biowatch SOUTH AFRICA

Fact Sheet: Climate-Smart Agriculture

and why we say NO!

biodiversity | food sovereignty | agroecology | social justice

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Climate-smart agriculture – for whom is this a "smart" solution?

The concept of climate-smart agriculture (CSA) was developed by the Food and Agriculture Organization of the United Nations (FAO), and officially presented in the form of a paper[1] at a Conference on Agriculture, Food Security and Climate Change hosted by the Dutch government at The Hague in 2010.[2] This paper described the main focus of CSA as the ability of developing countries to meet national food security and development goals to reduce poverty by increasing agricultural production while limiting related increases in climate change emissions.

Climate-smart agriculture (CSA) is being promoted internationally as a strategy for countries to sustainably ensure food security while responding to the climate change crisis. The concept is gaining political support and has infiltrated both agricultural and climate change discourse.

The global system that produces and distributes food from farm-to-plate-to-landfill, causes as much as half of all climate emissions. Instead of targeting the culprits and radically transforming this system, CSA targets small-holder farmers. Biowatch is concerned that when one looks more closely at what is being promoted as "climate-smart" and who is behind the concept, it is clear that small-holders will enjoy little benefit.

CSA uses the language and even some of the methods of ecological agriculture, thereby providing a veneer of sustainability for many interventions that continue to promote industrial agribusiness products and technologies. The purpose of this "greenwashing" is to capture international development funding to expand and develop new markets for industrial agriculture in the global south.

Small-holders, coerced into using unaffordable inputs leading to debt and aggregated into "marketable" projects, stand to lose sovereignty over their land and resources. Multinational agribusiness and the consultants involved in developing, measuring, brokering, and project managing the implementation of CSA are the real beneficiaries.

"Using the language and even some of the methods of ecological agriculture, climate-smart agriculture provides a veneer of sustainability for interventions that continue to promote industrial agribusiness products and technologies."

What is climate-smart agriculture?

The FAO describes CSA as an integrative approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change.

The three main stated objectives of climate-smart agriculture are: [3,4]

1. **Sustainably increase agricultural productivity to support equitable increases in farm incomes, food security and development.**

2. **Adapt and build the resilience of agricultural and food security systems to climate change at multiple levels.**

3. **Reduce and remove greenhouse gas emissions from agriculture (including crops, livestock and fisheries), where possible.**

CSA is also described as a "readiness approach" to agriculture. Actions being promoted by the FAO and its partners are:[5]

- Expand the evidence base, including identifying effective adaptation strategies, estimating the amount of carbon that can be sequestered, and identifying the barriers that prevent changes in practice.
- Support enabling policy frameworks and dialogue to identify potential synergies and areas in which trade-offs are required.
- Strengthen national and local institutions for more co-ordinated efforts.
- Access new funding opportunities (such as the Green Climate Fund) to enable institutional change and improve access to capital, insurance products and other safety nets among small-holder farmers.

Is climate-smart agriculture greenwashing the green revolution?

The following are some of the key "greenwash" issues of concern to Biowatch:

1 Intensification before mitigation

CSA emphasises "sustainable intensification" which is defined as increasing production through the "implementation of new practices that enhance the efficiency of input use so that the increase in agricultural output is greater than the increase in emissions".[6]

In terms of priorities, climate change mitigation is sought as a potential co-benefit, but only after increased production through intensification and resilience to climate change are addressed.[7]

2 Continued promotion of agrochemicals

Chemical fertiliser use is the fastest growing source of agricultural emissions.[8] However, CSA promotes the "wise" use of synthetic fertilisers rather than doing away with them. Practices described in CSA documents include making changes in the rates, timing and type of nitrogen fertiliser applications; using slow release fertilisers that control the formation of nitrates; adding nitrification inhibitors containing ammonium to fertiliser;[9] deep placement of urea fertiliser granules; and site specific testing for optimal fertiliser dosage[10] or micro-dosing.[11]

Conservation agriculture is strongly promoted as a climate-smart agriculture strategy. Biowatch argues that this is in fact a promotion of herbicides, often together with herbicide-resistant GM crops (see Biowatch Fact Sheet: Conservation Agriculture.)

3 The indirect support for GMOs

The FAO states that CSA does not promote the use of GMOs; however, it leaves the door open for their use by saying that solutions are developed for specific local conditions with the key stakeholders involved, and that the use of GMOs is determined by the national policies of each country.[12]

This approach tacitly allows GMOs to be promoted as "climate-smart" technologies. For example, in South Africa two projects are promoted as "climate-smart"[13] because they are developing maize lines that are supposed to be more resilient to environmental stresses: the Water Efficient Maize for Africa (WEMA) Project is developing drought-tolerant white maize hybrids; and the Improved Maize for African Soils (IMAS) project is developing varieties tolerant to low levels of nitrogen.[14] Both aim to introduce new GM technologies to several African countries through funding by the Bill and Melinda Gates Foundation and USAID, with the involvement of multinational biotech companies.

4 Questionable carbon storage and finance

Since the uproar connecting the Clean Development Mechanism (CDM) and climate-smart agriculture in 2011 (see page 3), the FAO et al. says that they don't see carbon market finance as a mechanism suited to the small-holder sector.[15] Nevertheless, finding finance is a key objective of CSA, and the FAO encourages the use of other UN climate funding mechanisms as well as public and private-public partnerships to secure funds.

The commodification of soil and plant carbon is highly controversial and contested. Carbon is constantly cycled through living ecosystems, making it difficult to measure or guarantee the amount of carbon stored over time. Commodifying soil carbon through climate-smart agriculture also places the burden of climate mitigation on small-holder farmers who are the least responsible for the climate crisis, by allowing polluters to trade their fossil fuel pollution for reduced emissions elsewhere.

"Climate-smart agriculture is not smart agriculture."

Players involved in the development of climate-smart agriculture

After presenting the concept of CSA at The Hague in 2010, the FAO lobbied for the inclusion of agriculture in the negotiations on the United Nations Framework Convention on Climate Change (UNFCCC) in the lead-up to and during the 17th Conference of the Parties (COP17) held in Durban in 2011.[16] The FAO was supported by the World Bank, DFID, the Rockefeller Foundation, the Netherlands and other northern governments and NGOs. They focused on promoting CSA as a means for African governments to raise investment in agricultural development through carbon finance for carbon sequestration in Africa's soils.[17] South Africa was pivotal in championing CSA in its role as the host of COP17;[18] and the Department of Agriculture, Forestry and Fisheries (DAFF) collaborated in preparing a policy brief advocating for the inclusion of a work programme on agriculture in the UNFCC, as well as text that would make crops and pastures eligible for funding under the Clean Development Mechanism (CDM). Undaunted by civil society criticism,[19] South Africa hosted the 3rd Global Conference on Agriculture, Food and Nutrition Security and Climate Change in Johannesburg in December 2013, which included high-level discussions on a Climate-Smart Agriculture Alliance.[20]

The ***Global Alliance for Climate-Smart Agriculture*** was later launched at the Climate Summit in New York in September 2014. Hosted by the FAO, it currently has 96 members (see http://www.fao.org/3/a-ax295e.pdf) of which 22 are governments including South Africa. The Alliance is strongly criticised for its corporate membership especially from the fertiliser industry and limited participation by developing countries and farmer organisations.[21] The Alliance has identified three main areas of action: increasing technical and policy knowledge of CSA; improving the effectiveness of public and private investments in CSA; and creating an enabling environment for CSA at regional, national, and local levels. [22]

Climate-smart agriculture in Africa

The ***New Partnership for Africa's Development (NEPAD)*** is playing a key role in facilitating CSA in Africa. It has convened an Africa Climate-Smart Agriculture Alliance,[23] under its Comprehensive Africa Agriculture Development Programme (CAADP), which was launched at the Africa Heads of State Summit in June 2014 (see http://africacsa.org/#founding-members for a list of members). The African Alliance aims to leverage support for the scaling up of CSA to at least six million small-holder farmers in Sub-Saharan Africa by 2021. Ethiopia, Zambia and Nigeria are currently the focus of scaling up programmes.[24] African Heads of State have also endorsed NEPAD's programme on agriculture and climate change, which includes support to small-holder farmers and the setup of an African Climate Smart Agriculture Co-ordination Platform. This aims to pursue the African Union vision to increase the number of farming households practicing CSA by 25 million by 2025.[25]

The ***Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN)*** is a technical member of the African CSA Alliance and is playing a very active role in promoting CSA through its programmes.[26] These aim to influence national country policies, create an evidence base including on-line resources, promote conservation agriculture, provide training to individuals and scientists, and facilitate a co-ordinated African position on CSA in climate negotiations. It is currently involved in Angola, Botswana, Democratic Republic of the Congo, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

Climate-smart agriculture in South African policy

Climate-smart agriculture is mentioned and promoted in a number of South Africa's policy documents:

- The Department of Environmental Affair's ***National Climate Change Response White Paper*** describes climate response strategies for different sectors of the SA economy including the Agriculture, Forestry and Other Land Use (AFOLU) sector.[27] This highlights the need to invest in and improve research into water, nutrient and soil conservation technologies and techniques; develop climate-resistant crops and livestock; and develop production, ownership, and financing models to promote the development of CSA.

- In April 2014 FANRPAN published a comprehensive scoping assessment for South Africa summarising the status of policies and programmes falling under a CSA umbrella, and recommending where further to include CSA in policy.[28]

- The ***Agricultural Policy Action Plan*** (2014), which is a sectoral plan of the National Development Plan for the period 2014-2019, notes that there are a number of well-developed approaches to agriculture that are variations on the CSA theme, and that all of these are encouraged. Government intends to push climate-smart agriculture generally, and conservation agriculture specifically.[29]

- The Department of Agriculture Forestry and Fisheries (DAFF) published a ***Draft Climate Change Sector Plan for Agriculture, Forestry and Fisheries*** (CCSP) (Notice 500 of 2015) for public comment.[30] A national policy on CSA is expected to follow on from this.[31] This CCSP strongly promotes CSA, and outlines a number of measures for implementation. Of concern is the development of a protocol for quantifying GHG emissions and mitigation potential of small-holder agricultural activities, and the promotion of carbon sequestration through conservation agriculture as one of three targets in relation to food security.

"Is there a better way? Yes! Agroecology has been endorsed internationally as a win-win climate change mitigation opportunity."

Is there a better way for agriculture to respond to climate change?

In 2004 the International Assessment of Agricultural Science and Technology for Development (IAASTD) noted that "the relationship between climate change and agriculture is a two-way street"; with agriculture contributing to and being adversely impacted by climate change. [32]

The report notes that adaptation is imperative and endorses agroecology as an available win-win mitigation opportunity. Agroecological practices are affordable and suited to local culture using the indigenous knowledge and local resources that are available to small-holders.

The former UN Rapporteur on the Right to Food, Olivier De Schutter, also argues that agroecology is proven to quickly realise the right to food in vulnerable parts of society, while addressing the concurrent food, ecological and energy-climate crises.[33]

Farmers trained by Biowatch in northern KwaZulu-Natal, show that it is possible for small-holder farmers in South Africa to produce food both for household food security and for the market using agroecological methods that do not use fossil fuel inputs and other Green Revolution technologies.[34]

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