFCCC's role in agriculture, however, there may be potential areas where the UNFCCC could take action. However these come with strict provisos. Strategies must firmly reject linkages to carbon markets, as well technologies that create dependence and vulnerability for the world's small-scale food providers, such as

GM crops that claim to be “Climate Ready” or “Conservation Tillage”, biofuels, biochar and geo-engineering. These approaches pose significant risks to farmers’ rights and food security and must be avoided. The industrial agriculture system’s disproportionate contribution to climate change and soil degradation through the use of chemical fertilisers could also be recognised and phased out through non-market mechanisms such as regulation.

One of the priority areas for action on Adaptation will clearly be agriculture. The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)¹, the largest-ever international study on agriculture, was published by 400 of the world’s agricultural experts in 2009. The report specifically recommended the use of agro-ecological farming systems to minimise agricultural GHG emissions, and to restore soil carbon. These approaches also provide numerous “multi-functionality” benefits for adaptation, ecosystems, human health, equitable access to resources, and long-term food security. Supporting local farmers to enhance their seed diversity, related knowledge and innovative skill is critical for their resilience. A diversity of locally adapted crops translates into insurance against climatic instability. Small-scale farmers are therefore integral to any strategy for crop and soil resilience.

Effective adaptation strategies, such as those under the Nairobi Work Programme, will therefore be based on genuinely agroecological approaches that ensure decentralised control over seed, soil and ecosystems in the hands of the world’s food providers, and in particular small-scale farmers who provide 70% of the world’s food. An ecological approach to agriculture, especially when practiced by small-scale farmers, can sequester carbon and reduce emissions, by building up soil organic matter and avoiding chemical fertilisers. Soils rich in organic matter can better retain water, giving crops a greater chance against both drought and floods. Good soils mean that farmers can enjoy good yields for themselves and the market.

It is critical that such strategies, are not linked to or funded by carbon markets, as these have a distorting and counter-productive effect. Thus the UNFCCC must take an extremely cautious approach towards any potential decision on agriculture.

SOIL CARBON MARKETS

Smallholders and local organisations are likely to experience major difficulties in participating in complex carbon offset schemes. In addition, market-based mechanisms such as carbon offsetting requires projects to be competitively priced. This can lead to a “race to the bottom” in which socio-economic and environmental considerations are often ignored as projects compete to offer cheap carbon offsets. Carbon offsetting schemes will therefore fail to lead to the kind of agriculture and multi-functionality

¹ <http://www.agassessment.org/>

urgently needed for real climate change mitigation. Carbon offsets, and in particular agricultural carbon offsets, are not a solution.

1) Difficulty in Measuring Soil Carbon

The price of carbon is plummeting (projected to hit €3 per ton) and is unlikely to provide meaningful funding to any project. However, carbon offsetting is big business, and the market is still growing even bigger, as carbon traders and industries look for ever-more opportunities for claiming offsets. Interest is growing in the potential for agriculture to be included in carbon offset schemes, as soils can provide a substantial store for the planet's carbon.

Initiatives such as the World Bank's BioCarbon Fund, the California and Alberta offset schemes, REDD and others are developing or considering agricultural carbon offsets. If carbon can be captured in soils, the argument goes, then surely the huge carbon offset market can be harnessed to direct funds towards climate-friendly agriculture?

But the reality is that including agriculture in offset schemes offers no guarantees for climate benefits. Sequestering carbon in soil is a largely uncertain process. The difficulties in measuring impacts on a large scale have important implications for consumer confidence and the market place. Very little money is likely to make it to projects on the ground. Public funds are being invested, even though the main beneficiaries will be private companies and financial speculators. Furthermore, agricultural carbon offsets are likely to lead to counter-productive and harmful practices that threaten communities, forests and food security, and which could even make climate change worse.

Measuring carbon captured in soils presents major problems. It is simply not possible to measure every square metre of land to assess the carbon stored. Variations in soil type and practice means large uncertainties regarding amounts of sequestered carbon from plot to plot. But reducing the high levels of uncertainty in measuring soil carbon, to a level of accuracy needed to trade carbon for offsets, is technically and financially unviable. Whilst measuring GHG emissions from industrial sources is also difficult and not directly measured, the process generally results in "proxy" figures with uncertainty ranges of $\pm 10\%$. When measuring carbon stored in ecosystems such as forests, the margin of error increases to $\pm 50\%$ ², and can be as high as $\pm 1000\%$ ³. Potentially even higher levels of uncertainty exist when measuring carbon sequestered in soils through agricultural practice. This is especially the case when thousands of farmers are participating in the scheme, increasing the level of uncertainty.

2) Socially and environmentally destructive agricultural practices

² Kintisch, E. (2007) Improved monitoring of rainforests helps pierce haze of deforestation. *Science*. vol 316, 27 April, pp 536-537

³ Chen, W., Chen, J., Liu, J., Cihar J.(2000) Approaches for Reducing Uncertainties in Regional Forest Carbon. *Global Biogeochemical Cycles* 14(3) pp.827-838

It is clear that good agricultural practices offer great potential for combating climate change. Unfortunately by relying on carbon trading (i.e. offsets) to finance emissions reductions, it is more likely that only the large, industrial, technical and technological approaches such as genetically modified (GM) crops and biochar will be able to engage in these highly complex processes. The technical expertise required and high transaction costs provide a barrier to entry to smallholders and local organisations. Small-scale, organic farmers who really do build up soil carbon through careful techniques that nurture biodiversity, are the least likely to be able to have the time, resources and technical capacity to benefit from carbon markets – especially as they are likely to generate minimal funds per hectare.

Instead, agrochemical companies who produce crops that are genetically modified for resistance to herbicides would be more likely to benefit. It is claimed by GM companies that using herbicides instead of tilling for weeds reduces carbon emissions lost from soil - although studies cast doubt that this leads to a net reduction of emissions⁴. Furthermore, the moment a field is ploughed, the “sequestered” carbon emissions can be released again, leading to sequestration “reversals”. It is precisely due to the high likelihood (or even inevitability) of changes in land management and thus Reversals, that the CDM does not currently include soil carbon sequestration as a methodology.

Another technology being considered is “biochar” which involves the burying of charcoal in soil, supposedly to sequester carbon – but this claim is also scientifically questionable⁵. However, advocates are calling for half a billion or even one billion hectares of land in Africa to be put over to biochar feedstock plantations. Carbon offsets for biochar are thus likely to exacerbate the aggressive land grab that Africa is already experiencing. The land, food, livelihoods, water, forests and ecosystems of farming and indigenous communities are threatened by large-scale biochar developments. But GM and biochar advocates are pushing strongly for agricultural carbon offsets, as they stand to benefit most.

3) Public funds for private profit

Developing countries may open up to agricultural carbon offset projects, in the expectation that this will generate income for communities. But in order to set up these projects, massive initial investment is required. Because it takes several years of project implementation before any carbon credits can be sold, carbon offset projects also face the major challenge of finding investors to pre-finance their efforts, so that they can set up and run for years without earning income. The responsibility for pre-financing these projects has so far fallen to governments, with the result that this has become a major diversion of the same public funds that are so urgently needed to address climate

⁴ http://www.ucsusa.org/food_and_agriculture/science_and_impacts/science/ag-carbon-sequest-fact-sheet.html

⁵ [http://www.gaiafoundation.org/sites/default/files/Biochar%20Africa%20briefing\(2010\).pdf](http://www.gaiafoundation.org/sites/default/files/Biochar%20Africa%20briefing(2010).pdf)

change. With carbon prices plummeting, and projected to hit €3 a ton, the meager profits generated by selling carbon credits can never hope to recoup the public finance investment, let alone leverage real funds. All that happens is that taxpayers find themselves propping up failing carbon markets, for the benefit of carbon commodity speculators.

But carbon offset projects are often run by Northern-based profit-generating private companies. This means that instead of going towards the real solutions for climate change, vast public funds are being used to develop projects for private profit. These projects are unlikely to deliver any benefits to the communities. They are likely to fail due to poor investment. They will certainly not benefit the climate. But they will be hugely profitable to financial speculators.

CLIMATE SMART AGRICULTURE

Much of the discussion around a Work Programme on Agriculture under the UNFCCC has been linked to “Climate Smart Agriculture”. Proponents of one tend to talk of the other in the same breath. The implication is very clearly that a Work Programme on Agriculture will “cut and paste” the model developed under the Climate Smart Agriculture vision.

According to the World Bank and the UN Food and Agriculture Organisation (FAO), “Climate Smart Agriculture” is a system of agriculture that can give developing country farmers a “triple win”. They point out that the right kinds of “sustainable agriculture” can do 3 key things: help farmers increase yields, help them adapt to climate change, and help to mitigate climate change by either reducing emissions or sequestering carbon. It is a view that at first sounds similar to that of many civil society groups.

Climate Smart Agriculture advocates point to a World Bank pilot project in Western Kenya, where 60,000 small-scale farmers are reducing fertiliser and pesticide use, and building up their soils with compost, manures and crop residues.

So why then if Climate Smart Agriculture is so great, were farmer and civil society groups at Durban COP17, who were in favour of agroecological practices, so wary of the push for an Agriculture deal that would supposedly enshrine it in a UN climate agreement? Why did over 100 African and international civil society groups send a letter to African ministers asking them to reject the Climate Smart vision?⁶

There are two major reasons to reject Climate Smart Agriculture as a solution to climate change under the UNFCCC. The first is that it comes packaged with carbon offsets. Proposals to expand carbon markets to include agriculture come amid much enticing

⁶ <http://nosoilcarbonmarkets.wordpress.com>

talk of leveraging finance for African agriculture. But many groups are concerned that these promises will come to nothing – and will threaten farmers' livelihoods.

Observers note concerns about putting African farmers under the control of fickle carbon markets. As Steve Suppan of the Institute for Agriculture and Trade Policy (IATP) pointed out during the COP17 negotiations "There is no money for agriculture in Africa from carbon offsets. The financial structure of Climate Smart Agriculture is built on evaporating carbon markets. Carbon markets are in collapse, and projects will have unreliable and inadequate finance."

The second reason for suspicion of Climate Smart Agriculture's supposed "sustainable agriculture" principles is that it is strongly associated with institutions whose ethos, principle and profit motive is completely incompatible with agroecological practices. What Climate Smart Agriculture actually means and to whom is not easy to pin down. It seems that Climate Smart Agriculture means different things, to different people.

The East African Small Scale Farmers Forum (ESSAFF) have warned that "Climate Smart Agriculture is being presented as sustainable agriculture – but the term is so broad that we fear it is a front for promoting industrial, 'green revolution' agriculture too, which traps farmers into cycles of debt and poverty."

On one hand the head of the International Federation of Organic Agriculture Movements (IFOAM) has talked powerfully of the resilience to droughts and floods conferred on soils by building up organic matter, the potential of carbon in soils to address climate change, and the need for Climate Smart Agriculture. The World Bank also points to its pilot project in Western Kenya, where 60,000 small-scale farmers are reducing fertiliser and pesticide use, and building up their soils with compost, manures and crop residues.

On the other hand, those representing an altogether different, more industrial model of agriculture are also lining up to claim Climate Smart Agriculture as their own. Kofi Annan, chairman of the Bill Gates-funded Alliance for a New Green Revolution in Africa (AGRA) clearly sees no contradiction between his call for a "uniquely African green revolution", (promoting fertilisers, pesticides and hybrid seeds) and more "sustainable agriculture" under Climate Smart Agriculture. According to him, the Climate Smart vision also includes "Africa exporting food to the rest of the world, and thus contributing to global food security," – a worrying plan when there cannot be a more urgent task than ensuring Africa's food production goes towards feeding its own people first.

Others lining up under the so-called "sustainable agriculture" and "Climate Smart" banner were YARA (the world's largest fertiliser company, based in Norway) and FANRPAN (the food and agriculture policy research network that promotes the agribusiness agriculture vision). One of the arguments heard a number of times, was that a rising global population will necessitate higher food productivity. The suggestion

was clearly that industrial agriculture (or “sustainable intensification” as they call it), will be part of that picture. Where once “sustainable agriculture” meant something specific to the environmental movement, the term has been co-opted to now mean the exact opposite.

It appears that the WB Kenya pilot project is being used as an agro-ecological poster boy to usher in more intensive and industrial models of agriculture that are in complete opposition to the agro-ecological model that many of us would rather support.

And in spite of the agro-ecological model of the much-vaunted WB Kenyan pilot project, the funds from offsetting will still only generate at the most \$5 per year per farmer. The Kenyan farmers, however, are unaware of this, having been promised an unspecified sum after 3 or more years. All they know is that their financial reward will depend on their reported performance. This is clearly not a socially responsible model to be promoting for farmers’ livelihood security, and thus for food security.

IN CONCLUSION:

Proposals for a Work Programme on Agriculture must be treated with suspicion. There are clear indications that the discussions on content will not be genuinely open and participatory, but will cut and paste the highly controversial Climate Smart Agriculture Model, and this gives cause for alarm.

Focusing on Agriculture as a Mitigation issue, rather than Adaptation, is likely to lead to developed countries forcing carbon markets on Africa, and thereby avoiding putting money up for Adaptation. This should give developing nations further serious concern.

We are therefore calling for:

No need for a Work Programme on agriculture under mitigation framework.

In fact Work Programme on agriculture under mitigation would dangerously skew agriculture and threaten farming and food security.

No carbon markets for agriculture.

No “Climate Smart Agriculture”

No GM “Climate ready crops”, GM “conservation tillage crops”, biochar, biofuels or geo-engineering strategies under either mitigation or adaptation, and no carbon markets to support these.

Yes to Agroecological Adaptation strategies that ensure decentralised control over seed, soil and ecosystems in the hands of farmers.

Yes to increased funding towards adaptation strategies for developing countries.

Yes to regulation and phase-out of agriculture that increases climate change and climate vulnerability: nitrogen fertilisers, corporate-owned hybrid seeds.

Yes to the Committee of World Food Security dealing with this issue in a way that genuinely responds to the complex reality of the challenges of global food production.

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