
Sustainable Land Use in the Paris Agreement:

Safeguarding Rights, Biodiversity and the Climate



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Introduction

According to the Intergovernmental Panel on Climate Change (IPCC), emissions from the land use sector represent almost a quarter of anthropogenic greenhouse gas (GHG) emissions (24%),¹ with the lion's share being taken up by emissions from deforestation and agricultural activities such as livestock, soil and nutrient management.² Conversely, the sector is also an important carbon sink, vegetation and soils having absorbed about 30% of the world's CO₂ emissions since 1750.³ The land use sector is therefore unique in being both a source of GHG emissions and a sink.

The UN Framework Convention on Climate Change (UNFCCC) recognises the role that agriculture⁴ and forestry⁵ can play in climate change mitigation, but does not have a coherent set of requirements and incentives for reducing emissions from the land use sector as a whole – also referred to as the agriculture, forest and other land use (AFOLU) sector.⁶

Land-use is currently dealt with under the UNFCCC in a piecemeal manner and with an exclusive greenhouse gas (GHG) focus, resulting in policy gaps that are likely to lead to mitigation actions having detrimental social and environmental impacts. Furthermore, the 2015 deadline set by Parties to adopt a new “protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties” at COP 21⁷ is fast approaching,⁸ and, given the importance of the land-use sector as both a source of GHG and sink it is imperative that Parties reach a common understanding on how to address it under the UNFCCC in a more coherent way.

Aim, scope and structure

This paper presents a state-of-the-art overview of how land-use can and should be addressed more coherently by the UNFCCC. It aims to demonstrate that land-use under the UNFCCC must be dealt with in a way that integrates environmental, social and governance considerations in order to ensure the effectiveness, equity and permanence of Parties' mitigation actions. In the interest of climate integrity, the land-use sector must also help to achieve real, permanent reductions in GHG emissions in its own right, rather than being used as a means to replace the significant action that needs to be taken in other sectors to reduce fossil carbon emissions.

This paper is divided into three sections:

Section one examines how land-use is currently dealt with in the UNFCCC and Kyoto Protocol (KP), identifying the most significant land-use-related policy gaps, which will need to be addressed in a 2015 agreement and in the pre-2020 period. This section will not be an examination of the loopholes and controversies surrounding accounting linked to land use, as

¹ IPCC 5th Assessment Synthesis Report, longer report. Section 1.2.2

² IPCC(2014) Climate Change 2014: Mitigation of Climate Change. IPCC Working Group III contribution to the 5th Assessment Report of IPCC.

³ IPCC 5th Assessment Synthesis Report, longer report. Section 1.2.2

⁴ UNFCCC article 4.1(c)

⁵ UNFCCC articles 4.1(c) and 4.2

⁶ IPCC (2014) 5th Assessment Synthesis Report, Summary for policymakers, longer report. Section 1.2.2

⁷ And to come into effect and be implemented from 2020 Decision 1/CP.17 paragraphs 2 and 4

⁸ The UNFCCC COP, in Decision 2/CP.18 requested the ADP to make a negotiating text available before May 2015

these have already been discussed elsewhere⁹ Instead, this section aims to provide a foundation from which to identify the major policy gaps in the regime, in particular, the absence of a framework for addressing agriculture and the inadequacy of current social and environmental provisions.

Section two examines and elaborates on how to ensure the Paris agreement maximises environmental, social and governance outcomes of climate actions in land-use. It sets out why and how the UNFCCC's treatment of the land-use sector under the 2015 agreement should go beyond its exclusive GHG focus towards recognition of governance, biodiversity conservation and a rights-based approach as fundamental enabling conditions. It further lays out why and how the land-use sector must help to achieve real, permanent reductions in GHG emissions in its own right, rather than being used as a means to replace the significant action that needs to be taken in other sectors to reduce fossil carbon emissions.

Section three proposes indicative safeguards/objectives/principles to be included in the 2015 agreement to address the issues identified in sections one and two.

Suggested citation: Korwin, S., Rey, D., Reeve, R., & Daviet, F., (2015) Sustainable Land-Use in the Paris Agreement: Safeguarding Rights, Biodiversity and the Climate. Rainforest Foundation Norway, Friends of the Earth - Norway.

⁹ Dooley, K., and Stabinsky, D. (2013) Accounting for forests and land use change – new rules or more loopholes? Kollmuss, A., (2011) A new look at loopholes

I. Land-use in the UNFCCC: How is it dealt with and what are the policy gaps?

Discussions related to land-use in the UNFCCC have in the past taken place under parallel tracks in a piecemeal fashion. In relation to climate change mitigation, land-use has been discussed under the Kyoto Protocol rules on Land Use, Land Use Change and Forestry (LULUCF) for developed countries; and under the mechanism for Reducing Emissions from Deforestation and forest Degradation (REDD+) for developing countries, while to a limited extent, developing countries are also establishing LULUCF activities under the Clean Development Mechanism (CDM). Discussions on the role of agriculture in the UNFCCC are currently limited to scientific and technical aspects¹⁰ of the sector in relation to climate change due to the political sensitivity of the issue, in particular over concerns about food security and common but differentiated responsibility.

In terms of existing provisions, the UNFCCC sets out specific requirements for all Parties concerning the promotion of mitigation actions and reporting of anthropogenic emissions by sources and removals by sinks, including from the agriculture and forestry sector.¹¹ However, these requirements vary between Annex I and non-Annex I Parties. Box 1 below examines the current treatment of land use in terms of mitigation action, whilst Box 2 examines the reporting measures linked to anthropogenic emissions by sources and removals by sinks, including those from the agriculture and forestry sector.

BOX 1: ACTIONS TO MITIGATE LAND USE EMISSIONS

REQUIREMENTS FOR ANNEX I PARTIES

According to the Kyoto Protocol, each Annex I Party (to the KP) has to ensure that their GHG emissions “do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments (QELRC).”¹² Furthermore, each Party to the KP should promote sustainable development as part of the process of achieving their QELRCs through the implementation of policies and measures such as:¹³

- The protection and enhancement of sinks and reservoirs ... and promotion of sustainable forest management practices, afforestation and reforestation; and
- Promotion of sustainable forms of agriculture in light of climate change considerations.

¹⁰ Historically, following the Bali Action Plan, agriculture was considered a sectoral approach under the Ad Hoc Working Group on Long-term Cooperative Action (LCA). At the Conference of the Parties (CoP17) in Durban, South Africa, Parties agreed to move discussions on agriculture to the Subsidiary Body for Scientific and Technical Advice (SBSTA).

¹¹ Article 4 of the UNFCCC

¹² Kyoto Protocol article 3

¹³ Kyoto Protocol article 2

Annex I Parties' emissions and removals from land-use land use change and forestry (LULUCF)¹⁴ are accounted for (i.e. tracked) on the basis of activities,¹⁵ while reporting on LULUCF under the UNFCCC is area-based.¹⁶ Accounting for LULUCF is limited to **direct human-induced** activities¹⁷ and includes two categories of activities:

- Afforestation, reforestation and deforestation, for which accounting is mandatory and whose net changes can be used to meet their QELRCs.¹⁸
- Additional activities, including forest management, cropland management, grazing land management, re-vegetation, wetland drainage and rewetting.¹⁹ These could all be voluntarily accounted for in the first commitment period, but forest management is mandatory for the second commitment period.²⁰ Once the activities have been chosen and accounted for, they must continue to be accounted for during the remainder of the commitment period.²¹

The accounting framework for LULUCF and agriculture under the Kyoto protocol is highly controversial, and the result of numerous compromises due to the need to accommodate the interests of particular Parties²² and has been severely criticised by civil society as creating loopholes and failing to cover the land-use sector as a whole.²³

NON –ANNEX I PARTIES

In addition to the LULUCF activities undertaken by Annex I Parties under the KP, two significant mechanisms under which non-Annex I Parties can undertake land use mitigation actions are REDD+ and Afforestation/Reforestation activities under the CDM.

REDD+ was initially introduced to the UNFCCC in 2005 at COP 11 in Montreal as an agenda item on reducing emissions from deforestation in developing countries and approaches to stimulate action.²⁴ At COP 13 in Bali in 2007, the scope was expanded to include forest degradation and the role of forest conservation, sustainable management of forests, and enhancement of forest carbon stocks.²⁵

The specific activities that could be undertaken by developing country parties under REDD+ were defined in Cancun, in 2010 at COP 16.²⁶

These include:

¹⁴ The main rules for LULUCF in developed countries are set out in Kyoto Protocol Articles 3.3 and 3.4 and in CMP decisions 16/CMP.1 from 2005, 2/CMP.6 from 2010 and 2/CMP.7 from 2011. Decision 2/CMP.7 contains new LULUCF rules for the second commitment period under the Kyoto Protocol. The first commitment period ended in 2012.

¹⁵ Höhne, N., et al., (2007) The rules for land-use, land-use change and forestry under the Kyoto Protocol – lessons learned for the future climate negotiations.

¹⁶ Requiring Parties to report on all emissions and removals from the land-use sector including, *inter alia*, those on forestland, cropland, grasslands, wetlands and settlements)

¹⁷ KP article 3.3, therefore excluding non-anthropogenic changes such as fires, pests, and other non- human-induced changes in emissions

¹⁸ Kyoto Protocol article 3.3

¹⁹ KP article 3.4

²⁰ Iversen P., Lee D., and Rocha M., (2014) Understanding Land Use in the UNFCCC

²¹ Iversen P., Lee D., and Rocha M., (2014) Understanding Land Use in the UNFCCC

²² Parker, C., Merger, E., Streck, C., Conway, D., Tennigkeit, T., & Wilkes, A., (2014) The land use sector within the post 2020 climate regime

²³ Dooley, K., and Stabinsky, D. (2013) Accounting for forests and land use change – new rules or more loopholes?

²⁴ <http://unfccc.int/methods/redd/items/7377.php>

²⁵ Decision 2/CP.13 paragraph 1(b)iii

²⁶ Decision 1/CP.16 paragraph 70

- Reducing emissions from deforestation;
- Reducing emissions from forest degradation;
- Conservation of forest carbon stocks;
- Sustainable management of forests;
- Enhancement of forest carbon stocks

Participation in REDD+ is voluntary, and Parties can select which mitigation actions in the forest sector to undertake in accordance with their respective capabilities and national circumstances.²⁷ Although the scope of REDD+ is currently limited to activities in the forest sector, if its implementation proves successful, it could potentially serve as a model framework of financial incentives and technical support, subject to social and environmental protection provisions, applicable to all land-use sectors and activities.²⁸ This is particularly relevant in light of the discussions on how to determine different responsibilities under the 2015 agreement, along with technological and financial support, based on national circumstances and respective capabilities.

The Clean Development Mechanism (CDM) of the Kyoto Protocol allows Annex I Parties to meet a part of their QELRCs by purchasing certified emission reductions (CERs) from offset projects in developing countries.²⁹ Currently, the only LULUCF emission reduction activities that developing countries can engage in that are eligible under the CDM are afforestation, reforestation (A/R) projects³⁰ and agricultural projects such as improved manure management, reduction of enteric fermentation, improved fertilizer usage or improved water management in rice cultivation.³¹

To date, the number of afforestation/reforestation projects is very small in comparison to other types of CDM projects. The reasons for this include high transaction costs due to complex rules and methodologies, registration costs and issues related to measurement and monitoring, including difficulties in establishing additionally and preventing leakage.³² Beyond the scope of afforestation/reforestation projects, the CDM has also come under fire for its lack of a robust social and environmental protection framework that has resulted in reports of human rights violations, and called into question its legitimacy as a UNFCCC mechanism.³³

²⁷ Ibid

²⁸ Wetlands International & University of Greifswald (2010) On AFOLU 'wetland management' and the road to land-based accounting.

²⁹ Kyoto Protocol article 12

³⁰ Decision 17/CP.7 paragraph 7(a)

³¹ As per decision 17/CP.7 paragraph 6(c), there are three types of small-scale projects eligible for the CDM: type (i) Renewable energy project activities with a maximum output capacity equivalent of up to 15 megawatts (or an appropriate equivalent); type (ii) energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt/hours per year; and type (iii) Other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilotonnes of carbon dioxide equivalent annually. Agriculture sector projects of the type mentioned above fall into type (iii) eligible CDM activities as per decision 4/CMP.1, Annex II, paragraph 5,

³² Bhullar, L., (2013) REDD+ and the Clean Development Mechanism: a comparative perspective.

³³ CDM policy dialogue (2012) Climate Change, Carbon Markets and the CDM: a call to action, report of the high-level panel on the CDM policy dialogue.

BOX 2: REPORTING ON EMISSIONS AND REMOVALS FROM LAND USE UNDER THE CONVENTION

Reporting on emissions and removals from land use under the UNFCCC is accomplished through the submission of national reports (National Communications and National GHG Inventories, biennial reports or biennial update reports). The required contents and timetable for submission of such reports differ for Annex I countries (developed country Parties) and non-Annex I countries.

ANNEX I REPORTING REQUIREMENTS UNDER THE UNFCCC:

- National communications³⁴ to be submitted every 4 years³⁵
- Biennial reports³⁶ as well as a
- National GHG inventory³⁷ to be submitted annually³⁸

NON-ANNEX I REPORTING REQUIREMENTS UNDER THE UNFCCC:

- National communications to be submitted every 4 years, the first due within 3 years of ratification of the Convention³⁹
- Biennial update reports⁴⁰
- National GHG inventories (included in the national communication)⁴¹

The rules on reporting for emissions from land-use are quite comprehensive in scope; in accordance with the IPCC guidance, reporting on land use under the UNFCCC includes emissions and removals from agriculture, forests and other land uses (AFOLU).⁴²

This exposition is particularly important in light of the on-going negotiations towards a 2015 agreement, held under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP). The principle of common but differentiated responsibility (CBDR) is one of the founding principles of the UNFCCC and has been given effect through the Annex I/non-Annex I separation. Determining how this principle should be addressed in the 2015 Agreement, and whether it should evolve is a controversial question at the heart of the current negotiations.⁴³

³⁴ UNFCCC articles 4.2(b)(c), 12.2 and 12.3

³⁵ Decision 2/CP.17 paragraph 14

³⁶ Decision 2/CP.17 paragraphs 12-31

³⁷ UNFCCC Article 4.1(a) Article 12.1

³⁸ According to the current UNFCCC reporting guidelines, each national GHG inventory should include: estimated anthropogenic emissions and removals from the land-use sector in accordance with the revised 1996 IPCC guidelines for national greenhouse gas inventories, the IPCC good practice guidance and uncertainty management in national greenhouse gas inventories and the IPCC good practice guidance for land use, land use change and forestry. Furthermore in decision 15/CP.17 paragraph 2, the COP in Durban decided that starting in 2015, Parties should use the IPCC 2006 guidelines for national greenhouse gas inventories. UNFCCC SBSTA (2006) Updated reporting guidelines on annual inventories following incorporation of the provisions of decision 14/CP.11. Note by the secretariat

³⁹ UNFCCC Article 12.5 Decision 10/CP.2

⁴⁰ Decision 1/CP.16 paragraph 60(c)

⁴¹ UNFCCC Article 4.1(a) Article 12.1,

⁴² Although under the revised 1996 guidelines, agriculture and LULUCF are addressed separately, in the 2006 guidelines, they are dealt with together under Agriculture, Forests and Other Land Uses (AFOLU)

⁴³ Disclaimer: this working paper was prepared prior to COP 20, held from 1-14 December 2014 and its findings do not include detailed analysis of the outcomes from Lima.

Key conclusions and recommendations

- Although the reporting requirements for emissions from land-use between Annex I and non-Annex I Parties vary in terms of timing and format, they are reasonably comprehensive, covering emissions and removals from agriculture, forests and other land uses.
- In contrast, the accounting requirements for land-use, that is, those that regulate reporting against a specific emissions reduction target, fail to cover the sector as a whole and have been criticised for creating loopholes that undermine the objectives of the Convention.
- There are currently no mandatory requirements for non-Annex I Parties to reduce their emissions from land-use, and their participation in mechanisms such as REDD+ and the CDM are voluntary. It remains to be seen how the mitigation responsibilities/contributions of non-Annex I Parties will be determined in the 2015 agreement, and how technological and financial support will be mobilised to implement them, based on national circumstances and respective capabilities.

The Policy Gaps in the UNFCCC and Kyoto Protocol Related to land-use

The following policy gaps in the UNFCCC and Kyoto Protocol related to land-use were identified and are examined in more detail in this section:

- a) There is no unified framework for reducing emissions from the land-use sector, which affects the sector's contributions to the UNFCCC's ultimate climate objectives
- b) The provisions on land-use fail to recognise and adequately protect the social and environmental integrity of its mitigation actions, and in doing so undermine the effectiveness of the mitigation actions themselves. The on-going ADP discussions in relation to land-use are similarly inadequate.

Lack of a Unified Framework for Reducing Emissions from the land-use Sector

As identified in the previous section, the rules and requirements that govern how to report on and reduce GHG emissions from the land-use sector are numerous and vary in terms of scope (reporting or accounting) and coverage (LULUCF or land-use as a whole). This lack of coherence presents significant barriers to achieving the UNFCCC's objective and fails to adequately incentivise action to reduce emissions from land-use. Significant gaps in the current framework also exist that limit its effectiveness and threaten the permanence of mitigation actions undertaken by failing to strengthen governance, empower local stakeholders or put biodiversity and ecosystems at the centre of activities.

A notable policy gap that exemplifies the lack of coherence in the present UNFCCC land-use

regime, and which could potentially reduce the likelihood of the Convention achieving its climate goals, is the failure to address agriculture adequately. Agricultural emissions are currently treated in a fragmented manner under the UNFCCC and KP. For instance, for Annex I Parties, emissions resulting from land management are covered under voluntary accounting rules for LULUCF, (i.e. cropland management, and grazing land management), whereas emissions resulting from the industrial processes that support agriculture (i.e. fertilizer production and use) and livestock (methane) fall into the mandatory emissions accounting of industrial emissions.⁴⁴

Continuing discussions relating to the place of agriculture in the UNFCCC regime remain highly politicised due to national concerns such as sovereignty over food security, particularly for non-Annex I Parties. The negotiations were deadlocked through COP17 and COP18 as Parties failed to agree on a work programme for agriculture for two reasons: 1) disagreement on whether to frame such a work programme under the principle of common but differentiated responsibility (CBDR), which could mean that Parties may not be treated equally in terms of commitments; and 2) disagreement on the scope of the work programme (whether it should deal with adaptation and mitigation together, or only adaptation).⁴⁵

In an attempt to break the deadlock, in June 2013 SBSTA 38 invited Parties and admitted observer organisations to “submit their views on the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts, while promoting rural development, sustainable development and productivity of agricultural systems and food security in all countries, particularly in developing countries. This should take into account the diversity of the agricultural systems and the difference in scale as well as possible adaptation co-benefits.”⁴⁶

Although no substantive work programme was agreed upon at SBSTA 38, and no progress was made at the following session,⁴⁷ SBSTA 40 in June 2014 was somewhat more successful. The Chair noted the views of numerous Parties on the importance of adaptation activities that ensure food security as the entry point for climate activities in countries facing food insecurity and development challenges.⁴⁸ The Chair’s conclusions set forward activities reaching more than two years into the future, with the SBSTA agreeing to undertake scientific and technical work within the following four areas:⁴⁹

- On the development of early warning systems and contingency plans in relation to extreme weather events and its effects;
- Assessment of risk and vulnerability of agricultural systems to different climate change scenarios at regional, national and local levels;
- Identification of adaptation measures, taking into account the diversity of the agricultural systems, indigenous knowledge systems and the differences in scale; and
- Identification and assessment of agricultural practices and technologies to enhance productivity in a sustainable manner, food security and resilience.

The SBSTA also requested the UNFCCC secretariat to organise in-session workshops on these four elements, the first two to be held at SBSTA 42 (in June 2015) and the next two to be held at SBSTA 44 (in June 2016). Parties were requested to submit their views on the four

⁴⁴ Parker, C., Merger, E., Streck, C., Conway, D., Tennigkeit, T., & Wilkes, A., (2014) The land use sector within the post 2020 climate regime.

⁴⁵ CDKN Global (2013) Opinion: the current climate of agriculture in the UNFCCC.

⁴⁶ SBSTA 38 (2013) Issues relating to agriculture. Draft conclusions proposed by the chair.

⁴⁷ At its 39th Meeting, the SBSTA merely “acknowledged the rich exchange of views by Parties” and “agreed to consider the views by Parties and admitted observer organisations” at SBSTA 40. <http://unfccc.int/resource/docs/2013/sbsta/eng/l35.pdf>

⁴⁸ SBSTA 40 (2014) Issues related to agriculture. Draft conclusions proposed by the Chair.

⁴⁹ Ibid

identified areas by February 2015. Reports from the first two workshops are to be considered at SBSTA 43, held during COP 21 in Paris. Reports from the following two workshops are to be considered at SBSTA 45.

In light of the outcomes of SBSTA 38, the scope of the subsequent SBSTA discussions have clearly been geared towards adaptation to the impacts of climate change on agriculture rather than mitigation actions from agriculture.⁵⁰ This is understandable given concerns that mitigation commitments in agriculture could affect food security and sovereignty. However, it further underlines the need to incentivise a more integrated approach to land-use management in which rights, good governance and conservation of biodiversity are central in determining policy options that will generate both adaptation and mitigation outcomes.

A Flawed, Risk-Based Approach to Ensuring the Social and Environmental Integrity of Mitigation Actions from the land-use Sector

Although the UNFCCC and KP acknowledge the importance of the protection of social and environmental ‘concerns’ in the context of mitigation, sometimes even directly mentioning the social, economic and environmental values/services provided by landscapes, the chosen approach is weak and generally one of risk mitigation (see Box 3).

BOX 3: A RISK BASED APPROACH: SOCIAL AND ENVIRONMENTAL PROVISIONS OF THE UNFCCC AND KYOTO PROTOCOL

The Preamble of the Convention “Affirms that responses to climate change should be coordinated with social and economic development in an integrated manner **with a view to avoiding adverse impacts** on the latter taking into account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty.”

Although it does not explicitly single out the land-use sector, Article 2 of the UNFCCC states its ultimate objective of stabilising GHG concentrations in the atmosphere at a level that would prevent “dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production **is not threatened** and to enable economic development to proceed in a sustainable manner,” therefore acknowledging that climate change mitigation cannot come at the cost of food production or “natural” ecosystem adaptation.

Although the wording is not explicit, it suggests that the approach should be one of risk-mitigation, rather than identification and strengthening of governance, social and environmental enabling conditions.

⁵⁰ At SBSTA’s 40th meeting in June 2014 in Bonn, following a workshop on the state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts while promoting rural development, sustainable development and productivity of agricultural systems and food security in all countries, Parties and admitted observer organisations were invited to submit their views on the identification of adaptation measures for agriculture. SBSTA Draft Conclusions on issues related to agriculture (14 June 2014) FCCC/SBSTA/2014/L.14 paragraphs 1 and 5.

This is confirmed in Article 4, which requires Parties to “employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to **minimising adverse effects** on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.”

The KP does not include any requirements for Annex I Parties to take any action relating to non-GHG environmental protection, nor does it include or require any social or economic protection measures when undertaking mitigation actions.⁵¹ Non-Annex I Parties undertaking CDM projects under the KP are required to follow a number of general social and environmental provisions. All proposed CDM projects are for example required to obtain a letter from the host country’s Designated National Authority (DNA) confirming that the proposed project does in fact contribute to the country’s sustainable development. This has been referred to as equivalent to “certification by the host country” given the lack of definition of “sustainable development” and the differing standards applied by countries to assess “sustainability.”⁵²

In addition to this broad requirement, under KP Decision 5/CMP.1, afforestation and reforestation project implementers are required to “document” environmental impacts, (including on biodiversity and natural ecosystems). Project implementers are also required to analyse “significant socio-economic impacts” of the project and, if any environmental or socio-economic impact is considered significant by either the project implementers or the host Party, an impact assessment is required and a description of planned monitoring and remedial measures to address such impacts.⁵³ These provisions have however been criticised as insufficient and civil society has advocated for strengthening the social and environmental protection provisions of the CDM (including land-use projects) including establishing institutional safeguards, strengthening participation and requiring the establishment of project-level grievance mechanisms.⁵⁴

This is a fundamentally flawed perspective that focuses on GHG mitigation “plus” co-benefits, rather than on an integrated approach to the landscape and the values/services it provides, carbon sequestration being one among many that are inextricably connected.

The mechanism for Reducing Emissions from Deforestation and forest Degradation (REDD+) differs, however, in its incorporation of safeguards. The Cancun Safeguards, which are part of the rules for REDD+, are the most comprehensive social, environmental and governance provisions to date relating to land-use under the UNFCCC.⁵⁵ The REDD+ framework stipulates that REDD+ activities should be undertaken in accordance with the seven Cancun safeguards; and in order to access results-based payments these safeguards are to be addressed and respected,⁵⁶ and must also be “promoted and supported.”⁵⁷

The approach to social and environmental protection embodied by the Cancun safeguards requires significant action and governance improvements from participating governments

⁵¹ Although the Joint Implementation (JI) mechanism under the KP does require project proponents to document an analysis of environmental impacts, as well as undertake an environmental impact assessment if the impacts are considered significant by project participants or the host country. However Social impacts do not need to be included nor assessed. Iversen P., Lee D., and Rocha M., (2014) Understanding Land Use in the UNFCCC

⁵² Olsen, K. H. and Fenhann, J. (2008). Sustainable development benefits of clean development mechanism projects: a new methodology for sustainability assessment based on text analysis of the project design documents submitted for validation.

⁵³ Project Design Document Form for Afforestation and Reforestation Project Activities (CDM-AR-PDD) Version 1.

⁵⁴ Human Rights and Climate Change Working Group (2012) Submission on views regarding the revision of the CDM modalities and procedures

⁵⁵ Due to their adoption in Cancun in decision 1/CP.16 appendix I paragraph 2

⁵⁶ Decision 2.CP/17 paragraph 63

⁵⁷ Decision 1/CP.16, paragraph 69 and appendix I paragraph 2

including recognition of substantive (indigenous peoples' rights) and procedural (right to full and effective participation) rights, as well as positive steps to protect biodiversity and natural forests, going beyond a risk-based approach towards a more integrated, rights based approach.⁵⁸

As noted above, however, this approach only applies to REDD+. It does not apply to the whole spectrum of land-use activities, such as LULUCF. For the most part, the current land-use regime fails to incorporate adequate social, environmental and governance measures to incentivise the right climate outcomes. The measures that do exist, take a risk-based approach that singles out mitigation benefits in isolation from the social, environmental and governance conditions that enable them. This absence of comprehensive social, environmental and governance provisions applicable to land-use is also noticeable in the current ADP discussions (See Box 4).

⁵⁸ Rey, D., Roberts, J., Korwin, S., Rivera, L., and Ribet, U. (2013) A Guide to Understanding and Implementing the UNFCCC REDD+ Safeguards.

BOX 4: ADP DISCUSSIONS RELEVANT TO SOCIAL, ENVIRONMENTAL AND GOVERNANCE PROVISIONS APPLICABLE TO LAND-USE

COP 17 in Durban established the ADP,⁵⁹ who at its first meeting initiated two workstreams:⁶⁰ Workstream 1 tasked with developing the 2015 agreement⁶¹ and Workstream 2 tasked with increasing pre-2020 mitigation ambition.⁶² The status of the negotiations under these two workstreams provides an indication of how land-use is likely to be dealt with under the UNFCCC, both pre- and post 2020. Neither workstream appears to be straying significantly from the traditional UNFCCC risk-based approach to social and environmental protection so far.

ADP WORKSTREAM 1⁶³

In accordance with its mandate, established in Durban under decision 1/CP.17, the ADP has been engaged in on-going discussions to agree on elements for the 2015 climate agreement. Prior to its second session, which took place in October 2014 in Bonn, the ADP prepared a non-paper summarising Parties' views and proposals on the elements of a draft negotiating text, this non-paper was subsequently updated to reflect evolving discussions in the ADP.⁶⁴

In its preamble, the non-paper acknowledges that Parties to this new agreement will still be guided by the principles of the UNFCCC as set out in Article 3, namely that Parties "should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with evolving common but differentiated responsibilities."⁶⁵ This inclusion of the word 'evolving' is in recognition of the new agreement's need to go beyond the traditional Annex I and non-Annex I distinction, acknowledging that some developing countries have greater impacts and therefore responsibilities regarding increases in current atmospheric CO₂ concentrations.

The land-use sector is not specifically identified as a stand-alone element that should be included in the 2015 agreement under the heading of mitigation and is only mentioned in relation to accounting rules.

In the section on adaptation, the non-paper declares that each Party should prepare adaptation commitments/contributions by integrating adaptation into national development planning and inter alia "strengthen governance and enabling environments"⁶⁶ but provides no further details as to how this could be achieved, nor what is meant by "enabling environments."

In addition, it is suggested that Parties' commitments/contributions should be "country-driven, gender-sensitive, participatory, and fully transparent, take into account vulnerable groups and ecosystems, be based on science and traditional and indigenous knowledge, and promote the engagement of subnational and local authorities and other stakeholders."⁶⁷

⁵⁹ Decision 1/CP.17

⁶⁰ As set out in document FCCC/ADP/2012/2, paragraph 13

⁶¹ Decision 1/CP.17 paragraphs 2 to 6

⁶² Decision 1/CP.17 paragraphs 7 and 8

⁶³ As noted above, this discussion paper was prepared prior to COP 20, and therefore does not include an analysis of the updated 'elements of a 2015 agreement' text, contained in the annex of the Lima call for climate action that now replaces the November non-paper prepared by the ADP co-chairs

⁶⁴ ADP updated non paper on Parties views on elements for a draft negotiating text

⁶⁵ Ibid p.1

⁶⁶ Ibid p.5

⁶⁷ Ibid p.5

However, it is unclear whether this is intended to be limited to the commitments themselves or to the implementation thereof.

There is some mention of the need to mobilise finance to “support the integration of climate objectives into other policy relevant areas and activities such as ... agriculture.” No further details are provided but this suggests that agriculture may continue to be kept separate from other land-use sector activities.

ADP WORKSTREAM 2

Discussions under ADP workstream 2⁶⁸ have examined ways in which the land-use sector could help to increase the level of ambition. In its conclusions agreed at the second part of its first session, held in Doha, Qatar in 2012, the ADP decided to hold in-session round tables and workshops in 2013 under the two workstreams initiated in 2012.⁶⁹ In light of this, a workshop on opportunities for mitigation and adaptation related to land use was organised in May 2013 under workstream 2.⁷⁰

In the workshop, Parties acknowledged that ample opportunities exist to scale up mitigation and adaptation actions in the land-use sector and discussed the importance of including climate change “considerations” within policies addressing sustainable management of natural resources, territorial planning, forest monitoring and agricultural production.⁷¹

While these discussions have highlighted the importance of the multiple benefits provided by the land use sector such as food security, sustainable livelihoods, biodiversity conservation and poverty alleviation,⁷² they fell short of acknowledging the need for an integrated approach to land-use planning and management. In fact, some Parties expressed the view that agriculture and forests should be discussed separately under the ADP, or even that the ADP should completely avoid focusing on sectors.⁷³

The following year, during the fifth part of its second session, held in Bonn, in conjunction with the fortieth sessions of the Subsidiary Body for Implementation (SBI 40) and the SBSTA 40, a technical expert meeting (TEM) to unlock mitigation opportunities in land use in the pre-2020 period was also held. Participants to the TEM recognised that “Good governance across all levels is central to reducing mitigation barriers in this sector and ensuring that multiple co-benefits for rural development and food security are achieved.”⁷⁴ Subsequently, the UNFCCC secretariat has been requested to organise a series of TEMs in 2015 in a manner that “Assesses mitigation benefits, co-benefits, including adaptation and sustainable development co-benefits, costs and other barriers to the implementation of policy options”⁷⁵

This mandate remains in line with the “risk mitigation” or emission reduction “plus co-benefits” approach that fails to acknowledge that governance, biodiversity conservation and rights are core enabling conditions for mitigation and adaptation rather than co-benefits.

⁶⁸ In line with its mandate to enhance mitigation ambition in the pre-2020 period Decision 1/CP.17 paragraph 8

⁶⁹ FCCC/ADP/2012/3,

⁷⁰ Ad Hoc Working Groups on the Durban Platform for Enhanced Action (2013) Information on the second session of the ADP. Note by the co-chairs

⁷¹ Ad Hoc Working Groups on the Durban Platform for Enhanced Action (2013) Summary report on the workshop on opportunities for mitigation and adaptation related to land-use. Note by the facilitator

⁷² Ibid

⁷³ Ibid

⁷⁴ Simons, T., (2014) UNFCCC Work plan on enhancing mitigation ambition, Technical Expert Meeting on Land-Use. Summary at the closing session of the technical expert meetings by the facilitator.

⁷⁵ Ad Hoc Working Groups on the Durban Platform for Enhanced Action (2014) Accelerating the implementation of enhanced pre-2020 ambition. Draft by the Co-Chairs. Paragraph 14(d)

Key conclusions and recommendations

- The lack of a coherent framework for reducing emissions from land-use compromises the sector's contributions to the UNFCCC's ultimate climate objectives. Particular gaps that need to be addressed include: loopholes in the current accounting framework that exclude certain emissions, failing to provide an accurate picture of the land-use sector; and the lack of a framework for incentivising emission reductions from agriculture. One possible way of achieving this would be greater integration of land-use planning at the national level (see below).
- The UNFCCC's traditional risk-based approach to protecting the social and environmental integrity of mitigation actions from the land use sector is largely insufficient to achieve this objective. The example of REDD+, which includes safeguards that require countries to be more pro-active in enhancing governance, rights and biodiversity, could potentially stimulate a shift towards a view of social, environmental and governance provisions as "enabling conditions" for effective and sustainable climate actions.
- The ADP discussions in relation to land-use fail to sufficiently acknowledge the role of good governance, rights and biodiversity conservation as fundamental pre-requisites to ensure the effectiveness and equity of climate actions. A paradigm shift is called for in both ADP workstreams.

II. Achieving Sustainable Land Use:

How to ensure the Paris agreement maximises environmental, social and governance outcomes of climate actions in land-use

This section specifically sets out why and how the UNFCCC's treatment of the land-use sector under the 2015 agreement should go beyond an exclusive GHG focus to one that acknowledges good governance, a rights-based approach and biodiversity conservation as fundamental enabling conditions to ensure the effectiveness and permanence of climate actions. It does so, by examining:

- a) Why and how the multiple and inter-linked values, services and benefits provided by landscapes are better served through a more integrated approach to land-use management (referred to here as a landscape approach).
- b) The enabling conditions required to realise these multiple benefits and objectives (i.e. mitigation, adaptation, provision of livelihoods, ecosystem resilience, biodiversity protection and good governance), while also recognising the potential impacts of land use change on landscapes.
- c) Why and how the land-use sector must help to achieve real, permanent reductions in GHG emissions in its own right, rather than being used as a means to replace the significant action that needs to be taken in other sectors to reduce fossil carbon emissions.

Multiple dimensions/values of the landscape: landscape services

Landscapes are rich and complex environments, of which humans and their activities form an integral part. A useful concept for identifying and understanding the wide range of economic, socio-cultural, and ecological functions of the landscape that are valued by humans is that of “landscape services” (see Box 5).⁷⁶ Landscape services are similar to ecosystem services, with the difference that a landscape is a larger scale than an ecosystem and is composed of networks of ecosystems, but also includes urban areas that are not traditionally thought of as ecosystems.⁷⁷ Opinions differ on how best to define the landscape,⁷⁸ and the discussions on

⁷⁶ Termorshuizen, J. W., and P. Opdam. 2009. Landscape services as a bridge between landscape ecology and sustainable development.

⁷⁷ Valles-Planells, M., Galiana, F., Van Eetvelde, V., (2014) A classification of landscape services to support local landscape planning.

⁷⁸ Peter Holmgren, Director General of the Centre for International Forestry Research (CIFOR) has argued in favour of defining a landscape as “a place with governance in place”. Holmgren, P., (2013) On Landscapes – Part 2: what are landscapes? CIFOR Blog.

what is meant by a landscapes approach is still evolving⁷⁹ but it can be broadly understood as an approach that seeks to address the increasingly complex and widespread environmental, social and political challenges associated with land-use management that cannot be met by a traditional sector-specific focus or a compartmentalised management approach.

BOX 5: CATEGORIES OF LANDSCAPE SERVICES

The services provided by the landscape, are numerous, and similarly to ecosystem services, can be grouped into three broad categories:⁸⁰

- **Provisioning services** relate to the landscape as a source of natural resources. Provisioning services include things essential to human survival, such as food (plant and animal foodstuffs), water, and energy (in the form of biofuels). They also provide the resources for productive activities (fertile soil for agriculture, timber and non-timber forest products);
- **Cultural services** include: health, enjoyment, self/personal fulfilment, and social fulfilment; and
- **Regulation and maintenance services** are considered a necessary pre-condition for all other services,⁸¹ and are closely linked to ecosystem services. They include lifecycle maintenance and habitat protection, atmospheric, water flow and quality regulation, soil quality regulation (prevention of erosion), pest and disease control etc. An essential service provided by the landscape is also its capacity to adapt to change (resilience/adaptation) and ensure the continued provision of services for future generations. The continued provision of these regulation services relies on the maintenance of biodiversity and health of the ecosystems that comprise the landscape.

The interdependence between agriculture, forests and carbon emissions and removals make it difficult to manage any of these in isolation to achieve the multiple objectives of food security, economic development, biodiversity conservation, and climate change mitigation/adaptation. For instance, subsistence and industrial agriculture are major drivers of deforestation⁸² and important sources of GHG emissions, yet forests and other natural vegetation house/supply the ecosystem services that sustain agricultural production (e.g. water for irrigation, protection from floods, habitat for wild pollinators, and microclimate regulation).⁸³ It has therefore been argued by some that the landscape is the appropriate scale for policy action to reconcile the trade-offs between these multiple objectives.⁸⁴

⁷⁹ Researchers at the Centre for International Forestry Research (CIFOR) are currently engaged in a mapping exercise to review and refine what a landscape approach means in practice. Baxter, J. (2014) Coming to terms with terminology: seeking 'gray literature' on landscapes. CIFOR Blog.

⁸⁰ Ibid

⁸¹ de Groot, R. S. (2006). Function-analysis and valuation as a tool to assess land use conflicts in planning for sustainable, multi-functional landscapes.

⁸² Chomitz, K., (2007) At loggerheads: Agricultural expansion, poverty reduction, and environment in the tropical forests.

⁸³ Lipper, L. (2000) Forest degradation and food security

⁸⁴ FAO (2011) Submission to the UNFCCC Secretariat on issues identified in decision 1/CP.16 paragraph 72, in answer to the invitation of paragraph 5 of draft conclusions. Sayer, J., (2009) Reconciling conservation and development: are landscapes the answer? International Union for Conservation of Nature (IUCN). Kozar, R., Buck, L.E., Barrow, E.G., Sunderland, T.C.H., Catacutan, D.E., Planicka, C., Hart, A.K., and L. Willemen. (2014). Toward Viable Landscape Governance Systems: What Works? Shames, S., Scherr, S.J., Wallace, C. and Hatcher, J. (2011) Integrating agendas for forests, agriculture and climate change mitigation: rationale and recommendations for landscape strategies, national policy and international climate action. Scherr, S.J., Shames, S., Friedman, R., (2012) From climate smart agriculture to climate smart landscapes.

Landscapes and Climate Outcomes: Potential for Both Mitigation and Adaptation

Landscapes provide multiple services, of which mitigation and adaptation are only two. However, as discussed above, under the UNFCCC, the land-use sector has traditionally been approached in a siloed manner.⁸⁵ Through such a siloed approach the UNFCCC helps to perpetuate current national approaches of addressing different sectoral land-use priorities (climate change mitigation, adaptation, economic development, food security) separately, rather than encourage more integration in land-use management.

In addition to this, the current UNFCCC regime places GHG mitigation above adaptation as the top priority.⁸⁶ This is clear in the context of REDD+ for example, where adaptation is often referred to as a co-benefit or “non-carbon benefit” to mitigation actions.⁸⁷ This hierarchy between mitigation and adaptation can also be seen in developing country national climate programmes where Nationally Appropriate Mitigation Actions (NAMA) are managed by a different institution from National Adaptation Programmes of Action (NAPA), with often-unequal distribution of powers and unequal funding and/or support.⁸⁸

Furthermore, the Intergovernmental Panel on Climate Change’s 5th Assessment Report (IPCC AR5) acknowledges that adverse side effects of mitigation actions in the AFOLU sector could significantly outweigh its co-benefits,⁸⁹ supporting the case that mitigation actions should not be undertaken in isolation.

It is also widely recognised that the land-use sector has a high potential for achieving both positive mitigation and adaptation outcomes and that approaches that promote synergies between the two are desirable.⁹⁰ An integrated approach to land-use management, might also help to address complementary issues in the land-use sector, such as food security, energy and water supply.⁹¹ Although achieving full synergy between national mitigation and adaptation approaches in the near-term is unlikely due to the complexity and resource-intensity of the approach, some common enabling conditions can nevertheless be identified for both.

⁸⁵ This is reflected in many current land-based climate mitigation and adaptation programmes, which have tended to focus on a single land use within the landscape. Shames, S., Scherr, S.J., Wallace, C. and Hatcher, J. (2011) Integrating agendas for forests, agriculture and climate change mitigation: rationale and recommendations for landscape strategies, national policy and international climate action.

⁸⁶ van Noordwijk M, Namirembe S, Catacutan DC et al (2014) Pricing rainbow, green, blue and grey water: tree cover and geopolitics of climatic teleconnections.

⁸⁷ In Doha, the COP requested the SBSTA to initiate a work programme on methodological issues related to non-carbon benefits resulting from the implementation of REDD+ (decision 1/CP.18 paragraph 40), as part of this work programme, parties were invited to submit their views on non-carbon benefits (SBSTA 38 agenda item 4 draft conclusions proposed by the chair paragraph 22 FCCC/SBSTA/2013/L.12). In their submissions, a number of Parties identified adaptation as a non-carbon benefit. SBSTA (2014) Views on the issues referred to in decision 1/CP.18 paragraph 40, submissions from Parties and admitted observer organisations

⁸⁸ In Bangladesh, for example, adaptation is handled under the Ministry of Environment and Forestry, while mitigation is administered through a high-profile Designated National Authority. Duguma, L., Minang, P., van Noordwijk M (2014) Climate Change Mitigation and Adaptation in the Land Use Sector: From Complementarity to Synergy.

⁸⁹ IPCC (2014) 5th Assessment Synthesis Report. Approved Summary for Policymakers. Section 4.4

⁹⁰ Klein RJT, Huq S, Denton F, Downing TE et al (2007) Inter- relationships between adaptation and mitigation. Climate Change 2007: Impacts, Adaptation and Vulnerability.

⁹¹ Duguma, L., Minang, P., van Noordwijk M (2014) Climate Change Mitigation and Adaptation in the Land Use Sector: From Complementarity to Synergy.

Key Conclusions and Recommendations

- The 2015 agreement must provide direction to countries to ensure a more integrated approach to land use management, so that policy can be developed in a balanced, rational manner. If it fails to do this, there are significant risks that mitigation actions in the land-use sector will lead to negative impacts on key ecosystem/landscape values/services, such as ecosystem resilience (and therefore adaptation), livelihoods and food security.
- The appropriate scale for land-use management planning that considers and addresses sectoral drivers of deforestation (such as agriculture) is the landscape. Such planning will require significant integration of different sectoral governance institutions and processes (landscape approach).
- The land-use sector will be the target of policies and measures that aim to address both mitigation and adaptation, which are currently being planned and implemented separately, often by different institutions. In addition to cross-sectoral integration, countries will need to ensure that mitigation actions in the land-use sector do not undermine adaptation objectives and vice-versa. For this reason common enabling conditions for both mitigation and adaptation need to be identified and supported.

Why Governance, Rights and Biodiversity need to be Included in a Land-Use Section of the 2015 Agreement

The IPCC notes that mitigation measures are not implemented in a void, and have the potential for beneficial or adverse side effects on other societal goals such as those related to food security, local environmental quality, energy access, livelihoods and equitable sustainable development. It asserts that in the context of AFOLU, the benefits may be outweighed by the adverse side effects.⁹² Conversely policies aimed at achieving these societal goals can positively influence the achievement of mitigation and adaptation.

Although a more integrated approach to land-use management is needed, it is clear that greater policy and institutional integration alone will not be sufficient to achieve the multiple climate and societal objectives and priorities of the land-use sector. The IPCC emphasises the importance of a multi-objective perspective, which can be enhanced, inter alia by “adequate governance structures.”⁹³

In order to maximise climate outcomes, the UNFCCC can and should support such a multi-objective perspective by identifying and supporting common core enabling conditions, such as good governance, a rights based approach and the conservation and sustainable use of biodiversity.

⁹² IPCC (2014) 5th Assessment Synthesis Report. Approved Summary for Policymakers. Section 4.4

⁹³ IPCC (2014) 5th Assessment Synthesis Report. Approved Summary for Policymakers. Section 4.5

Good Governance

The UN's Food and Agriculture Organization (FAO) recognises weak governance, lack of law enforcement, rural poverty and unclear allocation of rights as significant underlying drivers of deforestation, and therefore GHG emissions from the land-use sector.⁹⁴

Although there is no simple definition of “good governance”, the term is generally associated with principles such as transparency, public participation and accountability. It is generally considered a critical foundation for achieving positive climate, environmental and economic outcomes.⁹⁵ Good forest governance has been acknowledged as an essential enabling condition for reducing emissions from land use in the context of REDD+ and as such was included as one of the Cancun safeguards.⁹⁶ Improving governance in the land-use sector can also be seen as a fundamental enabling condition for effective mitigation and adaptation actions.

As many developing countries are likely to be in the front-line of the most immediate and severe impacts of climate change, the success of adaptation activities is essential. Ensuring that the process of designing and implementing climate adaptation strategies is participatory and accountable to those the strategies serve (through addressing governance problems such as corruption) will go a long way to ensure that they are robust enough to deal with the impacts of climate change. This includes ensuring that civil society, indigenous peoples and local communities participate in the identification, assessment and implementation of adaptation policies.⁹⁷ Conversely, the absence of sufficient transparency, public participation, or grievance and dispute resolution mechanisms, may undermine the legitimacy of mitigation actions. This could also threaten the permanence of mitigation actions if local ownership is insufficient.⁹⁸

A Rights-based Approach to Climate Actions

The effects of climate change are likely to have progressively increasing impacts on human livelihoods and directly affect people's rights, particularly in a sector like land-use that supports so many livelihoods. These impacts include:⁹⁹

- Risk of severe ill health and disrupted livelihoods resulting from storm surges, sea level rise and coastal flooding; inland flooding; and periods of extreme heat.
- Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services.
- Risk of food and water insecurity and loss of rural livelihoods and income

⁹⁴ FAO (2011) Submission to the UNFCCC Secretariat on issues identified in decision 1/CP.16 paragraph 72, in answer to the invitation of paragraph 5 of draft conclusions UNFCCC/SBSTA/2011/L.25.

⁹⁵ Davis, C., Williams, L., Lupberger, S., Daviet, F., (2013) Assessing Forest Governance, the Governance of Forests Initiative Indicator Framework.

⁹⁶ Decision 1/CP.16 Appendix 1 paragraph 2(b) requires “transparent and effective governance structures” to be “promoted and supported” and (d) requires “the full and effective participation of all relevant stakeholders” to be promoted and supported. For a detailed analysis of the scope and content of this and the other Cancun safeguards, see Rey, D., Roberts, J., Korwin, S., Rivera, L., and Ribet, U. (2013) A Guide to Understanding and Implementing the UNFCCC REDD+ Safeguards.

⁹⁷ African Development Bank, Asian Development Bank, Department for International Development (UK), Directorate-General for Development (European Commission), Federal Ministry for Economic Cooperation and Development (Germany), Ministry of Foreign Affairs Development Cooperation (The Netherlands), Organization for Economic Cooperation and Development, United Nations Development Programme, United Nations Environment Programme, The World Bank (2010) Poverty and Climate Change, Reducing the Vulnerability of the Poor through Adaptation.

⁹⁸ Sunderlin WD, Ekaputri AD, Sills EO, Duchelle AE, Kweka D, Diprose R, Doggart N, Ball S, Lima R, Enright A, Torres J, Hartanto H and Toniolo A. (2014). The challenge of establishing REDD+ on the ground: Insights from 23 subnational initiatives in six countries. Occasional Paper 104. Bogor, Indonesia: CIFOR.

⁹⁹ IPCC (2014) 5th Assessment Synthesis Report, longer report. Section 2.3 p.25

Furthermore, these risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries irrespective of the level of development.¹⁰⁰

Mitigation policies in the land-use sector may have significant impacts on core rights such as tenure and the right to livelihoods. For example, forest conservation efforts or agricultural intensification in the land-use sector may serve to reduce emissions but potentially at the cost of the livelihoods of those who rely on those forests or on small-scale agriculture. They may also lead to a community's expulsion from their ancestral lands in the name of mitigation.¹⁰¹

Adopting a rights-based approach (RBA) to designing and implementing climate change measures in the land-use sector can help alleviate these risks. An RBA goes beyond a singular focus on human rights, and is closely interlinked with good governance, including the protection of key procedural rights such as public participation and access to justice (accountability). An RBA also integrates the conservation of biodiversity as a fundamental component of ecosystems that support livelihoods. In the context of this paper, an RBA to climate change is understood as including:¹⁰²

- Consistency with international human rights obligations, including those linked to indigenous peoples' rights
- Promoting a multiple benefits (social, economic, environmental) approach to policy design and implementation;
- Transparency and accountability; and
- Public participation

Adopting an RBA to mitigation in the land-use sector can help to support people's legitimate rights to livelihoods, their land and resources and to a healthy environment.¹⁰³

Strengthening the land and resource rights (including a recognition and improved enforcement of these rights) of indigenous peoples and local communities have been shown to lower GHG emissions and deforestation and improve resilience to climate change.¹⁰⁴ In the broader context of land-use, the recognition and protection of rights, such as agricultural land use rights are also seen as core enablers for positive climate outcomes, supporting the case for an RBA to reducing emissions from land-use.¹⁰⁵

As already highlighted, the Cancun safeguards call on countries to implement what, in effect, is a rights based approach.¹⁰⁶ It includes respecting the rights of indigenous peoples and local communities, ensuring the full and effective participation of all relevant stakeholders as well as the protection of natural forests and conservation of biodiversity,, taking into account the need for sustainable livelihood benefits, and preventing leakage and the risk of reversals.¹⁰⁷

The issue of human rights in the 2015 agreement has already received much attention.¹⁰⁸ At the October 2014 meeting of the ADP, a number of independent experts from the Human

¹⁰⁰ Ibid

¹⁰¹ International Council on Human Rights Policy (2008) Climate Change and Human Rights: A Rough Guide. p. 31

¹⁰² Based on: Griebler, T., Janki, M., Orellana, M., Savaresi, A., Shelton, D., (2009) Conservation with Justice: A Rights-based Approach and Johl, A., and Lador, Y., (2012) A Human Rights-Based Approach to Climate Finance.

¹⁰³ Ibid pp.37-40

¹⁰⁴ Stevens, C., Winterbottom, R., Springer, J., Reyta, K., (2014) Securing Rights, Combatting Climate Change: How Strengthening Community Forest Rights Mitigates Climate Change.

¹⁰⁵ Scherr, S., Shames, S., Wallace, C., Hatcher, J., White, A., Minang, P., (2011) Making REAL(U) Right: harmonizing agriculture, forests and rights in the design of REDD+.

¹⁰⁶ Rey et al. (2013) Understanding and implementing the UNFCCC REDD+ Safeguards

¹⁰⁷ Decision 1/CP.16 Appendix 1 paragraph 2(c),(d), (e), (f) and (g)

¹⁰⁸ Comprehensive land-use planning: a rights based approach. (2014) Discussion paper for addressing the land sector under the ADP. Johl, A., Duyck, S., (2012) Promoting Human Rights in the Future Climate Regime.

Rights Council called on Parties to the UNFCCC to include language in the 2015 climate agreement providing that “the Parties shall, in all climate change related actions, respect, protect, promote, and fulfil human rights for all” and launch a work programme at COP 20 in Lima to ensure that human rights are integrated into all aspects of climate actions (including the land-use sector).¹⁰⁹ However, as discussed above, in order to truly maximise the social and economic outcomes of climate actions in the land-use sector, the 2015 agreement should require that countries apply a broader, more comprehensive rights based approach.

Biodiversity Conservation

According to the Convention on Biological Diversity, biodiversity means: “the variability among living organisms for all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”¹¹⁰

The sustainable use and conservation of biodiversity and ecosystem services can play a crucial role in achieving desired climate outcomes. Biodiversity conservation facilitates mitigation, for example through carbon sequestration and emission reductions. The conservation of biodiversity and ecosystem services can also help people to adapt to climate change by providing buffer zones (for example in the form of floodplains and mangroves) that protect human settlements and offering a diverse range of livelihood sources.¹¹¹ Generally, the more diverse the ecosystem, the more resilient it will be to the impacts of climate change.¹¹² Conversely, poorly planned mitigation actions that are harmful to biodiversity (i.e. afforestation of high biodiversity non-forest land such as grasslands) may undermine the permanence of these actions due to increased vulnerability of ecosystems (for instance, to pests or forest fires), and compromise the livelihoods of local communities. Similarly, adaptation policy and practice that does not adequately consider biodiversity can lead to maladaptation.

In the UNFCCC the importance of biodiversity is recognised in the Cancun safeguards¹¹³ and the Cancun adaptation framework.¹¹⁴ This recognition is equally necessary for the regulation of climate action in land-use as a whole. It is important, therefore, that Parties ensure coherence between their climate mitigation, and adaptation policies, programmes and projects¹¹⁵ as well as with those relating to biodiversity¹¹⁶ and development.

¹⁰⁹ UN Office of the High Commissioner (2014) A new climate change agreement must include human rights protections for all. An open letter from special procedures mandate-holders of the Human Rights Council to State Parties to the UNFCCC on the occasion of the meeting of the Ad Hoc Working Group on the Durban Platform for Enhanced Action in Bonn.

¹¹⁰ Convention on Biological Diversity (1992) Article 2

¹¹¹ Mant, R., Perry, E., Heath, M., Munroe, R., Väänänen, E., Großheim, C., Kümper-Schlake, L. (2014) Addressing climate change – why biodiversity matters.

¹¹² Ibid

¹¹³ Decision 1/CP.16 Appendix 1 paragraph 2 (e) states that “actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 [of this decision] are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits”

¹¹⁴ Decision 1/CP.16 paragraph 14(c) invites Parties to: “Build[ing] resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources.”

¹¹⁵ This includes Nationally Appropriate Mitigation Actions (NAMAs) and National Adaptation Programmes of Action (NAPAs) Mant, R., Perry, E., Heath, M., Munroe, R., Väänänen, E., Großheim, C., Kümper-Schlake, L. (2014) Addressing climate change – why biodiversity matters

¹¹⁶ Including National Biodiversity Strategies and Action Plans (NBSAP). Ibid

Key Conclusions/Recommendations

- The land-use sector provides essential services to humanity beyond climate change mitigation, including livelihoods, food security and adaptation. Good governance, a rights-based approach to climate action and biodiversity conservation have been identified as broad enabling conditions that will not only help to protect these multiple services, but also help ensure the effectiveness and permanence of climate actions.
- The UNFCCC can play a role in identifying and incentivising the realisation of these enabling conditions for such a multi-objective, integrated approach, including through their inclusion in a 2015 agreement. Good governance, a rights-based approach and biodiversity conservation are some of the most fundamental enabling conditions to achieve the multiple objectives of the land-use sector

Differences between ‘terrestrial’ and ‘fossil’ carbon pools and their impact and role in reducing global GHG emissions

The scale of emissions from fossil fuels cannot be compensated for by the land-use sector

Terrestrial carbon plays an important role in the stocks and flows of the global carbon cycle. However it has been acknowledged that a lack of scientific understanding of what is required for successful mitigation can lead to policy decisions in the land-use sector that have perverse outcomes for global climate change mitigation targets.¹¹⁷

Terrestrial and fossil carbon stocks are fundamentally different in nature. The fossil fuel carbon stock was built up very slowly over millions of years and represents a total amount of emissions that far exceeds the capacity for removals of the remaining land sinks. The capacity of land sinks to remove atmospheric carbon and store it in vegetation and soil is finite and limited.¹¹⁸

In the spring of 2014 for the first time in modern history, atmospheric CO₂ exceeded 400 parts per million across most of the northern hemisphere.¹¹⁹ The IPCC has estimated that in order to have a chance of limiting global warming to below 2 degrees, atmospheric GHG concentrations cannot be allowed to surpass 450ppm by the year 2100.¹²⁰

¹¹⁷ The threshold at which anticipated effects of climate change can still be limited to an acceptable level is 2 degrees Celsius. Hansen, J., Karecha, P., Sato, M., Masson-Delmotte, V., Ackerman, F., Beerling, D., Hearty P., Hoegh-Gulbert, O., Hsu, S., Parmesan, C., Rockstrom, J., Rohling, E., Sachs, J., Smith, P., Steffen, K., Van Susteren, L., von Schuckmann, K., Zachos, J., (2013) Assessing “dangerous climate change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations, and Nature. PLoS

¹¹⁸ Mackey, B., Prentice, C., Steffen, W., House, J., Lindenmayer, D., Keith, H., Berry, S., (2013) Untangling the confusion around land carbon science and climate change mitigation policy. Nature Climate Change. Available from: <https://cci.anu.edu.au/storage/nclimate1804.pdf>

¹¹⁹ Lynch, P., (2014) NASA computer model provides a new portrait of carbon dioxide
120 IPCC (2014) 5th Assessment Synthesis Report, longer report p.21

Emissions from land-use change (terrestrial carbon) are estimated to have contributed up to 36% of the total anthropogenic CO₂ emitted into the atmosphere between 1800-2000¹²¹ and roughly 12% of annual CO₂ emissions between 2000 and 2010.¹²² This percentage has been falling over the last decade, as land-use emissions have remained roughly constant whilst fossil fuel emissions have continued to rise year on year.¹²³

Estimates have demonstrated that if all the carbon so far released by land-use changes (mainly deforestation) could be restored through reforestation this would reduce atmospheric concentration of CO₂ at the end of the century by 40–70 ppm. Furthermore, the capacity of the land to remove atmospheric carbon and store it in vegetation and soil is limited to the amount previously depleted by land use,¹²⁴ supporting the assertion that the role the land-use sector can play in sequestering CO₂ is finite.¹²⁵

The mitigation value of forests lies primarily in the longevity (permanence) of their accumulated carbon stocks

Terrestrial carbon differs further in that carbon stocks ebb and flow more quickly than fossil carbon and are more prone to sudden changes even without human activity. Historical human activity (i.e. clearing of forests for agricultural land and burning of fossil fuels in the industrial era) has affected the global carbon cycle and caused a shift in terrestrial and fossil carbon stocks from the earth/ground to the atmosphere (see figure 1 in Annex)¹²⁶. However, non-anthropogenic occurrences may also result in terrestrial carbon being released, e.g., massive forest fires.

Contrary to initial assumptions, which stated that the lifetime of CO₂ in the atmosphere was in the order of 120 years,¹²⁷ the situation is more complex. About 60% of CO₂ emitted is removed over 100 years through absorption into the oceans or the terrestrial biosphere, but the remaining CO₂ takes much longer. Modelling scientists estimate that 20-35% will still be in the atmosphere after 2-20 millennia.¹²⁸ A unit of CO₂ emitted into the atmosphere is only fully removed from the carbon cycle when it has been completely dissolved in the deep ocean, which takes in the order of thousands of years.¹²⁹ This means that carbon stored in terrestrial sinks is not completely removed from the carbon cycle and could still be at risk of being released into the atmosphere.

Although this issue of ‘permanence’ is widely recognised in the UNFCCC negotiations, the magnitude of the timescales involved and required may not be. Indeed it is still incorrectly assumed in many policy contexts that 100 years is a sufficient period for maintaining

121 Houghton, R. A. (2007) Balancing the global carbon budget.

122 Friedlingstein, P. et al. (2010) Update on CO₂ emissions.

123 IPCC (2014) 5th Assessment Synthesis Report, Summary for policymakers, longer report. p. 44

124 Mackey, B., et al (2013) Untangling the confusion around land carbon science and climate change mitigation policy.

125 House, J. I., Prentice, I. C. & Le Quéré, C. (2002) Maximum impacts of future reforestation or deforestation on atmospheric CO₂.

126 Mackey, B., et al (2013) Untangling the confusion around land carbon science and climate change mitigation policy. Nature Climate Change.

127 Shine, K. P., Derwent, R. G., Wuebbles, D. J. & Morcrette, J. J. (1990)

128 Mackey, B., et al (2013) Untangling the confusion around land carbon science and climate change mitigation policy.

129 A process that requires the dissolution of carbonate from ocean sediments (about 5,000 to 10,000 years) and enhanced weathering of silicate rocks (around 100,000 years). Mackey, B., et al (2013) Untangling the confusion around land carbon science and climate change mitigation policy

terrestrial carbon stores so as to safely remove them from the carbon cycle. For example, the Australian Government's Carbon Credits (Carbon Farming Initiative) Act 2011 defines the maximum potential relinquishment period for an eligible offsets project as 100 years (that is, the time period the person holding the carbon credit is responsible for the sequestered carbon stock).¹³⁰

Consequently, whilst the land-use sector can provide a valuable, cost-effective, short-term contribution to reducing atmospheric concentrations of GHG, and can help slow the rate of anthropogenic climate change, this alone will not be sufficient to achieve the 2-degree target and should not replace the significant action that needs to be taken in other sectors to reduce fossil carbon emissions.

Key Conclusions/Recommendations

- We must recognise that the contribution of the land-use sector to avoid and remove emissions of stored and future CO₂ is strictly limited by the facts that:
 - - Its total potential for carbon storage is finite, in particular considering the stock of fossil fuels that could yet be burnt; and
 - -The maintenance and longevity (permanence) of those stored carbon stocks is uncertain.
- To achieve the 2-degree target we cannot solely rely on the contribution of the land-use sector, and significant action must be taken in other sectors to reduce fossil carbon emissions.

¹³⁰ Australian Government (2011) Carbon Credits (Carbon Farming Initiative) Act 2011.

How can the UNFCCC foster a more sustainable, integrated approach to land-use?

Objectives/principles/safeguards to ensure social and environmental sustainability

This paper has previously demonstrated that REDD+ is the only mechanism in the UNFCCC that integrates significant social, environmental and governance safeguards that go beyond a risk-based approach, and rather requires a rights based approach to ensure the equity, sustainability and permanence of its implementation. There is also currently reasonable support from Parties to include REDD+ in a new agreement although there is no consensus regarding the form in which it should be included.¹³¹

The Cancun safeguards, as the most comprehensive social, governance and environmental provisions in the UNFCCC regime on land-use provide a precedent for designing provisions to ensure the sustainability of land-use in a 2015 agreement. They are the result of recognition by UNFCCC Parties of the need to address the social, governance and environmental risks arising from mitigation measures in the land-use sector (specifically forests), while promoting multiple benefits. They are not safeguards in the traditional sense of the word (i.e. conditionalities linked to development lending) nor are they limited to serving as “risk mitigation tools”¹³² but are a set of objectives that must be achieved when implementing REDD+ activities, encompassing rights and obligations designed to ensure REDD+ activities not only do-no-harm, but actually do-good.

A similar approach that builds on the comprehensiveness and scope of the Cancun safeguards could also be adopted in the 2015 agreement to ensure the social and environmental sustainability of land-use climate actions. Such an approach, which recognises good governance, a rights-based approach and biodiversity conservation as key enabling conditions that need to be incentivised could be incorporated in the form of relevant safeguards, objectives or principles including:

- **Transparent and effective governance structures.** Land-use activities/policies/actions will be implemented under and through transparent and effective governance structures, which will serve as a first step to ensuring the sustainability/permanence of mitigation and adaptation actions/policies in the land-use sector.
- **Recognition and respect for the rights of all relevant stakeholders, and especially of indigenous peoples, local communities, forest-dependent**

¹³¹ ADP non paper on Parties views on elements for a draft negotiating text

¹³² Rey et al. (2013) Understanding and implementing the UNFCCC REDD+ Safeguards

people, smallholder and landless farmers. Land-use activities/policies/actions will be implemented through a rights-based approach, which encompasses ensuring the recognition and legal enforcement of rights, including participation, human, land tenure rights.

- **Conservation and enhancement of natural forests and biodiversity.** Land-use activities/policies/actions will be implemented in such a way that conserves and enhances natural forests and biodiversity, and does not result in the conversion of natural forests to other land-uses.
- **Consistency with the objectives of international conventions and agreements, especially taking into account the 2015 Sustainable Development Goals.** Land-use activities/policies/actions will be implemented in consistency with, and not prejudice the implementation of the 2015 Sustainable Development Goals, in particular Goal 2,¹³³ Goal 6,¹³⁴ Goal 7,¹³⁵ Goal 8¹³⁶ and Goal 15.¹³⁷
- **Integrated approach to mitigation and adaptation actions.** Land-use mitigation and adaptation activities/policies/actions will be undertaken in harmony, as part of a shift towards greater integration of land-use planning at the national level.
- **Recognising the difference between terrestrial and fossil carbon.** Land-use activities/policies/actions will be implemented as a cost-effective, short-term strategy to help reduce atmospheric GHG concentrations, and slow the rate of anthropogenic climate change, but will not be used to justify the continued combustion of fossil fuels in other sectors.

¹³³ According to the Open Working Group on Sustainable Development Goals' current proposal, Goal 2 is defined as: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture"

¹³⁴ Defined as "Ensure availability and sustainable management of water and sanitation for all"

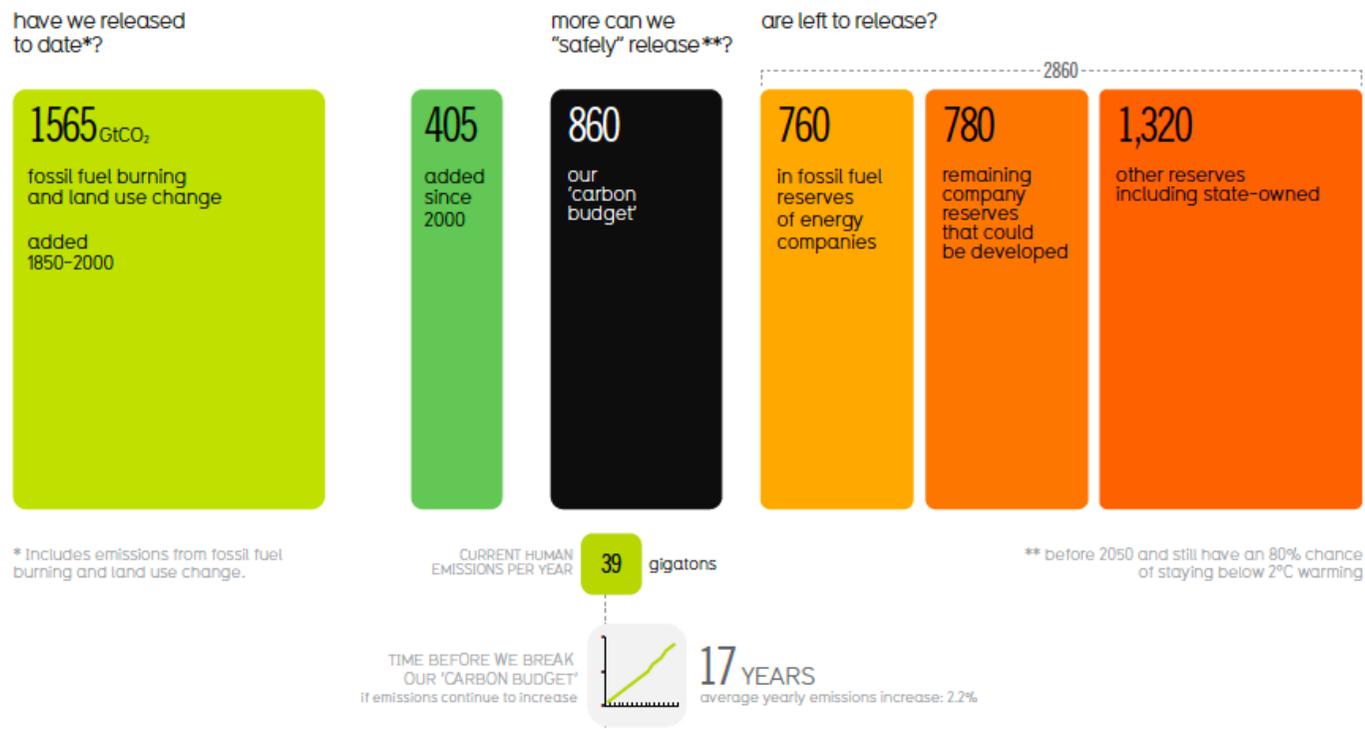
¹³⁵ Defined as "Ensure access to affordable, reliable, sustainable and modern energy for all"

¹³⁶ Defined as "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"

¹³⁷ Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss"

Annex Figure 1: The Global Carbon Budget¹³⁸

How Many Gigatons of Carbon Dioxide...?



¹³⁸ Source: <http://www.informationisbeautiful.net/visualizations/how-many-gigatons-of-co2/>

Figure 2: Historical changes in the Global Carbon Cycle¹³⁹

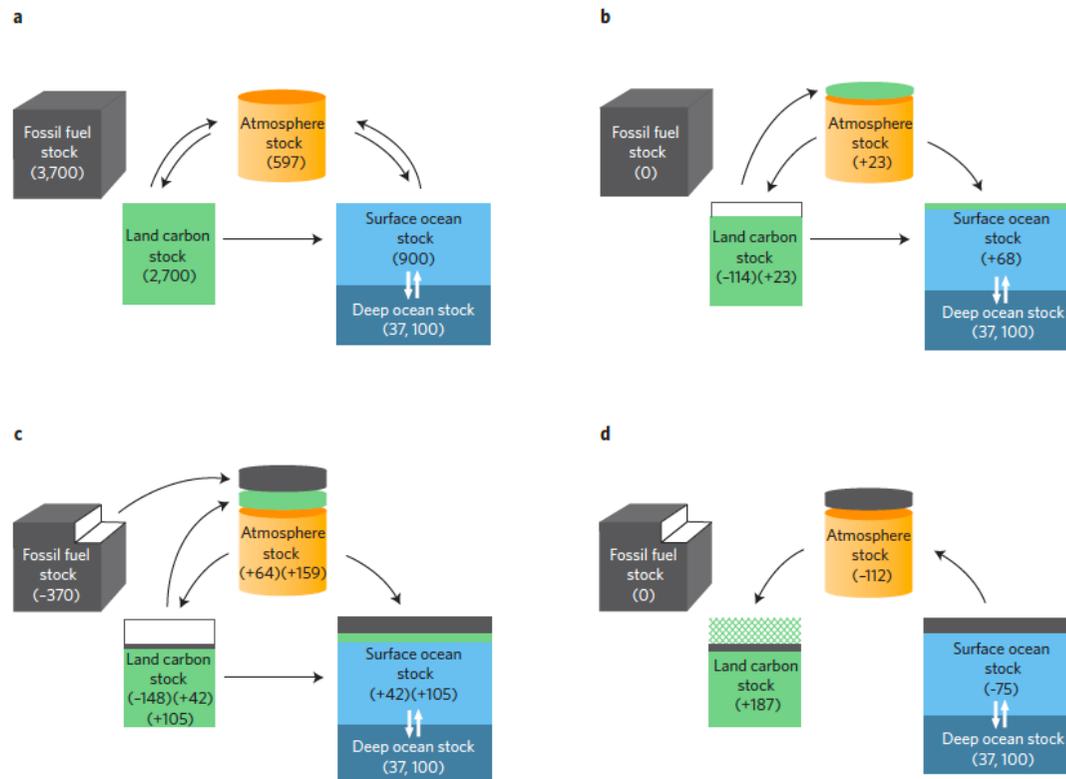


Figure 1 | Changes in the primary stocks of the global carbon cycle. **a–c**, A stylised illustration of the impact of human activity on the primary stocks over three time periods: the pre-agricultural era (>8,000 yr bp; **a**); pre-industrial era (8,000 yr bp to 1850; **b**); and contemporary era (1850 to the present day; **c**). The objects (cylinders and rectangles) represent the primary stocks of carbon in the major reservoirs of the global carbon cycle (fossil fuel, atmosphere, land, surface ocean and deep ocean) but are not drawn to scale. **d**, The hypothetical and unachievable case of “refilling” the land stock, that is, if all previously cleared land being returned to its pre-agricultural carbon stock with zero continuing fossil fuel emissions

¹³⁹ Source: <https://cci.anu.edu.au/storage/nclimate1804.pdf>

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