Climate Action in the Land Sector: Treading carefully

APRIL 2017

Introducing CLARA

The Climate, Land, Ambition and Rights Alliance (CLARA) closely follows United Nations Framework Convention on Climate Change (UNFCCC) negotiations in the areas of agriculture, forest and land issues. CLARA members have developed a joint position on how these issues should be addressed in the UNFCCC, so as to promote ambitious and positive climate action in the land sector.



Drought in Ethiopia last year left the country facing one of the most daunting food crises in living memory. Agroecology, disaster risk reduction strategies and careful management of ecosystems and water are key to strengthening communities' ability to cope with increasingly extreme weather events. PHOTO: GONZALO GUAJARDO/ ACTIONAID

This briefing has been endorsed by the following organisations:

ActionAid International, Action Contre la Faim, Asian Peoples' Movement on Debt and Development, Asociación Ambiente y Sociedad Colombia, Biofuelwatch, Brot für die Welt, Carbon Market Watch, CCFD-Terre Solidaire, Center for International Environmental Law, Climate Justice Programme, Derecho Ambiente y Recursos Naturales, Fern, Forests of the World, Friends of the Siberian Forests, Global Forest Coalition, Greenpeace, Groupe de Travail Climat Redd Rénové, Heinrich Böll Foundation, Institute for Agriculture and Trade Policy, Komunitas Sonservasi Indonesia WARSI, Oxfam, Philippine Movement for Climate Justice, Pivot Point, Pro Natura – Friends of the Earth Switzerland, Rainforest Foundation Norway, SONIA, Yayasan Madani Kerkelanjutan – Indonesia, International Federation of Organic Agriculture Movements, Development and Peace - Caritas Canada, Secours Catholique - Caritas France.

Executive Summary

Climate action must be urgently scaled up to limit global warming. Action in the land sector is critical and necessary for achieving the Paris Agreement's goal of limiting planetary warming to 1.5° or well below 2°C above pre-industrial levels.

The land sector is already playing an increasingly important role in climate action. Poor land use practices can and have caused massive releases of greenhouse gases (GHGs) from carbon stocks. Good practice is essential to limit further releases, and to protect and increase the existing carbon storage capacity of the land sector.

Parties must remember, however, that land serves multiple functions – providing food, homes, habitats, water, livelihoods, and much more. These must all be taken into consideration, or else biodiversity and human rights – such as food security and the land rights of rural communities and indigenous peoples – will suffer. The principles in the preamble to the Paris Agreement, including **safeguarding food security and respecting human rights,** must be operationalised and fully integrated into all policies relating to land.

The Paris Agreement further emphasises building **adaptation and resilience to anticipated climate change.** Nowhere is this more important than agriculture, which is particularly susceptible to climate impacts.

Land use must therefore be considered carefully as countries come together with international bodies, civil society organisations and other interested parties, to agree the rules and methods that will be used to turn the Paris Agreement into effective, achievable action.

The **Climate, Land, Ambition and Rights Alliance (CLARA)** calls on parties to tread carefully as they consider strategies for climate action in the land sector, and argues that they must:

Ensure:

- Food security and human rights;
- Free, prior and informed consent (FPIC) and full and effective participation of indigenous peoples and local communities at all stages including from the project planning and design phase;
- Halting of deforestation and degradation, and protection and restoration of degraded forests and ecosystems;
- · Security of land rights, including collective land rights;
- · Counting of emissions from the burning of biomass;
- Reduction of non-carbon dioxide (CO2) emissions from industrialised agriculture systems, such as methane (CH4) and nitrous oxide (N2O);
- Agro-ecological approaches for agricultural adaptation strategies;
- A scaling-up of climate finance and addressing the particularly large gap in adaptation finance.

Avoid:

- · Attempts to use terrestrial carbon sinks to offset fossil carbon emissions;
- · Unreliable accounting for soil carbon removals;
- Harmful geo-engineering experiments or large-scale land use for Bioenergy with Carbon Capture and Storage (BECCS);
- · Strategies that increase the risk of forced land acquisitions from indigenous peoples and local communities;
- Counterproductive "Climate Smart Agriculture" approaches.

This policy brief explains how and why Post-Paris climate negotiations can and should build effective climate action, without threatening human rights and natural ecosystems. (See Box 1 for a summary of key agenda points in negotiations).

Box 1: Recommendations on land use at UNFCCC:

The Subsidiary Body for Scientific and Technical Advice (SBTSA) negotiates scientific and technical foundations, while the Ad Hoc Working Group on the Paris Agreement (APA) develops guidance on implementation.

We recommend the following approaches be adopted:

SBSTA agenda item: Agriculture

- A work programme on agriculture and food security should be created to tackle permanent reduction of non-CO2 emissions (i.e. methane and nitrous oxide
 CH4 and N2O) in addition to adaptation issues and the need to safeguard rights and food security;
- Land use action in agriculture must be clearly
 framed with social and environmental priorities to
 prevent false solutions, and must be left out of offset and carbon market mechanisms, including in negotiations
 related to markets under Article 6.



Eucalyptus plantation and rainforest, Macapa, Brazil. PHOTO: DANIEL BELTRÁ/ GREENPEACE

SBSTA agenda item: Market and non-market approaches

- There is no room for offsetting in the Paris Agreement.
- Carbon markets (CDM, SDM and Cooperative Approaches) should not expand or introduce land use activities. Instead, the land sector must be addressed under Article 6.8 on non-market approaches.

APA agenda item: Guidance for emissions and removals from land use.

- NDCs must include information on how countries will ensure that cross-cutting principles and obligations
 in the Paris Agreement (such as food security, human rights and ecosystem integrity) are to be ensured in
 implementation, particularly in the land sector;
- Reporting must be transparent, and CO2 removals in the land sector (which are often non-permanent) must be reported and accounted for separately from permanent reductions in industrial emissions;
- Rules should be developed to address bioenergy emissions, as current "LULUCF loopholes" fail to account for emissions from burning biomass in either the land sector or the energy sector.

APA agenda item: Transparency framework

• The Enhanced Transparency Framework should allow parties to report on how the Paris Agreement's principles and obligations for safeguarding food security and human rights are being integrated into climate policies and how this is being enabled through support.

Mitigation

Parties, especially developed countries must increase their mitigation ambition – particularly their pre-2020 action — without relying on untested and unproven geo-engineering, BECCS or large-scale changes in land use, which could have negative socio-economic or environmental impacts. Radical emission reduction pathways and strategies for all sectors and all countries must be developed. Strategies for scaled-up renewable energy, and changes in consumption, behaviour, luxury emissions and lifestyle have all been neglected so far, and could present significant opportunities.

The Post-Paris Context

Inclusion of developing countries: Unlike the Kyoto Protocol, which only applied to developed countries, under the Paris Agreement developing countries have responsibility for reducing GHG emissions. As many have limited industrial sectors, a significant proportion of their activities are likely to focus on the land sector — and in particular their forests, ecosystems and agriculture. This new dynamic brings opportunities but also risks to food and land, particularly in the face of pressure to compensate for historical inaction by high-emitting countries.

Actions are voluntary: The Paris Agreement differs from the Kyoto Protocol in its voluntary nature. Countries can choose their own emission reduction targets, and how they hope to achieve these Nationally Determined Contributions (NDCs). NDC actions should, however, remain within guidelines that are currently being developed.

There is no carbon budget available for offsets: Our failure to significantly curb the release of GHGs into the atmosphere has considerably reduced the global carbon budget (the amount of gases that can still be released while meeting the Paris Agreement goals). Therefore, radical emission reduction strategies are needed for all sectors, in both developed and developing countries. If we are to limit warming to 1.5° or 2°C, one country or sector can no longer take action on behalf of another. There is therefore no room for offsetting in the post-Paris era. Developing countries will implement their own NDCs and developed countries and key sectors, like aviation (see Box 2) or shipping, can no longer rely on cheap emission reductions in developing countries to achieve their own climate targets. All must work hard together to decarbonise the way we live and do business.

Food security, human rights, equity & sustainable development: The Paris Agreement preamble explicitly seeks to safeguard food security, and ensure that ecosystem integrity, human rights and the rights of indigenous peoples are respected in climate actions. To ensure that action in the land sector achieves and does not undermine these multiple goals, clear guidance and processes are now needed to operationalise these provisions and to guide countries in formulating and implementing their NDCs and long-term strategies.

> 2017 provides a critical opportunity to develop the rules for the implementation of the Paris Agreement, and in particular to provide guidance for actions in the land sector.



Climate action in the land sector SHOULD include:

Full and effective participation of rights holders from the start

Decisions taken at the global level have major impacts at the local level. Indigenous peoples and forest-dependent and local communities are affected and even displaced when policies and decisions on land use are not made by, or do not respect and fully consult, local rights holders. Lessons must be learned from previous REDD+ experiences such as the World Bank's Forest Carbon Partnership Facility (FCPF), where implementation has fallen short of requirements for environmental and social safeguards. Despite lip service to the rights of indigenous peoples and forest-dependent communities, consultations have largely been treated as an afterthought once key decisions have already been made.

The full and effective participation of rights holders and free, prior and informed consent (FPIC) must be integral to policy decision-making and project design, to take account of local context, considerations and rights at the very earliest stages. To avoid perverse incentives, land use policies should prioritise non-carbon benefits such as ecosystems and ensuring rights, before potential carbon benefits. Processes must address power imbalances, ensuring for example, the voices of women and minorities are heard, and recognising that corporations are likely to have greater access to decision-makers than local community members.

Guidance for the Green Climate Fund (GCF) can provide a useful reference. Potentially-impacted communities must actively participate and ensure FPIC in the design phase of GCF projects, and ensure that they will have no negative consequences, before a country can request funds to implement a project. National focal points are encouraged to have effective consultation mechanisms to ensure this,³ and some readiness finance may be available to support building such mechanisms. The GCF also requires partner institutions to have gender policies⁴ and safeguards. So far, however, actual implementation of these principles needs significant improvement. Countries and civil society must therefore implement and take advantage of these requirements, to ensure that they are fully effective, and to address current gaps between written principles and implementation.

Protecting and restoring degraded ecosystems

The ability of forests and ecosystems to capture and store carbon is universally recognised⁵ as vital to any hopes of achieving the Paris Agreement's goal of limiting warming to 1.5°, or staying well below 2°C. Yet widespread deforestation and forest degradation continues around the world.

The largest mitigation potential in the land sector lies in stopping on-going CO2 emissions from deforestation, forest degradation and draining of peatlands. Deforestation has halved the world's forest carbon storage capacity to about 1 trillion tonnes.⁶ Furthermore the deforestation, forest degradation and draining of tropical peatlands and peatswamp forests cause massive CO2 emissions from soils, further accelerating climate change. To limit warming to well below 2 or 1.5°C, deforestation must be halted urgently, forest degradation must be significantly reduced and degraded natural ecosystems restored on a massive scale, including the re-wetting of drained peatlands.⁷

- 1. Basta !, Les Amis de la Terre. REDD+ in Madagascar: You can't see the wood for the carbon. Case study in Madagascar. July 2013. 43pp. Greenpeace. REDD en RDC: Menace ou Solution ? Turning REDD into Green. November 2010. 22pp. World Rainforest Movement. REDD: A Collection of Conflicts, Contradictions and Lies. February 2015. 61pp.
- https://www.boell.de/sites/default/files/redd_in_brazil_2014.pdf & http://wrm.org.uy/wp-content/uploads/2014/12/REDD-A-Collection-of-Conflict_ Contradictions Lies expanded.pdf
- https://www.greenclimate.fund/documents/20182/490910/GCF_B.15_06_-_Country_Ownership_Guidelines.pdf/1dd8b4d1-3478-4ab4-a2fc-a94c6151d768
- $4. \qquad \text{http://www.germanclimatefinance.de/2016/09/26/gender-approach-green-climate-fund-gcf-leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-finance/leading-way-climate-$
- $5. \qquad \text{https://www.sei-international.org/mediamanager/documents/Publications/Climate/SEI-WP-2016-08-Negative-emissions.pdf} \\$
- 6. http://d5i6is0eze552.cloudfront.net/documents/Publikasjoner/Andre-rapporter/Brief-Going-Negative-ID-32653.pdf?mtime=20161031150527
- 7. https://europe.wetlands.org/news/new-pnas-article-wise-use-of-peatsoils-essential-for-tackling-climate-change/

The Stockholm Environment Institute estimates that up to 330 billion tonnes of CO2 could be avoided by allowing former natural forests and degraded forest areas to regrow.⁸ This would be a once-only measure that could not be repeated once the sequestration potential of natural forests is reached. Biodiversity, water cycles and indigenous cultural practices would all further benefit. Carbon storage in degraded peatlands can be successfully restored through re-wetting and re-vegetation. Countries need to set ambitious forest restoration targets. Nature-oriented forest management with cut rates substantially below regrowth levels, can lead to an increase of forest carbon stock and ecosystem benefits in temperate forest areas.⁹

These actions must occur in a socially and environmentally responsible manner, recognising the rights and contribution to natural forest management of indigenous peoples and forest-dependent communities. Demand-side drivers of deforestation, for example consumption of meat, palm oil and pulp and paper products must be addressed.

Securing collective land rights

Studies show that securing rights to collective and customarily held land for indigenous peoples and forest-dependent communities is one of the most effective and low-cost strategies available for protecting forest ecosystems. Decuring land rights is a far more successful climate mitigation strategy than large-scale afforestation projects, which exclude communities.

Many traditional communities manage their land as a commons, valuing agricultural lands and forests for multiple purposes. Traditional community governance systems are highly effective at ensuring norms and practices for the community good in the long term, mindful of the need for forest products, grazing lands, water sources, sacred sites, and resilience to fire and drought etc. and thus ensuring the security of their forests and agricultural and pastoral lands. ¹² These communal systems of governance can be disrupted by land grabs, displacement, private ownership of land, or projects that only value single resources such as carbon.

Activities in the land sector must respect and promote international law, recognising the rights of indigenous peoples and local communities, including their rights to collective and customarily held lands. They must also respect the traditional communal governance systems of rural and forest communities.

Avoiding non-CO2 emissions from agriculture

CO2 is not the only greenhouse gas driving climate change. Net fluctuations of CO2 in agriculture are roughly balanced. ¹³ However agriculture causes about 50 per cent of global methane (CH4) emissions and 60 percent of nitrous oxide (N2O), which respectively have a global warming potential of 25 and 298 times that of CO2.

Countries with heavily industrialised agriculture sectors are responsible for the bulk of these emissions – CH4 from industrial livestock production¹⁴ and N2O from use of synthetic nitrogen fertilisers. Furthermore, synthetic fertiliser production is heavily dependent on burning fossil fuels, while the long food chains and maintenance requirements of industrial livestock production also cause further damage to the climate.¹⁵

- 8. https://www.sei-international.org/mediamanager/documents/Publications/Climate/SEI-WP-2016-08-Negative-emissions.pdf
- 9. https://www.greenpeace.de/sites/www.greenpeace.de/files/publications/20130527-klima-wald-studie.pdf (In German)
- $10. \quad http://www.climateandlandusealliance.org/wp-content/uploads/2015/08/Community_level_tenure_and_forest_condition_bibliography.pdf$
- 11. https://www.wri.org/sites/default/files/securingrights-full-report-english.pdf
- 12. Agrawal, A., Nolte, C., Silvius, K. M., & Soares-Filho, B. S. (2013). Governance regime and location influence avoided deforestation success of protected areas in the Brazilian Amazon. *Proceedings of the National Academy of Sciences of the United States of America, 110*(13).
- 13. IPCC AR5, Chapter 11, p.822
- 14. https://www.grain.org/article/entries/5639-grabbing-the-bull-by-the-horns-it-s-time-to-cut-industrial-meat-and-dairy-to-save-the-climate
- 15. Gilbert N., 2012. One-third of our greenhouse gas emissions come from agriculture. Nature. Doi:10.1038/nature.2012.11708

Countries with high per-capita non-CO2 emissions resulting from industrialised production systems must reduce these emissions. They can achieve this through: regulation of meat consumption and feed supply chains; encouragement of agroecological practices that reduce synthetic chemical fertiliser use; and halting deforestation for livestock grazing and feed production.¹⁶

Agriculture Adaptation Strategies

Ensuring food security in the face of climate change is a key goal of climate negotiations and the Paris Agreement, and countries and communities urgently need support to deal with the multiple challenges ahead. Adequate and predictable grant-based public funds must be made available to help countries adapt their agriculture, and new and additional contributions in this area can help to unlock progress in agriculture negotiations.

Agriculture strategies must be gender-sensitive, locally-appropriate and people-centred. Agroecological approaches that strengthen peasant farmers' (particularly women farmers') knowledge and control over their resources such as land, water and seed diversity, offer major benefits for resilience to climate change. Diversification of locally-adapted seed varieties can enable crops to deal with a range of climate conditions. Using compost, manure and mulch instead of synthetic nitrogen fertilisers helps plants to cope with late rains and drought by increasing the amount of organic matter and water in the soil. This approach also reduces runoff and erosion from heavy rainfall or flooding. Such techniques also allow farmers to reduce their reliance on purchased seed and emissions-intensive chemicals.

Strategies must draw from both traditional knowledge and modern science to support farmers to adapt, on their terms. Disaster risk reduction strategies such as farmer-friendly early warning weather information systems, social protection schemes, local seed and grain banks, or embankments and dykes to protect land against floods and rising sea levels, will also be key to enabling communities and their farming systems to adapt to unpredictable climate impacts.¹⁷

Counting the emissions from burning biomass

Under the Kyoto Protocol, emissions from burning biomass are registered neither in the land nor energy sectors. Current rules erroneously assume that burning biomass produces no emissions, leading to an increase in burning of biomass, even where it is harmful for the climate. New accounting rules under the Paris Agreement must address this error known as "LULUCF (Land Use, Land Use Change and Forestry) loopholes". See page 9 for more information on the harmful impacts of biofuels.



Farmers in Mali harvest their rice.
PHOTO: TINEKE D'HAESE/OXFAM

^{16.} http://www.ipes-food.org/images/Reports/UniformityToDiversity_FullReport.pdf

^{17.} http://www.actionaid.org/sites/files/actionaid/exhibition_document_-_final_draft.pdf, http://actionaid.org/sites/files/actionaid/2016_reslience_handbook.pdf

Climate action in the land sector should NOT include:

Offsetting industrial emissions with non-permanent sequestration activities

While land (and particularly natural forests and high biodiversity ecosystems) can act as a carbon sink, there are major flaws in a carbon trade that offsets long-lasting industrial fossil fuel emissions against short-term carbon capture.

Terrestrial carbon sinks are non-permanent and vulnerable to human activities and natural occurrences that release carbon back into the atmosphere in a relatively short time-frame. This means that they cannot compensate for fossil fuel emissions. A tonne of fossil carbon left in the ground, where it has been for millions of years, represents a *permanent* emission reduction. A tonne of carbon sequestered in a forest is a very *temporary* reduction, to be measured in years not millennia.

Finance for forest protection and other worthwhile conservation and development activities should be raised without offsetting — through a combination of public finance and innovative financial strategies, such as levies on fossil fuel extraction.

Distinct and separate reporting is required for land sector emissions and removals *vs* permanent reductions in industrial emissions, to ensure full transparency and environmental integrity.

Risks of soil carbon sequestration targets

Carbon in agricultural soils must be considered differently from forest carbon. Agricultural soils can easily release carbon through any number of triggers such as drought, high temperatures, ploughing, or application of synthetic nitrogen fertilisers (which kill helpful carbon-rich soil fungi and microbes). Furthermore, monitoring, reporting and verification (MRV) of carbon in agricultural soils is notoriously expensive and difficult, and even more so in the face of reversal triggers — including a warming climate. ¹⁹ A high degree of guesswork, inaccuracy and changing circumstances makes this almost worthless for accounting purposes and CO2 targets. The fact that soils are critical for food security is additional reason to approach soil carbon with care.

For these reasons, soil carbon sequestration activities were excluded from the Kyoto Protocol,²⁰ and should be similarly treated in the Paris Agreement. National actions should prioritise policies and measures to incentivise good soil practices such as agroecology. However MRV and accounting for agricultural soils are an unreliable basis for meeting NDC targets. Agricultural soil carbon must be specifically excluded from offsetting against emissions in other sectors.

Carbon stored in soils as a result of agroecological practices should be seen as a non-measurable and non-permanent benefit on top of the other more tangible benefits of avoiding non-CO2 emissions and improving soils for adaptation purposes (as described on pages 6 and 7). Policies on agriculture and food must prioritise systemic approaches, and cannot focus purely on carbon alone.²¹

^{18.} http://www.fern.org/misleadingnumbers

^{19.} Quantifying global soil carbon losses in response to warming, T. W. Crowther and al, Nature, Vol 540, 1 December 2016

^{20.} http://unfccc.int/resource/docs/cop7/13a01.pdf#page=54 (2001 Marrakech Accords, Article 12 of Annex)

^{21.} http://ccfd-terresolidaire.org/IMG/pdf/manifeste_our-land.pdf

Box 2: International Civil Aviation Organisation (ICAO): Offsets & double-counting with NDCs?

In October 2016, the International Civil Aviation Organisation (ICAO) established the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) - a system to offset GHGs caused by air travel. However, a close look at the terms of the agreement raises many red flags.

CORSIA is not in line with the Paris Agreement, which commits countries to reducing global emissions to zero, as the system allows airlines to increase their emissions indefinitely. It will only address emissions above the 2020 level, implying that emissions up to the 2020 level do not need to be addressed.

There is a real risk that countries' climate action may be double-counted as both NDC targets and ICAO offsets, further undermining the outcomes of the Paris Agreement.^{22,23} CORSIA does not yet offer clear guidance on offsetting, or the means for oversight and enforcement; nor does it exclude potentially harmful approaches such as nuclear, carbon capture and storage (CCS), large hydro or monoculture tree plantations.

Furthermore, ICAO's resolution affirmed a "preference for the use of aircraft technologies, operational improvements and sustainable alternative fuels". However with efficiency improvements lagging in the sector, biofuels and offsets are likely to remain the focus, bringing threats to natural forests, food security and biodiversity.

Essentially, the system allows aviation to continue unabated, while also threatening to undercut climate action within the UNFCCC.

Monoculture tree plantations

Monoculture tree plantations, which include just one or two species that are often alien or invasive, can displace natural ecosystems, thereby disrupting biodiversity and associated cultural practices. They can deplete local water systems, pollute them with agrochemicals, encourage land grabs, and cause rural unemployment, providing few stable jobs per hectare.

Monoculture tree plantations should therefore not be defined as forests and have no place in climate change policies. They are commercial enterprises, and should not be subsidised with climate finance.

BECCS, large-scale bioenergy and land grabs

Bioenergy with Carbon Capture and Storage (BECCS) is the large-scale growing of biomass crops, which are then burned and the resulting CO2 stored underground.

It is one of several "negative emission" techniques that are proposed for removing carbon emissions from the atmosphere. Like all negative emission technologies, BECCS faces considerable hurdles, including: the amount of land required, competing uses for that land²⁴, whether the technology actually works at scale, as well as the financial costs.²⁵ (See Box 3 for the general dangers of all geo-engineering proposals.) It is unproven, its supposed benefits are unrealistic, and it could have disastrous socio-economic and environmental consequences.

- 22. http://carbonmarketwatch.org/more-work-needed-to-make-aviations-climate-tool-fit-for-purpose/
- 23. www.fern.org/cheatingtheclimate
- 24. http://www.actionaid.org/publications/caught-net-how-net-zero-emissions-will-delay-real-climate-action-and-drive-land-grabs
- 25. See Minx et al., Fast growing research on negative emissions, Environmental Research Letters 12 (2017)

The IPCC 5th Assessment Report (AR5) estimates that between 500 million and 3 billion hectares of land would be needed to grow the biomass required to keep global warming below 2°.26 To put this in perspective, global cultivated cropland today covers only 1.5 billion hectares.27 Already, biofuel expansion and the resulting competition for land and food is recognised to have triggered deforestation, major land grabs and hunger, particularly in Southern countries.28 Thus, communities who are already extremely vulnerable to climate impacts are likely to suffer the impacts of bioenergy expansion and BECCS.

Biofuels from wastes, residues or technical advances are not available or developed at the scale required to meet the envisioned demand. Biofuels have failed to provide a genuine renewable energy option, as they often displace food crops, causing deforestation and continued emissions through indirect land use change, as well as emissions from production and processing into fuel.²⁹

The "Carbon Capture and Storage" (CCS) aspect of BECCS is also highly problematic. In spite of decades of expensive investment, this technology is not yet proven at scale, and may never be feasible as a climate solution. Nonetheless, assumptions that CCS will deliver negative emissions provide an excuse for the fossil fuel industry to exist well into the future. If policy makers continue on their current emissions pathways assuming that negative emissions technologies such as BECCS will save the day, economies may find themselves dangerously locked into a high-temperature pathway.³⁰

Box 3: The UN's CBD has declared a global moratorium on geo-engineering

Negotiators at the UNFCCC must ensure that climate negotiations take account of, and are coherent with other key UN bodies such as the Convention on Biological Diversity (CBD).

In 2010, under decision X/33, parties at the CBD established a moratorium on all geo-engineering technologies that would manipulate the climate on a large scale. The moratorium covers the broad umbrella of "carbon dioxide removal" (CDR) technologies (which could include BECCS) as well as solar radiation management (SRM) techniques, due to the risk of unpredictable and transboundary socio-economic and environmental harm caused by large-scale climate tinkering.

In December 2016, parties to the CBD confirmed their commitment to this landmark moratorium.

No to green-washing with "Climate Smart Agriculture"

Several new initiatives linking agriculture and climate change have emerged in recent years, such as the Global Alliance on Climate Smart Agriculture (GACSA), the AAA (Adaptation of African Agriculture) and the 4 per 1,000 initiative.³¹ These initiatives deserve careful scrutiny to ensure that they do not harm local communities.

"Climate Smart Agriculture" is a buzz-phrase for agricultural techniques that can supposedly either mitigate climate change, or adapt to its impacts. However, the term has no clear criteria, is undefined, and there are no safeguards or

^{26.} http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter6.pdf p.446, http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf p.12

^{27.} http://www.fao.org/fileadmin/user_upload/newsroom/docs/en-solaw-facts_1.pdf

^{28.} https://www.oxfam.org/en/research/another-inconvenient-truth, http://www.actionaid.org/sites/files/actionaid/adding_fuel_to_the_flame_actionaid 2013 final.pdf

 $^{29. \}quad http://whrc.org/wp-content/uploads/2015/09/SearchingeretalScience08.pdf, \\ https://www.oxfam.org/en/research/another-inconvenient-truth.$

^{30.} http://science.sciencemag.org/content/354/6309/182 , https://www.boell.de/sites/default/filles/beccs-report.pdf

^{31.} http://www.coordinationsud.org/wp-content/uploads/Note-N8-4-per-1000-caution-Caution-October-2015-VENG.pdf http://www.iddri.org/Publications/Collections/Syntheses/PB0217_4p1000%20normative%20framework_PMA%20et%20al..pdf

exclusions for what can or cannot be called "Climate Smart Agriculture". Unfortunately this means that large industrial agribusiness corporations, whose products and systems harm the climate and undermine small-scale farmers, are using the term to re-brand their practices so that they can continue to market their products under "green" rhetoric. However, by enabling GHG-intensive corporations to avoid climate regulation and continue to expand business-as-usual, the concept of "Climate Smart Agriculture" could end up doing more harm than good to both the climate and farmers' rights. In consequence, the GACSA has been strongly rejected by more than 355 organisations around the world.³²

Climate negotiations and agriculture policies should avoid use of such vague and misleading terms, and instead mandate specific strategies for emissions reduction or adaptation, for example through practices such as peasant agroecology.

Conclusion

Climate action must be urgently scaled up to limit global warming. Action in the land sector will be critical and necessary for achieving the goal of the Paris Agreement to stay below 2 or 1.5°C of warming. But as the basis for people's homes, water, ecosystems, livelihoods and most of our food, land must be treated very carefully at UN climate negotiations.

Care is needed to ensure that human rights – such as the right to food, the right to development, the right to a healthy environment, as well as the specific rights of indigenous peoples and local communities, such as customary land rights – are ensured and not threatened by climate actions. Both mitigation and adaptation actions must therefore be approached with caution. 2017 provides a critical opportunity to develop the rules for the implementation of the Paris Agreement, and in particular to provide guidance for actions in the land sector.

The Climate, Land, Ambition and Rights Alliance (CLARA) therefore calls on parties to tread very carefully as they consider strategies and develop the rules for climate action under the Paris Agreement, which directly concern land, forests, food and people.

Acronyms

AAA	Adaptation of African Agriculture	GCF	Green Climate Fund
APA	Ad Hoc Working Group on the Paris Agreement	GHG	Greenhouse Gas
AR5	Intergovernmental Panel on Climate Change's Fifth Assessment Report	ICAO	International Civil Aviation Organisation
		IPCC	Intergovernmental Panel on Climate Change
BECCS	Bioenergy with Carbon Capture and Storage	LULUCF	Land Use, Land Use Change and Forestry
CBD	Convention on Biological Diversity	MRV	Monitoring, Reporting and Verification
CCS	Carbon Capture and Storage	NDCs	Nationally Determined Contributions
CDM	Clean Development Mechanism	N2O	Nitrous Oxide
CDR	Carbon Dioxide Removal	REDD+	Reducing emissions from deforestation, forest
CH4	Methane	NEDDT	degradation and the role of conservation, sustainable management of forests and enhancement of forest
CLARA	Climate, Land, Ambition and Rights Alliance		
CO2	Carbon Dioxide		carbon stocks in developing countries
CORSIA	Carbon Offset and Reduction Scheme for International Aviation	SBSTA	UNFCCC Subsidiary Body for Scientific and Technological Advice
		SDM	Sustainable Development Mechanism
FCPF	The World Bank's Forest Carbon Partnership Facility	SRM	Solar Radiation Management
FPIC	Free, Prior and Informed Consent	UNFCCC	United Nations Framework Convention on Climate Change
GACSA	Global Alliance for Climate Smart Agriculture		

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