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Background document

From forests to sustainable land management: creating synergies between adaptation and mitigation



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DISCLAIMER

This background document has been prepared using a subset of the very large pool of documents and information available on UNFCCC-related processes, and on information on GCCA-supported interventions available at the GCCA Support Facility. In spite of the authors' best efforts, it may contain errors and/or omissions. It is a working document prepared to provide a basis and framework for discussions at the GCCA Global Policy Event 2013, and should not be taken as a policy document nor a definitive and comprehensive review of the issues addressed. The background document reflects the views of the authors including contributions from the review team; it is not intended and should not be taken to reflect the views of the European Union.



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1. INTRODUCTION

1.1. ABOUT THE GLOBAL POLICY EVENT AND THIS BACKGROUND DOCUMENT

In September 2013, the European Commission will be hosting a GCCA Global Policy Event. The 2013 Global Policy Event aims to:

- Extract lessons learned through the GCCA experience to date on various topics of relevance to the current climate negotiation streams.
- Based on experiences from the GCCA across the world, promote dialogue and exchange between practitioners and negotiators involved in the United Nations Framework Convention on Climate Change (UNFCCC) and related processes, with a view to informing the next Conference of the Parties (COP).

The Global Policy Event will explore four topics which are of critical importance to both climate negotiators and practitioners:

1. From NAPAs to NAPs, NAMAs, LEDS and DRR strategies¹: the role of country-led climate and disaster risk reduction mainstreaming.
2. Making climate finance effective: strengthening national public financial management and budgetary systems.
3. **From forests to sustainable land management: creating synergies between adaptation and mitigation.**
4. Monitoring, reporting and verification (MRV): what are the implications for strengthening climate information and national monitoring systems?

The discussions will be informed by a series of four background documents. Each background paper will provide a snapshot of the international state of play, GCCA approaches and experience, and propose open questions to frame the discussions of the Global Policy Event.

The technical papers and outcomes from the event will feed into the 2013 GCCA yearly publication on the above subjects and a related side event at the next COP in Warsaw (November 2013).

This paper covers the third topic. After an introduction in Section 1, Section 2 provides an overview of the issues associated with sustainable land and forest management and the state of related negotiations in the context of the UNFCCC. Section 3 progresses the discussion, commenting on the significance of synergies between adaptation and mitigation to reducing greenhouse gas (GHG) emissions, and providing examples of how these can be achieved drawn from the GCCA. Section 4 concludes with proposed questions for discussion at the Global Policy Event.

1.2. ABOUT THE GLOBAL CLIMATE CHANGE ALLIANCE (GCCA)

The GCCA is the initiative of the European Union to strengthen dialogue and cooperation on climate change with developing countries most vulnerable to climate change, in particular LDCs and SIDS.

¹ NAPAs: national adaptation programmes of action; NAPs: national adaptation plans; NAMAs: nationally appropriate mitigation actions; LEDS: low-emission development strategies; DRR: disaster risk reduction.

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By the end of 2013, the GCCA will comprise 45 programmes in 35 countries and across 8 regions and sub-regions within an envelope of €290 million. The GCCA provides a wealth of experience and knowledge in the areas of climate change mainstreaming into national development processes, climate change adaptation and disaster risk reduction (DRR), sustainable land management and reducing emissions from deforestation and forest degradation (REDD+), climate finance and aid effectiveness, and institutional strengthening for addressing climate change.

As the experience grows across the globe, it is critical that the GCCA ensures that the knowledge generated from its implementation informs the international climate debate.

2. INTERNATIONAL CLIMATE NEGOTIATIONS: OVERVIEW OF PROGRESS AND KEY ISSUES IN RELATION TO SUSTAINABLE LAND AND FOREST MANAGEMENT

In this section, key issues concerning the promotion of sustainable land management in the context of the international climate negotiations are described. These include considerations of land use, land use change and forestry (LULUCF) and their contribution to both mitigation and adaptation (Section 2.1). REDD+ is a key process in this regard and is covered in Section 2.2.

2.1. PROMOTING SUSTAINABLE LAND MANAGEMENT IN SUPPORT OF MITIGATION AND ADAPTATION

LULUCF is defined by the UNFCCC as “a **greenhouse gas inventory sector** that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities”.

LULUCF is one of the sectors that must be **included in the carbon pools reported upon by all Parties in their GHG inventories**, and **accounted for by Annex I² parties under the Kyoto Protocol**. LULUCF is thus a relevant sector both under the Convention (which calls for the conservation and enhancement of all GHG sinks and reservoirs, including biomass, forests and other terrestrial as well as coastal ecosystems – see Section 2.1.1) and under the Kyoto Protocol (see Section 2.1.2).

2.1.1. LULUCF ISSUES UNDER THE CONVENTION

Article 4 §1(a) of the Convention requires all Parties to develop, periodically update and publish **national GHG inventories that are notably expected to cover emissions and removals from the LULUCF sector**.

The stakes associated with LULUCF under the Convention are related to **improvements in monitoring, reporting and verification (MRV) systems**, notably in the context of REDD+ (see Section 2.2), quantified economy-wide emission reduction targets adopted by developed countries, nationally appropriate mitigation actions (NAMAs) undertaken by developing countries, and the setting up of a new market-based mechanism for trading verified carbon credits.³

² The industrialised countries listed in Annex I to the Convention, which committed to returning their GHG emissions to 1990 levels by the year 2000 – most of which have also accepted emissions targets for the period 2008-2012 under the Kyoto Protocol.

³ On wider MRV-related issues, see the background paper entitled *Monitoring, reporting and verification (MRV): what are the implications for strengthening climate information and national monitoring systems?* On the new market-based

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Ongoing work under the Kyoto Protocol to identify options for more comprehensive LULUCF accounting (see Section 2.1.2) is also relevant to these wider issues, and has the potential to inform negotiations on the setting up of a **new accounting framework for emission reductions** under the future (post-2020) international climate change regime.

2.1.2. LULUCF ISSUES UNDER THE KYOTO PROTOCOL AND THE CLEAN DEVELOPMENT MECHANISM

Under Article 2 of the Kyoto Protocol, Annex I Parties are required, in achieving their emission reduction commitments, to implement measures to **protect and enhance GHG sinks and reservoirs**, and **promote sustainable forest management, afforestation, reforestation and sustainable forms of agriculture**.

- **LULUCF-related definitions and key accounting rules**

Definitions of LULUCF activities and rules for accounting of these activities were agreed on as part of the *Marrakesh Accords* in 2001 and confirmed at the first meeting of the Parties to the Kyoto Protocol in 2005.

To ensure consistency and comparability among Parties, a **common definition** was adopted for the term "**forest**". Some flexibility is allowed to take account of national circumstances, so that a Party may choose from a range of values for the minimum area of land considered to be forest, the minimum percentage of tree crown cover and the minimum height of trees at maturity. Once the values are chosen, however, they remain fixed. The *Marrakesh Accords* also provided definitions for the **seven LULUCF activities** considered for the first commitment period (2008-2012), namely afforestation, reforestation, deforestation, forest management, cropland management, grazing land management and revegetation.

Besides these definitions, the **rules for accounting for LULUCF activities** include two main elements:

- a set of **principles** to govern the treatment of LULUCF activities (e.g. need for sound science and consistent methodologies);
- **modalities and guidelines** for the accounting of LULUCF activities, including a four-tier capping system limiting their use to meet emission targets.

Articles 3.3 and 3.4 of the Protocol define basic requirements for reporting net changes in GHG emissions resulting from LULUCF-related activities. Under Article 3.3, Parties decided that net changes in GHG emissions and removals from **afforestation, reforestation and deforestation** starting from 1990 *should* be accounted for in meeting the Kyoto Protocol's emission targets. Under Article 3.4, Parties *could* elect additional human-induced activities related to LULUCF, specifically **forest management, cropland management, grazing land management and revegetation**, for inclusion in their accounting for the first commitment period. **Carbon pools** to be accounted for include above-ground biomass, below-ground biomass, litter, dead wood and soil organic carbon.

Net removals of GHGs from eligible LULUCF activities generate so-called "**removal units**" that Annex I Parties can use to help meet their emission targets. Conversely, in the case where

mechanism, see the background paper entitled *Making climate finance effective: strengthening national public financial management and budgetary systems*.

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LULUCF activities result in net GHG emissions, a corresponding number of assigned amount units (i.e. the carbon dioxide equivalent units of six targeted GHGs Annex I Parties are allowed to emit during a given commitment period) and/or other units issued in the context of the Protocol's flexibility mechanisms (see below) are cancelled for the Party concerned.

- **Clean Development Mechanism and emissions trading**

The Clean Development Mechanism (CDM), one of the “flexibility mechanisms” of the Kyoto Protocol, allows for the **implementation of LULUCF project activities, limited to afforestation and reforestation, in non-Annex I countries** (i.e. developing countries). The **certified emission reductions (CERs)** generated from such projects can be used to meet Annex I countries' emission reduction targets, while project activities simultaneously promote sustainable development in non-Annex I countries.

Emissions trading, another of the Protocol's flexibility mechanisms, allows countries that have emission units to spare (i.e. emissions permitted them but not "used") to sell this excess capacity to countries that are over their targets. This mechanism notably allows the trading of CERs generated from CDM project activities.

- **Capping system for the first commitment period**

For the first commitment period, the extent to which Parties could account for emissions and removals from specific LULUCF activities was limited by a four-tier capping system. Tier 4 conditions specified that **only afforestation and reforestation projects** were eligible under the CDM, and GHG removals from such projects could only be used to help meet emission targets up to 1% of a Party's base year emissions multiplied by the number of years in the commitment period. These provisions **limit possibilities for developing countries to sell forest- and land use-related carbon credits through the CDM.**

- **New provisions for the second commitment period**

For the second commitment period (2013-2020), most of the modalities and procedures applicable to the first commitment period were extended, including the capping provisions described above. **New provisions** adopted at the Durban COP (2011) include, among others:

- the addition of **wetland drainage and rewetting** as a LULUCF activity that Annex I Parties may choose to include in their accounting;
- the obligation to account for emissions arising from the **conversion of natural forests to planted forests** and from **salvage logging**;
- the obligation (rather than option, as was previously the case) to account for emissions and removals associated with **forest management**;
- the addition of **harvested wood products** to the list of carbon pools, and provisions for accounting for them;
- provisions for excluding the effects of **natural disturbances** (i.e. non-anthropogenic events that cause significant emissions in forests and are beyond the control of Parties) from LULUCF accounting under specific conditions.

- **Way forward**

Several work programmes currently under way and expected to be concluded ahead of the Warsaw COP (November 2013) **have possible implications for developing countries:**

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- Under one of them, **options for more comprehensive LULUCF accounting are being considered**. Currently, reporting under the Convention (in national GHG inventories and national communications) is done according to a **land-based approach** (i.e. considering various land use categories⁴ and changes in land use over time), whereas accounting under the CDM is done according to an **activity-based approach** (involving mandatory reporting on afforestation, reforestation, deforestation and forest management, and voluntary reporting on cropland management, grazing land management, revegetation, and wetland drainage and rewetting).

A harmonised land-based reporting and accounting approach encompassing all land uses, carbon pools and GHGs would provide for more comprehensive coverage and enhance environmental integrity, but also entail data availability and methodological challenges. Alternatives include more comprehensive activity-based approaches involving a shift from voluntary to mandatory reporting for currently elective activities (and if relevant encompassing new activities), or mixed approaches that combine land-based and activity-based accounting (possibly on a transitional basis). In all cases, **excessive complexity should be avoided, as it raises costs and creates barriers to developing country participation**.

Most Parties including the EU believe the **discussion of options** should not be limited to the Kyoto Protocol, but **should be held within the wider framework of negotiations for the post-2020 international climate regime, taking account of the views of developing countries**.

- At the request of developing countries, **the possibility of making additional LULUCF activities eligible under the CDM is being considered**. The acceptance of projects involving cropland management, grazing land management, sustainable forest management and wetland rewetting would enhance opportunities for CDM participation in line with national circumstances, and more generally support the scaling up of land management-based mitigation actions that also generate adaptation and development benefits.
- **Modalities and procedures for alternative approaches to addressing the risk of non-permanence of emission reductions/removals under the CDM are also being investigated**. At the moment, CERs from afforestation and reforestation project activities are issued on a temporary basis⁵, which obliges their purchasers to replace them before they expire, making them an unattractive choice; as a result, these CERs are subject to limited trade at lower prices than permanent CERs, and they are excluded from some markets including the EU Emissions Trading System. Various modalities and rules could be adopted to address the risk of reversal of carbon sequestration (e.g. as a result of wildfires) under CDM project activities, possibly in line with similar modalities and rules to be applied at the national level in the context of REDD+. If robust enough, they could enable the issuance of **permanent CERs for LULUCF projects** and promote their fungibility with other carbon credits traded in the international carbon markets, thus enhancing their liquidity and value.

2.1.3. ADDRESSING BARRIERS TO THE FULL USE OF LULUCF-RELATED MITIGATION OPTIONS

In spite of the long-recognised potential of LULUCF activities (i.e. sustainable land and forest management) to contribute to climate change mitigation in a cost-effective way, **it has not been fully exploited so far**. Afforestation/reforestation projects under the Clean Development Mechanism (CDM), in particular, have had mixed results, and the international climate regime needs to offer

⁴ Namely, forest land, cropland, grassland, wetlands, settlements and other land.

⁵ These CERs are known as “temporary CERs (tCERS)” and “long-term CERs (lCERS)” depending on the method chosen to account for non-permanence.

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better entry points and incentives for sustainable land management, especially for developing countries. Progress in this direction is slower than could have been expected as a result of **two major drawbacks of LULUCF-based approaches**:

- **Technical complexity and uncertainty of results**: it can be technically difficult to estimate baseline emissions (i.e. those that would occur in the absence of new policies or practices) as well as the GHG removals and emissions resulting from LULUCF activities.
- **Risk of leakage and reversals**: emissions can be displaced from one place to another as a result of the relocation of activities (leakage), and GHGs may be unintentionally released into the atmosphere if a sink is damaged or destroyed (reversal), for example through a forest fire or disease.

Combined with the capping provisions set up under the Kyoto Protocol (see Section 2.1.2), these drawbacks have created **barriers to CDM participation through forest-related activities** associated with:

- **complex methodologies** for establishing baseline and actual net GHG removals (respectively in the absence of an afforestation or reforestation project, and as a result of implementing it);
- **high transactions costs** incurred for the registration and subsequent monitoring of project activities, and for the verification and certification processes associated with the issuance of CERs;
- **the temporary nature of CERs issued for afforestation and reforestation project activities** (see the last paragraph of Section 2.1.2).

Simplified modalities and procedures for small-scale afforestation and reforestation projects developed and implemented by low-income communities and individuals under the CDM were adopted, but they only partly address these barriers.

Additional work is under way to simplify methodologies, and streamline processes for the registration of CDM projects and programmes of activities and for the issuance of CERs.

2.1.4. USING ADAPTATION-MITIGATION SYNERGIES TO INCENTIVISE MITIGATION EFFORTS AND ENHANCE DEVELOPING COUNTRIES' PARTICIPATION IN LULUCF-RELATED ACTIVITIES

Despite the barriers, **developing countries show growing interest in participation in LULUCF-related activities**, in the context of REDD+ (see Section 2.2) and more generally in the context of their NAMAs, 60% of which are related to agriculture, forestry or other land uses. In recent years, political momentum to **address emissions from agriculture** and recognition of the **sector's relevance for adaptation and resilience** have also increased. As global food production needs to increase by an estimated 60% by 2050, GHG emissions from the sector must be stabilised to achieve emission targets, and forest clearing to accommodate cropland and pasture expansion must be controlled. How these new (and existing) agricultural lands are managed will have major local and global environmental consequences. At the same time, climate change is expected to depress agricultural yields, emphasising the need for agricultural adaptation.

In practice, **most LULUCF-related activities have the potential to generate non-carbon benefits⁶ – including development and adaptation benefits**. The land use sector including agriculture and

⁶ Non-carbon benefits are a feature of LULUCF-related activities in general, including REDD+ activities. They are introduced in this section, and discussed in further detail in Section 2.2.1 in relation to REDD+, in the context of which they are the subject of a dedicated work programme under the Convention.

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forestry offers significant opportunities to exploit synergies between adaptation and mitigation, as illustrated in Box 1.

Box 1 – Examples of adaptation-mitigation synergies in the land use sector

- **Forest conservation and sustainable forest management** may simultaneously contribute to carbon sequestration and reduced GHG emissions, and preserve or restore important ecosystem services while supporting forest-related livelihoods. Forest-related ecosystem services include provisioning services (timber, fibre, energy and food products), water flow regulation (including watershed protection and flood risk mitigation), protection against soil erosion and nutrient leaching, biodiversity conservation, temperature regulation, and coastal protection against storms and erosion (in the case of mangrove forests). All of these can play an important role in mitigating climate-related disaster risks and in enhancing resilience to the effects of climate change.
- Some **agricultural methods**, such as reduced tillage and permanent soil cover, enhance carbon sequestration in soils while supporting soil moisture retention, increasing resilience to dry spells; they also offer an effective protection against soil erosion, which is notably aggravated by the increasingly frequent heavy precipitation events that characterise climate change in many parts of the world. Agroforestry techniques also support the densification of carbon stocks in agricultural landscapes while enhancing the productivity and resilience of farming systems.

The existence of **synergies between adaptation and mitigation** is recognised as an **incentive to scale up land use-based mitigation efforts**. Box 2 presents some key outcomes of a recent workshop on “opportunities for mitigation and adaptation related to land use” organised under the auspices of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), a recently created subsidiary body under the UNFCCC. These relate to the benefits that can accrue from sustainable land use policies, as well as challenges, barriers and success factors.

Box 2 – Land use-based mitigation and adaptation: benefits, challenges, barriers and success factors

At the May 2013 session of the ADP, a workshop on “opportunities for mitigation and adaptation related to land use” was organised with the aim of identifying concrete and practical actions in the land use sector which could motivate an increase in pre-2020 emission reduction commitments. Some countries including Brazil, Indonesia, Tanzania and New Zealand presented successful land use policies that have achieved benefits in terms of both adaptation and mitigation. Outcomes from the workshop include the following:

- **Benefits** from land use policies arise in the form of increased food security, sustainable livelihoods, economic development and productivity gains, poverty alleviation and biodiversity conservation.
- **Challenges** include preventing the reversal of achievements as a result of droughts, wildfires, etc.; increasing food production without increasing emissions and damaging the environment; and overcoming the lack of market incentives to invest in measures that support land use-based adaptation and mitigation.
- **Barriers** to the realisation of the land use-related mitigation and adaptation potential include lack of access to affordable, effective technologies; inadequate funding and long-term financing perspectives; as well as limited national capacities and institutional weaknesses. With regard to MRV systems for the land use sector, participants highlighted the need to find a balance between the reporting burden and achieving accuracy, the need for improved data and methodologies, and the need for greater exchange of information.

(...)

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Box 2 – Land use-based mitigation and adaptation: benefits, challenges, barriers and success factors (cont'd)

- **Success factors** include integrating climate change adaptation and mitigation into national development strategies; creating enabling environments and supporting institutional readiness for enhanced action at the national and local level; and promoting the broad participation of civil society and local stakeholders in the design and implementation of strategies programmes and projects. Scaled-up financing (without excessive reliance on markets), further research and enhanced sharing of best practices (by linking experiences and more systematically collecting and disseminating evidence, at different scales and across countries) are also required.

Source: Ad Hoc Working Group on the Durban Platform for Enhanced Action (2013) *Summary report on the workshop on opportunities for mitigation and adaptation related to land use*. Ref. ADP.2013.4.InformalSummary. Available from: <http://unfccc.int/resource/docs/2013/adp2/eng/4infsum.pdf>.

The co-existence of adaptation, mitigation and development benefits should provide incentives for developing countries to increase participation in mitigation efforts through LULUCF-related activities. However, this will have to be encouraged by the **provision of adequate technical support** for addressing the identified challenges, overcoming barriers and fostering success factors.

2.2. REDD+

Reducing emissions from deforestation (“RED”) in developing countries was officially taken up as an agenda item at COP11 in 2005. In 2007, the *Bali Action Plan* extended the scope of the initiative to include forest degradation (hence the second “d” in “REDD”) and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (hence the “plus” in “REDD+”); it also recognised the need to integrate the initiative into the post-2012 climate regime, and adopted provisions for stimulating action on REDD+. The 2009 *Copenhagen Accord* reiterated support by including a commitment to establish without delay a mechanism for implementing the REDD+ initiative – a project on which the Parties to the Convention and its subsidiary bodies have been working uninterruptedly since the adoption of the *Bali Action Plan*.

The concept underlying REDD+ is that developed countries provide financial support to developing ones which demonstrate reduced emissions from deforestation and forest degradation, as measured against a pre-defined “reference level”.

2.2.1. REDD+ TECHNICAL ISSUES AND NEGOTIATIONS

It is generally recognised that negotiations on REDD+ are among the most advanced of the various ongoing negotiation streams on the international climate regime – even though many aspects remain to be finalised. In summary, the main aspects relevant to this paper are the following:

- **Technical scope of REDD+:**

The *Cancún Agreements*, adopted in 2010, define **REDD-relevant activities** as: (i) reducing emissions from deforestation; (ii) reducing emissions from forest degradation; (iii) conservation of forest carbon stocks; (iv) sustainable management of forests; (v) enhancement of forest carbon stocks. The latter could include afforestation, reforestation and actions aimed at increasing carbon stock densities (restoration of degraded forests).

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- **Phased approach to REDD+ implementation:**

The *Cancún Agreements* also established the principle that **REDD-related activities should be implemented in phases**, beginning with the development of national strategies or action plans, policies and measures, and capacity building (**phase 1**), followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity building, technology development and transfer and results-based demonstration activities (**phase 2**), and evolving into full “results-based” implementation, with financial transfers determined on the basis of quantified emission reductions as ascertained by a robust MRV system (**phase 3**).

- **Level of implementation of REDD+:**

It is now generally accepted that REDD+ accounting will have to take place at the **national level**, to account for the risk of displacement of emissions. Sub-national approaches are admitted, but where they are applied, they should constitute a step towards the development of national approaches, reference levels and estimates.

- **Establishment of forest (emission) reference levels:**

Results-based payments require an agreement on country-specific reference levels, i.e. the baseline against which emission reductions and removals will be calculated. These levels could have significant implications for the climate effectiveness of REDD+ (by how much net emissions are reduced); its cost-effectiveness (how much ends up being spent to achieve a given amount of net emission reductions in a given country); and the distribution of REDD finance among countries. Overall, a balance has to be found between cost-effectiveness and creating sufficient incentives to participate (i.e. at least compensating transaction costs).

In practice, countries are invited to determine their reference level⁷ on the basis of a methodology of their own choice, in conformity with a set of now agreed principles. **Guidelines for submissions of information on reference levels** were approved at COP17 (Durban, 2011) “for the purpose of allowing a technical assessment of the data, methodologies and procedures used in the construction of reference levels”. These guidelines insist on the need for “transparent, complete, consistent and accurate information, including methodological information”. Information should notably be provided on the definition of “forest” used in the construction of a reference level, on the GHGs, carbon pools and activities included, and on the reasons for omitting a pool and/or activity “noting that significant pools and/or activities should not be excluded”.

Discussions are still ongoing about the **modalities for technical assessment of proposed reference levels**. This is important, since this technical assessment will presumably provide a basis for validating or requesting improvements in proposed reference levels, and will thus play an important role in establishing the credibility of REDD+ as a mechanism that truly contributes to global emission reductions.

- **Modalities for national forest monitoring systems:**

Forest monitoring systems may be useful to support the establishment of reference levels (see above), and are indispensable to monitor, report on and verify the evolution of the state of forests and forest carbon stocks.

⁷ Forest emission reference level and/or forest reference level. No precise definition has been worked out so far, but the former is usually understood to account for *gross* emissions from deforestation, forest degradation and forest management, and the latter for *net* emissions after accounting for removals associated with sustainable management of forests and enhancement of carbon stocks.

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Interim conclusions on methodological guidance for REDD+ activities prepared in June 2013 include a **draft decision** on modalities for national forest monitoring systems. The proposed text notably states that national forest monitoring systems should take into account methodological guidance for REDD+ adopted at COP15 (Copenhagen, 2009), and be guided by the most recent IPCC⁸ guidance and guidelines to estimate forest-related GHG emissions and removals, forest carbon stocks, and changes in forest carbon stocks and forest area resulting from REDD+ activities. They should also provide data that are transparent, consistent over time, and suitable for the MRV of REDD+ activities.

- **Modalities for REDD+ monitoring, reporting and verification (MRV):**

COP15 adopted methodological guidance for REDD+ activities that notably addresses the **general principles** that should apply to the measurement and reporting of REDD+ activities.⁹ Negotiations are under way for the establishment of **more detailed MRV modalities**, with the objective of adopting a decision by COP19 at the end of 2013. Draft text points out, among other aspects, to the need for consistency with guidance on the MRV of NAMAs undertaken by developing countries, the need for capacity development, and the need for consistency of data over time and with the established reference levels.

- **Nature of REDD+ “safeguards”:**

The *Cancún Agreements* specify that REDD-related activities should be undertaken on a **voluntary basis**; respect **national sovereignty**; be aligned with **national development priorities, sustainable development and poverty reduction needs**; be consistent with **adaptation needs**; be supported by **adequate financial and technology support**; be **results-based**; and promote the **sustainable management of forests**. They go on to specify the nature of mandatory social and environmental safeguards to be implemented to maximise REDD+ benefits and reduce the risk of unintended and adverse impacts. These include:

- Consistency and complementarity with the objectives of national forest programmes and relevant international conventions and agreements.
- Transparent and effective national forest governance structures, taking into account national legislation and sovereignty.
- Respect for the knowledge and rights of indigenous peoples and members of local communities.
- Full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities.
- Consistency with the conservation of natural forests and biological diversity.
- Actions to address the risks of reversal of achievements.
- Actions to reduce the displacement of emissions.

Developing countries have been invited to submit their views on experiences, lessons learned and challenges faced in developing systems for providing information on how safeguards are addressed and respected. They are also encouraged to share experience and continue building best practices for the development of such systems.

⁸ Intergovernmental Panel on Climate Change.

⁹ For further details, please refer to Section 2.1.2 of the background paper entitled *Monitoring, reporting and verification (MRV): what are the implications for strengthening climate information and national monitoring systems?*

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- **Non-carbon benefits:**

The non-carbon benefits potentially associated with REDD+ implementation could cover a wide spectrum of pro-poor policy approaches. They include:

- **Ecosystem-related benefits**, in the form of increased resilience of forest ecosystems and continued or enhanced provision of ecosystem services – which in turn can generate benefits in terms of food, energy and water security, adaptation and disaster risk reduction.
- **Socioeconomic benefits**, in the form of new and improved forest-based livelihood options for forest-dependent people, employment and opportunities for participatory forest management (hence benefits in terms of human rights, poverty reduction and economic development).
- **Institutional benefits**, notably in the form of improved forest governance, more sustainable land use policies and practices (which can generate benefits across the whole economy), the clarification of land tenure rights (which can support both more sustainable practices and investment), and improved capacities to manage information systems and monitor performance.

These non-carbon benefits could in themselves constitute **incentives for developing countries to implement REDD-related reforms**, and they should in part offset the costs associated with REDD+ implementation. However, these benefits may accrue collectively and in the long run while failing (at least in part, or in the short term) to be captured by the individual operators (households, communities and firms) that must be mobilised to make REDD+ work on the ground. **Developing countries often expect REDD+ finance to “reward” not only emission reductions** (“carbon benefits”), **but also foster non-carbon benefits** – something more akin to traditional development support. Some also hold the view that results-based payments for REDD+ should reward a package of carbon and non-carbon benefits, not as additional payments or a price premium, but as a risk management mechanism providing incentives for the long-term sustainability of achievements.

The Subsidiary Body for Scientific and Technological Advice (SBSTA) has thus been requested to consider methodological issues related to non-carbon benefits resulting from the implementation of REDD+ activities, and ways to incentivise them, in relation to the ongoing work on results-based finance. The UNFCCC Workshop on REDD+ results-based payments, architecture and non-carbon benefits organised in August 2013 showed convergence, among others, on the following points:

- Non-carbon benefits can be viewed as an **“extension” of safeguards**, in the sense that they go in the same direction but have ambitions beyond “do-no-harm”, and are to be achieved on a voluntary rather than a mandatory basis. They are a critical part of REDD+ implementation.
 - They are crucially important for the long-term sustainability of REDD+, as they **reduce the risks associated with reversals, leakage and data uncertainty/accountability/credibility**.
- **Long-term financing modalities:**

Funding for REDD+ preparation is provided by multiple sources, including the domestic budgets of REDD+ countries, as well as bilateral and multilateral development and cooperation budgets; private funds (e.g. from NGOs, private companies and other organisations) also support the implementation of projects contributing to reduced emissions from forests.¹⁰ **Traditional sources of funding** are thus used to finance the **REDD+ readiness process** – but there is **not yet full agreement on how to mobilise the vastly larger sums required to support and sustain**

¹⁰ For further information on climate finance in general, see the background paper entitled *Making climate finance effective: strengthening national public financial management and budgetary systems*.

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large-scale implementation over the long term, in particular when phase 3 (financing based on verified results) becomes operational.

A decision adopted at COP17 (Durban, 2011) specifies that results-based finance “may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources”. It also suggests that **market-based as well as non-market based approaches could be developed to support results-based actions** – the latter being suitable, for instance, to support and strengthen governance, the application of safeguards and the multiple functions of forests. In Doha (2012), the COP launched a work programme on results-based finance to “contribute to the ongoing efforts to scale up and improve the effectiveness of finance for [REDD+] activities”. The decision recognises the need to provide adequate and predictable support for the implementation of REDD+ activities. It also requests the SBSTA to consider how non-market-based approaches, such as “joint mitigation and adaptation approaches for the integral and sustainable management of forests”¹¹, could be developed to support the implementation of REDD+ activities – and to conduct a work programme to elaborate non-market-based approaches. The creation of a “REDD+ window” or a “mitigation and adaptation window dedicated to the land sector” under the **Green Climate Fund** seems likely to play a pivotal role.

2.2.2. ADDRESSING BARRIERS TO REDD+ IMPLEMENTATION

Delays in the finalisation of the REDD+ “methodological package” and the lack of visibility and firm commitments with regard to financing and coordination are brakes on full implementation of the REDD+ initiative. Other important barriers are:

- the **uncertainty of data** on forest cover, forest carbon stocks and the estimated CO₂ emissions and removals associated with various activities;
- the unrelenting **pressure exercised by drivers of deforestation and forest degradation** such as agricultural expansion, woodfuel and timber extraction, mining and infrastructure development;
- and the **poor institutional framework** that prevails in many developing countries with regard to issues such as forest governance, land use planning and management, land tenure security, and natural resource management and use rights.

Current efforts therefore focus on building capacities and reducing the likelihood of forest emissions being merely miscalculated, postponed or displaced.

2.2.3. IMPLEMENTING REDD+ IN THE WIDER FRAMEWORK OF LAND USE PLANNING AND MANAGEMENT

Decisions on REDD-related accounting and MRV methodologies could to a certain extent inform and be informed by LULUCF-related methodologies: developing countries are already requested to use the most recent IPCC guidance and guidelines, in particular the *IPCC good practice guidance on LULUCF*. However, considering the complexity of activity-based LULUCF accounting under the Kyoto Protocol, the duplication with land-based accounting under the Convention (see Section 2.1.2), and the wide range of capacities and country situations in the developing world, a completely new land accounting framework could emerge for the post-2020 climate regime.

From the point of view of mitigation, it makes sense to consider REDD+ in the wider, cross-sectoral framework of land use planning and management – which is precisely what countries are requested

¹¹ This concept is inspired from a mechanism set up by Bolivia, which draws on public funding but involves the private sector and local communities.

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to do at the time of preparing their REDD+ Readiness Plans. Indeed, **land uses that are not directly included in the scope of REDD+ are nevertheless key to the achievement of results**, as some key drivers of deforestation and forest degradation are associated with “non-forest” sectors including agriculture and food security. **Addressing the drivers of deforestation calls for multi-sectoral approaches as well as multi-stakeholder processes** – otherwise advances made in the field of forest management may be undermined by conflicting policies and conflicting interests between various stakeholders.

3. PROMOTING SUSTAINABLE LAND AND FOREST MANAGEMENT FOR ADAPTATION AND MITIGATION: GCCA APPROACHES AND EXPERIENCE

3.1. OVERVIEW OF GCCA INTERVENTIONS CONTRIBUTING TO SUSTAINABLE LAND MANAGEMENT

A number of GCCA-funded interventions contribute specifically to sustainable land management in its widest sense. GCCA funding is also provided for projects that support the initial preparations for engagement in the REDD+ process and the implementation of REDD+ strategies. In addition, some projects and programmes address forestry and land management among a wider range of activities. In the following discussion, evidence from GCCA experience is used to illustrate the benefits that can accrue, the challenges that have been addressed, support provided to lower the barriers, and success factors supported in the context of sustainable land management with a focus on maximising synergies between adaptation and mitigation.

Table 1 shows the countries and regions that receive support for sustainable land management and forest-related¹² activities in the context of the GCCA. The table also shows the contribution of these interventions to national policies, strategies and programmes. Specific details of GCCA approaches and experience are further elaborated in the rest of this paper.

For more detailed information on GCCA-supported projects, please refer to the GCCA website (www.gcca.eu/technical-and-financial-support).

Table 1 – GCCA-supported activities in the field of sustainable land and forest management

Country / Region	GCCA support for:	Contributes to implementing:
National programmes		
Bangladesh	Through the Bangladesh Climate Change Resilience Fund: <ul style="list-style-type: none"> Afforestation and reforestation Agricultural adaptation in areas prone to climate risks 	<ul style="list-style-type: none"> Bangladesh Climate Change Strategy and Action Plan
Benin	<ul style="list-style-type: none"> GIS, mapping Community-level land use planning and conservation forestry 	<ul style="list-style-type: none"> National Environmental Management Programme National Programme for Sustainable Natural Resource Management
Bhutan	<ul style="list-style-type: none"> Adaptation and mitigation in the agricultural sector 	<ul style="list-style-type: none"> 11th Five-Year Plan for the Renewable Natural Resources sector
Burkina Faso	<ul style="list-style-type: none"> Regional land use plans Municipal development plans 	<ul style="list-style-type: none"> National Rural Sector Plan

¹² Including mangrove forests.

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Country / Region	GCCA support for:	Contributes to implementing:
	<ul style="list-style-type: none"> Incentives for sustainable practices REDD+ process 	
Central African Republic	<ul style="list-style-type: none"> REDD+ process in the Southwestern region 	<ul style="list-style-type: none"> National REDD+ strategy
Chad	<ul style="list-style-type: none"> Peri-urban reforestation in view of woodfuel production Soil restoration, erosion prevention 	<ul style="list-style-type: none"> National Adaptation Programme of Action (NAPA)
Congo (Dem. Republic)	<ul style="list-style-type: none"> Forest management and protection Woodfuel plantations 	<ul style="list-style-type: none"> National Plan for Forests and Nature Conservation Restructuring of the Ministry of Environment, Nature Conservation and Tourism and the Congolese Institute for Nature Conservation
Ethiopia	<ul style="list-style-type: none"> Sustainable land management 	<ul style="list-style-type: none"> Sustainable Land Management programme
Guyana	<ul style="list-style-type: none"> Mangrove forest restoration GIS, mapping 	<ul style="list-style-type: none"> National Mangrove Management Action plan
Haiti	<p>Field projects may cover:</p> <ul style="list-style-type: none"> Sustainable, climate-resilient agricultural practices Sustainable woodfuel management, substitution of charcoal, energy efficiency Mangrove rehabilitation 	<ul style="list-style-type: none"> NAPA
Jamaica	<ul style="list-style-type: none"> Forest-related geo-referenced database Watershed monitoring 	<ul style="list-style-type: none"> Medium Term Socio-Economic Framework 2009-2012 and relevant sector (action) plans Hazard Mitigation Programme
Lao PDR	<ul style="list-style-type: none"> Land use planning 	<ul style="list-style-type: none"> Northern Uplands Development Programme
Lesotho	<ul style="list-style-type: none"> Preparation of a climate change strategy encompassing sustainable agriculture and degraded land management 	<ul style="list-style-type: none"> National Climate Change Adaptation and Mitigation Strategy
Malawi	<ul style="list-style-type: none"> Sustainable natural resource management and agricultural practices 	<ul style="list-style-type: none"> National Climate Change Programme
Mali	<ul style="list-style-type: none"> Forest inventories Forest information system Afforestation/Reforestation projects 	<ul style="list-style-type: none"> National Climate Change Policy
Mauritania	<ul style="list-style-type: none"> Integrated land and climate planning 	<ul style="list-style-type: none"> National Environmental Action Plan NAPA
Mozambique	<ul style="list-style-type: none"> Adaptation linked to land use in rural areas 	<ul style="list-style-type: none"> Environment Strategy for Sustainable Development NAPA
Nepal	<ul style="list-style-type: none"> Climate change mainstreaming in agriculture and forestry Local adaptation measures related to agriculture, food security, livelihoods, forestry and biodiversity 	<ul style="list-style-type: none"> NAPA priorities Local adaptation plans of action
Papua New Guinea	<ul style="list-style-type: none"> Multi-purpose national forest inventory 	<ul style="list-style-type: none"> National REDD+ readiness plan
Rwanda	<ul style="list-style-type: none"> Land tenure reform Land use planning 	<ul style="list-style-type: none"> Strategic Roadmap for Land Tenure Reform Strategic Plan for Environment and Natural

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Country / Region	GCCA support for:	Contributes to implementing:
		Resources
São Tomé and Príncipe	<ul style="list-style-type: none"> Forestry, agroforestry Sustainable agricultural and natural resource management practices 	<ul style="list-style-type: none"> National Food Security and Nutrition Programme
Sierra Leone	<ul style="list-style-type: none"> Basic REDD+ readiness (notably with regard to MNV and policy development) 	<ul style="list-style-type: none"> REDD+ readiness
Tanzania	<ul style="list-style-type: none"> Land use planning Participatory forest management 	<ul style="list-style-type: none"> National Strategy for Growth and Poverty Reduction Participatory land use management plans National Forest Policy
Timor-Leste	<ul style="list-style-type: none"> Training in land use management Agroforestry 	<ul style="list-style-type: none"> Strategic Development Plan 2011-2030 Law on Integrated Planning NAPA
Vanuatu	<ul style="list-style-type: none"> More sustainable farming practices Agroforestry, forest management, afforestation, wetland restoration, replanting of coastal vegetation 	<ul style="list-style-type: none"> NAPA
Regional programmes		
Caribbean	<ul style="list-style-type: none"> Preparedness to access REDD+ funding 	<ul style="list-style-type: none"> National REDD readiness plans
Eastern Caribbean	<ul style="list-style-type: none"> Sustainable land management frameworks 	<ul style="list-style-type: none"> Organisation of Eastern Caribbean States regional policy on climate change adaptation
Eastern and Southern Africa	<ul style="list-style-type: none"> Conservation agriculture Investment frameworks for climate smart agriculture REDD+ process 	<ul style="list-style-type: none"> National policies, strategies and programmes including NAPAs
Western Africa	<ul style="list-style-type: none"> Assessment of climate change impacts on agro-sylvo-pastoral production systems 	<ul style="list-style-type: none"> National policies, strategies and programmes including NAPAs

3.2. ADDRESSING THE DRIVERS OF DEFORESTATION AND DEGRADATION: HOLISTIC APPROACHES TO LAND, FOREST AND NATURAL RESOURCE MANAGEMENT

Identifying and then addressing the drivers of deforestation, forest and land degradation is:

- a requirement for achieving sustainable land management and forest protection;
- a forward-looking strategy for addressing carbon leakage; and
- a **pre-requisite for creating an enabling environment for the realisation of synergies between adaptation and mitigation.**

Addressing these drivers is a complex undertaking, however, as there are stakes associated with economic activity, livelihoods, food and energy security, natural resource management and more – hence the need for addressing them in the context of coherent national rural development

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strategies.¹³ Box 3 explains how some GCCA interventions tackle this issue, with examples in relation to agricultural encroachment, woodfuel extraction and security of tenure.

Box 3 – Addressing the drivers of deforestation and degradation

In **Benin**, **over-exploitation and agricultural encroachment** cause the degradation and destruction of gallery forests in the Ouémé river basin. To support flood alleviation in downstream regions, the GCCA programme plans to address some structural drivers of forest degradation at the level of forest-dependent communities, including charcoal production, non-sustainable timber extraction and extensive fallow-based agricultural practices.

In the **DR Congo**, **woodfuel extraction** is a major cause of forest degradation in the (ever wider) supply basins of large cities. In the eastern part of the country, the GCCA will support the development of agroforestry plantations, the restoration and management of degraded forests and the development of community-based forest management plans focused on woodfuel production, with a view to increasing the supply of wood for charcoal under sustainable conditions while providing new livelihood and income opportunities for local populations. It is hoped that this approach will help reduce pressure on natural forests.

In **Mali**, **woodfuel collection** is one of the major causes of forest degradation. To increase the availability of woodfuel on a sustainable basis, six afforestation and reforestation projects are now under way in the Kayes, Ségou and Mopti regions; this is expected to help protect the remaining natural forests. The formalisation of woodfuel supply chains and the adoption of fuel-efficient stoves are also promoted.

In **Rwanda**, the GCCA has contributed to the setting up of a land tenure system that guarantees tenure security for all Rwandans and gives guidance to the necessary land reforms with a view to good management and rational use of national land resources. By providing **security of tenure**, land registration gives landholders greater incentive to care for the land. To reinforce this, the certificate of title issued at registration is accompanied by land use conditions that mandate the application of a number of agricultural good practices (e.g. tree planting around farms to reduce soil erosion) that are critical to sustainable land management, particularly in fragile areas such as wetlands and high relief areas.

In **Sierra Leone**, **woodfuel extraction** is also a key driver of forest degradation. With GCCA support, a study of charcoal production and consumption will be conducted, and sustainable charcoal production will be piloted to show its potential to reduce the pressure on forests. Another way of reducing this pressure is to develop alternative, sustainable energies. To support this, the potential for generating solar power will also be assessed and mapped, in view of the preparation of a national solar energy strategy and action plan.

In **Tanzania**, more specifically in the context of the Pemba Island eco-village project, the transfer of land ownership from government to communities under **secure tenure arrangements** is also supported, as this is seen as a pre-requisite for the development of agroforestry and community-based afforestation and reforestation projects. Following a survey of target village areas by the Zanzibar government's Department of Lands and Surveys, the transfer of title deeds to community ownership is in preparation, with the aim of protecting community lands used for environmental conservation and restoration purposes. Without such incentives, investment in these sustainable land use practices would be too risky.

¹³ See the background paper entitled *From NAPAs to NAPs, NAMAs, LEDS and DRR strategies: the role of country-led climate and disaster risk reduction mainstreaming*.

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Successfully addressing the drivers of deforestation and degradation often requires the adoption of **multisectoral approaches, that combine forest, land and natural resource management** and may involve activities related to agriculture, forestry, energy, water management, coastal zone management, infrastructure, etc. Box 4 illustrates GCCA approaches and experience in this regard.

Box 4 – Joint approaches to land, forest and natural resource management

In the **Eastern Caribbean**, the GCCA intervention aims to improve the region's natural resource base resilience to the impacts of climate change through support for **more effective and sustainable land management frameworks and practices**. Institutional and capacity building work will be complemented by the implementation of pilot projects in areas such as coastal protection, ecosystem restoration and rehabilitation, soil conservation, reforestation, flood mitigation, land and river bank stabilisation, and water conservation.

In **Tanzania**, the **eco-village approach** supports the testing of holistic, innovative and **integrated approaches to the sustainable use of natural resources**. This is based on the premise that agriculture and forestry are interlinked with other sectors, such as energy, water management and sanitation. A wide range of activities are being implemented, based on local priorities; they include, for example, the promotion of “climate-smart” agricultural innovations and the development of more diversified and resilient agricultural systems (e.g. agroforestry systems) that also support higher incomes for the population; tree nursery development and tree planting; the building of energy-efficient stoves; and the development of alternative, solar-based energy systems. Mapping and territorial planning are also seen as useful tools to support adaptation in relation to natural resource management; however, experience has shown that land use planning may have to be introduced and developed only after having responded to more pressing community priorities, once the community's trust and confidence have been gained.

In **Timor-Leste**, the GCCA intervention aims to improve the adaptive capacity of populations vulnerable to climate change through the sustainable management of their natural resources and the improvement of their livelihood options. The programme includes activities related to **agriculture, forestry, agroforestry and land use planning, developed as a response to land degradation**. Environmental profiles for the five major watersheds will first be prepared for assessing climate change effects on communities, with specific attention paid to degraded areas, the protection of water catchment areas and the potential for soil and water conservation techniques. On this basis, local soil and water conservation plans will be drafted, then integrated into *suco* (village) and district development plans.

3.3. FOSTERING SYNERGIES BETWEEN ADAPTATION AND MITIGATION

Land use and forest-related activities offer significant opportunities to generate non-carbon benefits and to combine adaptation and mitigation. The existence of adaptation and development benefits constitute an incentive for developing countries, and the developed countries that provide financial and technical support, to engage in more such mitigation activities. GCCA-supported interventions frequently exploit synergies between adaptation and mitigation. In some cases, this results from a deliberate intention to combine both aspects of the response to climate change. In other cases, the focus is on adaptation, and mitigation benefits represent a positive “side effect” rather than an objective of the intervention.

The examples presented in Box 5 show how some GCCA initiatives are addressing challenges and barriers to adaptation-mitigation synergies through:

- **protecting and restoring natural ecosystems**, as in **Guyana** and **Jamaica**;

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- **promoting sustainable agricultural practices**, as in **Ethiopia** and **Eastern and Southern Africa**;
- **enhancing livelihood opportunities and benefits to local communities**, as in **Benin**, the **DR Congo**, **Nepal** and **Tanzania**.

Box 5 – Fostering adaptation-mitigation synergies

In **Benin**, the programme promotes the **conservation and sustainable use of gallery forests** through the establishment of a network of community-based conservation areas, as well as the setting up of sustainable local forest management institutions and the implementation of sustainable use models for forest resources. This is expected to **curb deforestation and forest degradation**, while **reducing the risk of flooding** in downstream areas and developing sustainable livelihoods for local forest-based or forest margin communities. **Livelihoods diversification** (into areas such as sustainable production of non-timber forest products and medicinal plants, and ecotourism) should both enhance local communities' adaptive capacity, and create incentives to adopt sustainable forest and land management practices with mitigation benefits.

In the **DR Congo**, institutional and capacity building activities will notably focus on the implementation of measures that realise synergies between adaptation and mitigation in the forest sector. These synergies will be tested in the eastern part of the country, where support will be provided for the **development and management of agroforestry plantations**, as well as the restoration and more **sustainable management of degraded natural forests**. These approaches are expected to increase the supply of woodfuel under sustainable conditions, and to provide **new livelihood and income opportunities** for local populations – thus reducing vulnerability and enhancing adaptive capacity while reducing incentives to generate cash income from unsustainable charcoal production. This should ultimately **increase net carbon stocks**.

In **Eastern and Southern Africa**, the GCCA-supported programme promotes investment in agricultural techniques and sustainable land use practices that are simultaneously **climate-resilient** and **carbon-efficient**. Supported activities include the promotion and piloting of “climate-smart” agriculture, conservation agriculture and other sustainable land use practices.

In **Ethiopia**, the GCCA supports the field-testing of climate change adaptation measures in the context of the **Sustainable Land Management programme**. While the focus is primarily on adaptation, measures that also support mitigation objectives will be promoted. For instance, pilot projects are likely to include watershed rehabilitation through natural regeneration, afforestation and reforestation, which enhance the carbon sequestration potential; tree management for sustainable fuelwood production; implementation of conservation agriculture practices (e.g. zero tillage, retention of residues, mulching, cover crop planting), which support **increased carbon storage** in agricultural soils as well as **increased resilience to climate variation**; and the integration of grasslands and pasture management into an agricultural technology package that combines carbon sequestration with improved livestock productivity.

Guyana, like many other countries in the Caribbean, is vulnerable to increased coastal erosion as a result of climate change. The GCCA-supported national initiative to **protect and restore mangrove forests** is an interesting way of contributing to **carbon sequestration** through reforestation and forest preservation, while supporting adaptation to climate change through the **strengthening of natural sea defences** and support for coastal zone biodiversity.

(...)

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Box 5 – Fostering adaptation-mitigation synergies (cont'd)

In **Jamaica**, the GCCA programme aims to **increase resilience** and reduce the risks associated with natural hazards in vulnerable areas **through the rehabilitation** (through replanting) **and improved management of selected watersheds** to reduce downstream run-off and associated pollution and health risks, **as well as the restoration and protection of coastal ecosystems** (including mangroves, sand dunes and seagrass beds) to enhance natural buffers. While the focus is on adaptation, programme activities also support an increase in the **carbon sequestration** potential of land and coastal ecosystems.

In **Nepal**, pilot projects aimed at **climate adaptation and resilience** are also expected to promote **low-carbon livelihoods** diversification and private sector investment in clean development and green jobs, especially through forest management, water resources management, and alternative energy development.

In **Tanzania**, the focus of the eco-village approach to **sustainable resource management** is on enhancing the **adaptive capacity** of vulnerable Tanzanian communities. In practice however, many of the supported activities also contribute to climate change **mitigation**, through more sustainable management of forests, afforestation, reforestation, and agroforestry development, the use of agricultural techniques that enhance carbon sequestration in soils, the promotion of more efficient woodfuel stoves, and the development of alternative sources of energy in rural areas.

3.4. SUPPORTING SUSTAINABLE DEVELOPMENT AND THE IMPLEMENTATION OF “SAFEGUARDS”

Since the adoption of the UNFCCC, attention has been paid to the need to **minimise the adverse effects that both mitigation and adaptation measures may generate**, in particular on developing countries. Work on these issues has been going on since the entry into force of the Convention, and gained momentum in recent years. The *Cancún Agreements* reaffirmed that **responses to climate change should be coordinated with social and economic development in an integrated manner**, taking into account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty as well as the consequences for vulnerable groups. These principles notably underpin the adoption of strict **social and environmental safeguards** for the REDD+ initiative (see Section 2.2.1).

GCCA programmes that support preparation for REDD+, or more generally promote sustainable forest and land management, **integrate sustainable development principles and the implementation of REDD+ safeguards and other similar measures**. They may thus help developing countries devise “nationally appropriate” approaches to the implementation of safeguards, and support the emergence of good practice in this area. For example:

- Several GCCA interventions, of which those presented in Box 6, explicitly promote natural forest conservation and sustainable forest management, two important aspects of REDD+.
- Interventions that support mangrove and other coastal ecosystem restoration, such as those in **Guyana** and **Jamaica**, promote the conservation of biodiversity and thereby support the objectives of the UN Convention on Biological Diversity.
- Full and effective participation of relevant stakeholders, including indigenous peoples and local communities, is a recurrent feature of GCCA interventions, such as those in **Guyana**, **Jamaica** and **Tanzania** (see Box 12).
- Respect for the knowledge and rights of indigenous peoples and members of local communities is also a feature of the GCCA programme in **Papua New Guinea**, where an assessment of indigenous knowledge and use of the forest land is planned.

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- Various interventions support the setting up of effective forest governance and land management institutions at regional, national and/or local level (see Boxes 10 and 11).

Various tools and approaches are available to support the identification, implementation and reporting of safeguard measures. In the **Central African Republic**, GCCA support for the implementation of a regional REDD+ strategy in the Southwestern region will involve the implementation of a **strategic environmental and social assessment**, which will provide baseline information on social and environmental conditions and a foundation for the design and monitoring of safeguards. A **regional environmental management and monitoring system** will also be developed in support of REDD+ implementation.

Box 6 – Promoting forest conservation and sustainable forest management

In **Benin**, promoting the **conservation and sustainable use of gallery forests** in the lower valley of the Ouémé River is one of the two specific objectives of the GCCA intervention. This is to be achieved through the establishment of a network of community-based conservation areas embedded in the national protected area system. Sustainable local forest management institutions will be strengthened or set up, with the aim of signing partnership agreements for the sustainable management of gallery forests. Sustainable forest use models will be implemented in and around gallery forests.

In **Burkina Faso**, the GCCA will contribute to a **Sustainable Decentralised Forest Management project** under the umbrella of the Forest Investment Program. Sustainable environmental management principles will be mainstreamed into the planning and budgeting of key policies in the rural sector, starting with the forest sector. Tools for the sustainable management of the environment and climate change in the forest sector will be developed and disseminated.

The **sustainable management of forest ecosystems and production forests** is a key feature of the GCCA programme in the **Central African Republic**, and the **restoration and more sustainable management of degraded natural forests** a major component of the intervention in the **DR Congo**.

In **Guyana**, under the **Mangrove Management Action Plan**, mangrove forests are being protected and restored. Some 36.5 km of mangroves are now monitored and protected by a newly set up mangrove ranger unit, and 5 km of mangroves have already been restored. Mangrove protection and sustainable mangrove management are being encouraged through awareness-raising activities as well as the development of sustainable mangrove-based livelihoods in communities along the coast.

In **Papua New Guinea**, the **multi-purpose national forest inventory** to be undertaken with GCCA support is notably expected to support sustainable forest management.

3.5. ADDRESSING BARRIERS TO THE REALISATION OF THE ADAPTATION AND MITIGATION POTENTIAL OF SUSTAINABLE LAND MANAGEMENT

3.5.1. PAVING THE WAY FOR SCALED UP FINANCING

A recurrent request from developing countries concerns improved access to climate-related financing, and the **scaling up and long-term predictability of financial support** for their mitigation and adaptation initiatives. Improved access to financing can be supported in various ways, as discussed in more detail in the background paper entitled *Making climate finance effective: strengthening national public financial management and budgetary systems*.

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In the LULUCF sector, GCCA interventions pave the way for scaled up access to climate finance through **support for climate change mainstreaming**, which ensures that climate change is addressed in a systematic, long-term and sustainable way.¹⁴ This in turn can enhance a country's ability to attract and implement climate-related funding, and can pave the way for future budget support. Examples of GCCA support for climate change mainstreaming in the land use and forest management sectors are presented in Box 7.

Box 7 – Mainstreaming adaptation and mitigation in the land use and forest sectors

In **Bhutan**, the GCCA supports the **mainstreaming of climate change readiness into the country's renewable natural resources sector**, which encompasses rural development, agriculture, food security and the preservation of natural resources. This must lead in particular to the implementation of concrete adaptation measures in the agricultural sector, such as the development of infrastructure to save, store and reuse rain and groundwater, and the introduction of sustainable land management practices. Measures to reduce the sector's contribution to greenhouse gas emissions will also be promoted.

In the **Lao PDR**, the GCCA intervention promotes sustainable, climate-friendly and climate-resilient forms of agriculture and agroforestry, and more generally sustainable natural resources management and improved land management. Climate change **mainstreaming efforts focus on sub-national levels**: support will be provided for the "climate-proofing" of provincial, district and village land use planning processes and strategies.

In **Nepal**, GCCA support aims to build the capacity of the authorities to develop, cost, budget and implement evidence-based policies and measures aimed at mainstreaming climate change into key development sectors, including agriculture, forestry, water and energy, at the local, regional and national levels. Support is notably provided for the **mainstreaming of prioritised adaptation activities through local adaptation plans of action (LAPAs)**. 70 LAPAs have been prepared across 14 districts. They have prioritised actions to undertake in five main areas of intervention, including one that encompasses agriculture, food security, livelihoods, forestry and biodiversity.

In **Timor-Leste**, the GCCA will help communities faced with adverse impacts from climate variability and change to draft local **soil and water conservation plans**, in coherence with watershed management principles. These plans will then be **integrated into sub-district and district development plans**, to ensure the actual implementation of proposed measures. This complements mainstreaming activities undertaken at national level, notably the updating of national policies and plans with regard to vulnerability areas and adoption of best practices for climate resilience.

In line with aid effectiveness principles, the GCCA promotes the use of national financial systems, institutions and procedures for channelling climate-related funding, and where the required conditions are in place, it makes use of **budget support**. This aid modality, which supports the scaling up of climate finance as well as reasonable predictability of financial flows with a medium-term perspective, has been used to support strategies and programmes related to the land use and forest sectors, as presented in Box 8.

¹⁴ See the background paper entitled *From NAPAs to NAPs, NAMAs, LEDS and DRR strategies: the role of country-led climate and disaster risk reduction mainstreaming*.

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Box 8 – GCCA budget support in the land use and forest sectors

In **Bhutan**, the GCCA provides sector budget support for the mainstreaming of climate change readiness into the country's **renewable natural resources sector** (see Box 7).

In **Guyana**, the GCCA supports the implementation of the **National Mangrove Management Action Plan** through sector budget support.

In **Lesotho**, GCCA general budget support facilitates the preparation of a national climate change adaptation and mitigation strategy that is notably expected to encompass **sustainable agricultural practices** (e.g. improved soil and nutrient management, water harvesting and retention, water use efficiency) and the **management of eroded lands and wetlands**.

In **Rwanda**, the GCCA has contributed to the implementation of the **Strategic Roadmap for Land Tenure Reform** through sector budget support.

In **Nepal**, the modality used for the GCCA programme is project support – but programme activities include carrying out detailed economic and social appraisal, governance and fiduciary risk assessment, with a view to addressing public financial management and other weaknesses and **exploring the potential for receiving future climate-related funding in the form of sector budget support**.

3.5.2. SUPPORTING INSTITUTIONAL AND CAPACITY DEVELOPMENT

Institutional and capacity development for land-use related mitigation and adaptation and REDD+ involves **promoting an enabling environment** addressing policy and regulatory frameworks, institutional aspects such as coordination mechanisms, and a **wide range of organisational and individual capacities** in areas such as forest governance, land use planning and management, land tenure security, and natural resource management and use rights.

In practice, weak institutions and insufficient capacities often act as a barrier to the realisation of developing countries' potential. Typical weaknesses include, among others: the lack of integration of climate-related strategies with national development strategies and priorities; the fragmentation of, and gaps in, policies, strategies, laws and regulations; inefficient institutional arrangements, characterised by overlapping mandates, poor coordination and consultation, inefficient administration and weak enforcement capacities; insufficient allocation of human, financial and technical resources; and failure to address local capacity development needs.

The GCCA seeks to help partner countries overcome these obstacles through a variety of approaches to institutional and capacity development. These approaches include:

- **Full alignment with national priorities, strategies and management structures**, in line with aid effectiveness principles, to foster national ownership and leadership and reinforce existing institutional structures and mechanisms; examples GCCA experience in this regard are presented in Box 9.

Box 9 – Aligning with national priorities, strategies and management structures

In **Burkina Faso**, the GCCA programme contributes to the implementation of the wider **National Rural Sector Plan**. It will make full use of the national coordination and steering mechanisms set up in this context, under the leadership of the Ministry of Environment and Sustainable Development.

(...)

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Box 9 – Aligning with national priorities, strategies and management structures (cont'd)

In **Ethiopia**, the GCCA programme supports the field-testing of climate change adaptation measures in the context of the national **Sustainable Land Management programme**, in line with the climate change adaptation programme and the wider “Climate Resilient Green Economy” strategy. It thus builds on existing initiatives of the Ethiopian authorities, and is fully aligned with national priorities.

In **Guyana**, the GCCA supports the implementation of a national programme, the **National Mangrove Management Action Plan**, which is itself aligned with the new Low Carbon Development Strategy, the National Biodiversity Action Plan, and the Sea and River Defence Policy. The programme is being implemented by the **National Agricultural Research and Extension Institute (NAREI)**.

In **Jamaica**, GCCA programme management and implementation is entirely in the hands of national actors. Watershed replanting is being implemented using the existing structures and procedures of the **Forestry Department**, while the component related to enhancement of the resilience of coastal ecosystems is in the hands of the **National Environment and Planning Agency**.

In **Rwanda**, the GCCA has contributed to the implementation of the **Strategic Roadmap for Land Tenure Reform** through a budget support programme that was fully aligned with government priorities.

- **Specific support for institutional and capacity development**, targeting three levels: (i) the overall enabling environment (macro-institutional level); (ii) the organisational level; and (iii) the individual level. Boxes 10 and 11 give examples of GCCA experience in this area, respectively for the overall enabling environment and (jointly) the organisational and individual levels.

Box 10 – Strengthening the enabling environment for sustainable land and forest management

In the **Eastern Caribbean**, the GCCA intervention will help establish or reinforce the **regional and national land management systems** by providing appropriate climate change-oriented institutional and regulatory frameworks. These frameworks are expected to cover aspects such as regulations to protect and/or restore ecological buffers, regulations to phase out development in high-hazard areas, strict building codes, and the establishment of coastal construction baselines.

In **Eastern and Southern Africa**, institutional capacity development is supported with regard to the development of **investment frameworks and financing strategies** for the implementation of programmes on “**climate-smart**” agriculture, conservation agriculture and other agriculture, forestry and land use (AFOLU)-related activities; and also to promote increased participation in carbon trading. Two existing organisations are being strengthened to become **regional knowledge centres on conservation agriculture**. Two research programmes will also be initiated, including one on methodologies, practices and standards related to bio-carbon, AFOLU applications and other mitigation measures.

In **Rwanda**, GCCA support contributed to the training of staff for and the establishment of the central, provincial and district-level **land administration institutional architecture**.

In **Timor-Leste**, **weather monitoring systems** are being upgraded to provide data that will notably be used to support the updating of national policies and plans in relation to **agriculture and natural resource management**. Recommendations will be made on issues such as land tenure, forest management, and the use of traditional organisational systems. Capacity building activities are also planned for the National Directorate for Forestry.

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Box 11 – Strengthening capacities at the organisational and individual levels

In the **Central African Republic**, the GCCA programme will notably help enhance the capacity of municipalities to sustainably manage the royalties obtained from forest exploitation. Support will also be provided to the **Independent Agency for Sustainable Forest Resource Management (AGDRF)**. A programme for strengthening civil society in the fields of sustainable forest resource management, advocacy and monitoring will be developed. An “action-training” programme involving field actors will be implemented, and training programmes will be developed in relation to FLEGT ^(*) and REDD+, with adaptations for various types of target audiences. Support will also be provided for **civil society networking on FLEGT and REDD+ issues**, notably to strengthen its role as an independent observer.

(*) The EU Forest Law Enforcement, Governance and Trade initiative, which fights trade in illegal timber.

In the **DR Congo**, the GCCA programme contributes to capacity building in support of climate change mainstreaming into the forest and environment sector. The focus of capacity building is on enhancing skills required for **ecosystem-based adaptation, carbon stock measurement and monitoring, synergies between adaptation and mitigation in the forest sector, and climate-related policy making**. Training programmes will be adapted for various target groups including civil servants, policy makers, the media and civil society. The University of Kisangani is also being strengthened in its role of training centre and **centre of competence** in charge of **supporting the generational transition within the forest and environment administration**.

In **Ethiopia**, in preparation for the field-testing of climate change-related activities under the **Sustainable Land Management programme**, training has been delivered to 200 government development agents and 430 farmers on **climate-smart and energy-saving technologies** that can help adapt to climate change, reduce deforestation and forest degradation and improve livelihoods.

In **Mali**, over 20 staff members of the National Directorate for Water and Forests have now received training in the use of geographical information systems (GIS), including GPS-assisted geo-referencing. This is part of efforts to build capacities for operating the national **forest information system**.

In **Papua New Guinea**, capacity building in relation to the implementation of a continuous, **multi-purpose forest inventory** is a key component of the GCCA intervention. The aim is to provide both current and future staff of the PNG Forest Authority and University of Technology with the technical capability to carry out and periodically update the inventory. Planned activities notably include the design and delivery of field and technical training, the development of training modules for students at the University of Technology, the development of field procedures for conducting the inventory, and the provision of internships and scholarships for students. NGOs involved in sustainable forest management and forest industry staff will also be associated with the training programme.

In **Sierra Leone**, the GCCA intervention aims to help develop the institutional, technical and social capacities necessary for sound forest governance – and more specifically to strengthen the **Forestry Division** to prepare the country for **REDD+ mechanisms** and promote low-carbon initiatives. To support this, technical assistance will be provided, a staff training needs assessment undertaken and training, seminars and workshops delivered to discuss policy options on the management of forest resources and REDD+.

In **Western Africa**, the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) and the Agrhyment Regional Centre (CRA) are being strengthened to comply with their mandate to become the **centre of expertise and coordination** on matters related to climate change for Western Africa, including on aspects relevant to **agriculture, forestry and land use**.

- The consultation and **engagement of a wide range of public and private stakeholders**, at all appropriate levels (national, sub-national and local); Box 12 illustrates GCCA practice in this area.

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Box 12 – Fostering stakeholder engagement

In the **DR Congo**, various players including **village communities, small private land owners and private investors** will be involved in the development of woodfuel plantations. Priority areas will be defined and agreements prepared with local authorities, including decentralised government levels and customary authorities. Community-based forest management plans focused on woodfuel production will also be prepared.

In **Guyana**, the National Mangrove Management Action Plan places a strong emphasis on public awareness and community involvement. The participation of communities living close to mangrove fields is indeed important in terms of both protection and mangrove monitoring. Mangrove producers are local **community members** who are paid to cultivate mangrove seedlings on their land; they have already produced 420 000 black mangrove seedlings, and contributed to their planting. A **mangrove reserve women's producers group** has also been established to promote alternative livelihoods, based in particular on the sale of non-timber forest products, honey from beekeeping and other mangrove products. All this gives local communities a stake in the implementation of the programme.

In **Jamaica**, local communities are fully engaged to sustain the rehabilitation of watersheds through slope stabilisation measures such as reforestation of degraded hillsides. This is done by establishing or, where they exist, strengthening **local forest management committees**. Under the coastal ecosystem restoration and protection component, grants will soon be provided to **alternative livelihoods projects**, which will also give the local population a direct stake in programme implementation.

In **Tanzania**, **community participation** (with a focus on women) at all stages of the project cycle, trust building at various levels and a focus on education and awareness are seen as key success factors for eco-village projects. A very participatory approach is needed to identify both the activities that best suit local needs and the best approach to implementing them; to support this, eco-village projects were designed through a bottom-up and participatory approach, based on a detailed vulnerability assessment – and local stakeholders continue to be closely associated throughout project implementation. Demonstrating win-win or no-regret actions with clear benefits as early as possible has been shown to help establish good relations with targeted communities.

In **Timor-Leste**, **rural communities** will be supported in assessing the best climate-adapted options at local level, drafting local soil and water conservation plans and integrating them into existing planning processes. This process will rely on participatory, socially inclusive processes for assessing climate change effects on communities, and specific attention will be paid to the inclusion of conflict mitigation measures.

By addressing all levels of institutional and capacity development, the GCCA is helping partner countries, either directly or indirectly, better exploit their LULUCF-related mitigation and adaptation potential and address barriers to sustainable land management and REDD+ implementation.

3.5.3. ENHANCING ACCESS TO DATA, KNOWLEDGE AND APPROPRIATE TECHNOLOGIES

To implement forest- and land use-related mitigation and adaptation activities, countries need access to knowledge and “appropriate” technologies, i.e. those technologies that are the most likely to meet mitigation and adaptation objectives in an effective and efficient manner, taking account of their specific economic, social, cultural and environmental circumstances.

These appropriate technologies are not necessarily the most expensive or technically most sophisticated ones: **low-cost technologies, and those that can be implemented with locally available human and physical resources and with minimal reliance on external support**, may be the most appropriate, notably from the points of view of sustainability and broad participation. In

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some cases, research can be useful to support the identification or development of appropriate technologies and best practices. Box 13 presents a number of GCCA initiatives in the forest and land use sectors illustrating these aspects.

Box 13 – Enhancing access to appropriate techniques and best practices

In **Ethiopia**, the GCCA is financing a variety of pilot adaptation projects that complement ongoing activities under the Sustainable Land Management (SLM) programme, which supports land registration and uses **watershed-based approaches** to rehabilitate degraded lands and improve farmers' livelihoods. Pilot areas have been selected to ensure that lessons learned and **best practices** can be identified **for each type of ecosystem** covered by the SLM programme. This approach will ensure that recommendations are relevant to various types of ecosystems.

In **Guyana**, GCCA-supported mangrove restoration experience has shown that seedlings are very sensitive to erosion and wave action; it is thus important to carry out a thorough analysis of potential restoration sites, including information on aspects such as wave energy, elevation, hydrology and coastal activities. To ensure the success of **mangrove restoration** works, a more comprehensive site selection process needs to be devised, based on a detailed understanding of physical, biological and social factors. Restoration methods will also be revised to incorporate other proven methods such as natural restoration by naturally available propagules, planting of coastal grasses, and fencing of shoreline areas to eliminate grazing on natural recruits. **Coastal engineering structures** with a variety of designs will also be built to facilitate sedimentation and the protection of existing stands of mangroves; results will be assessed, with a view to replicating successful structures in the future.

In **Tanzania**, **eco-village innovations** demonstrate adaptation solutions that are deemed most appropriate for the environment in which they are to be implemented. Demonstrating the **technical and economic feasibility** of the proposed measures and interventions is considered essential. To be adopted, the adaptation measures must be seen to generate income and result in improved livelihoods. Innovations generally promote **low-cost solutions** that can be **implemented and maintained with local resources**, without or with only minimal external support. This encourages the sustainability of interventions and increases the potential for scaling-up and replication. Innovations and appropriate techniques may also vary across ecosystems; accordingly, in the first phase of the programme, one eco-village was selected in each of **three types of ecosystems** (coastal zones and islands, drylands, and highlands) deemed particularly vulnerable to climate change. This ensures that successful practices can be identified and replicated across the most vulnerable areas of the country, taking account of the specific characteristics of each type of ecosystem.

Effective implementation of forest- and land use-based mitigation and adaptation also requires **access to vast amounts of data**, for supporting decision making as well as the MRV of results. Developing countries thus need to build up their data collection and management systems for land and forest management, including climate monitoring systems. Box 14 gives an overview of how the GCCA supports the development of data collection and management systems in support of sustainable land management. Box 10 of the background paper entitled *Monitoring, reporting and verification (MRV): what are the implications for strengthening climate information and national monitoring systems?* provides further examples of GCCA support for REDD-related MRV.

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Box 14 – Building up data collection and management systems for sustainable land management

In **Benin**, the GCCA supports the acquisition of **new geographical information system (GIS) data and new topographic maps** covering the whole territory, as well as the strengthening of capacities of the National Geographical Institute (IGN) and structures in charge of producing maps. This will support a variety of objectives, including enhanced disaster risk management (notably through the establishment of an early warning system for floods), improved land use planning and improved forest management.

In the **Eastern Caribbean**, the GCCA intervention will help acquire and build human and technical capacities to effectively operate and manage a number of technical tools (more specifically, **mapping, GIS and GPS tools**) required for the collection, storage, analysis and display of geo-spatial data necessary to support decision making for the development of sustainable land management policies and strategies.

In **Guyana**, a **mangrove inventory** of the entire coastline has been prepared, and a **GIS monitoring system** has been developed to manage field data and remote sensing images/aerial photos of the coastline. Training in the use of GIS and GPS tools has been provided to mangrove restoration project staff and mangrove rangers.

In **Jamaica**, a comprehensive **assessment of all forested lands** has been undertaken, and a **geo-referenced database** developed. To support watershed monitoring, permanent sample and monitoring plots have been identified and lined. In coastal areas, a **database** is being set up **for monitoring changes in coastal ecosystems**. Data loggers for the measurement of sea surface temperature have been procured and installed in four marine protected areas.

In **Rwanda**, GCCA support has contributed to the setting up and operation of a **nationwide land registration system**. This has required significant investment in data collection and management infrastructure, including the preparation and distribution of aerial ortho-photo base maps, and the development of a land administration information system and the underlying databases.

With the help of the GCCA programme for **Western Africa**, **hydro-climatologic data management systems** are upgraded through support for the Aghymet Regional Centre (CRA). The CRA's existing database is being updated, and the production and dissemination of data is improved and extended. This is complemented with activities to strengthen the CRA's capacities to conduct detailed analysis of climate change in the Sahel (and other supported countries), and to **assess the potential impacts of climate change on agro-sylvo-pastoral production systems**, on socio-economic systems and on ecosystems.

Participative forest monitoring (using hand-held GPS and user-friendly software on smartphones) could be further explored. It can be useful to facilitate information exchange with forest users (e.g. in the context of forest-related climate monitoring, fire prevention, grievance and redress mechanisms, community mapping of biological resources) and to enhance their understanding and ownership of mitigation and adaptation actions.

3.5.4. SUPPORTING REPLICATION AND SCALING UP

Support for the replication and scaling up of mitigation and adaptation measures successfully tested in the context of pilot and demonstration projects is another **way of addressing barriers** to the realisation of the adaptation and mitigation potential of sustainable land management. Pilot projects are encouraged to inform the wide-scale adoption of successfully tested approaches and techniques or the replacement of less successful practices with more effective ones. To achieve this, sufficient efforts need to be dedicated to the dissemination of best practices and lessons learned and

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to putting in place enabling conditions for scaling up, for example by developing or reviewing strategies (REDD+, climate change, development), setting up the adequate policy, regulatory and institutional framework, and allocating financial and human resources. Box 15 illustrates two cases in which GCCA interventions that promote adaptation-mitigation synergies include explicit activities to promote replication, scaling up and the translation of results into policy.

Box 15 – Supporting replication and scaling up

In the **Lao PDR**, **village-level demonstration activities** aimed at increasing the adaptive capacity of local communities, farming systems and livelihoods will be undertaken. Lessons learned from these activities will be **assessed, documented and reported**. The experience gained will be shared broadly with all development partners, notably through the sub-sector Working Group on Environment, with a view to **placing climate change-related issues higher on the Government of Lao PDR's agenda**, and identifying practical responses to climate variability and change in uplands rural development. Recommendations will be made at the national level and will feed into policy dialogue.

In **Tanzania**, **results from the eco-village projects are to be integrated into policy making**. It is recognised that knowledge transfer from the eco-village experience to a wider group of stakeholders at local, regional and national levels must be actively managed – for example, through links with development planning processes, through participation of technical staff from relevant central government bodies in project advisory boards, or through the use of local farmers involved in pilot activities as trainers for other farmers (as well as students). In practice, **activities aimed at sharing results and disseminating innovation are an integral part of all eco-village projects**. They include support for visits by national policy makers and neighbouring village representatives; the documentation of project achievements on a website; their promotion and dissemination via national television, radio, newspapers and leaflets; the development of guidelines and best practices for scaling up; the organisation of national workshops; and support for the delivery of training by early adopters of new, successful technologies.

4. CONCLUSIONS AND PROPOSED QUESTIONS FOR DISCUSSION

How land is managed has a large influence on atmospheric levels of carbon dioxide, nitrous oxide and methane, three of the most important greenhouse gases. **Sustainable land management** not only provides **opportunities for mitigation** but can also, in the right circumstances, support **adaptation** and, critically, generate **livelihood** opportunities as well as biodiversity benefits.

The goal of sustainable land management needs to be viewed in a broad context. Land is for example often a sensitive and political issue, with the drivers of land degradation often outside the reach of a short-term project, or even outside the frontiers of a country. GCCA experience illustrates the **advantage of holistic approaches** that address adaptation, mitigation and development in an integrated manner, and aim to be **fully aligned with national development policies, plans, strategies and programmes**.

Developing countries, where a **significant potential for land-based mitigation and adaptation** exists, show growing interest in participation in land use and forestry-related activities, and in getting support to enable such participation.

The need for capacity development is often cited as a major issue for developing countries, and it is particularly acute in the land and forest sectors, where climate-related actions involve the use of complex methodologies and require the setting up of sophisticated data collection and management systems. Consequently, **capacity building is a major area of GCCA support**. Capacity needs to be developed in an integrated and balanced way at many levels, and specific attention must be paid to

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ensuring the effective use of newly developed capacities (e.g. through robust capacity needs assessment as a basis for designing well-targeted programmes, and through staff retention programmes to ensure people trained in new skills have incentives to stay in positions where they can best make use of these skills in the light of national priorities).

Based on these considerations, and in view of GCCA experience as summarised in this paper, the following questions are proposed for discussion at the Global Policy Event:

1. **Can you share a specific experience or practice from your country for promoting synergies between adaptation, mitigation and development, particularly in the fields of forestry and sustainable land management?** What are the challenges? How is the country addressing them? What have been the results to date?
2. Based on the experience and practice in your country with respect to both adaptation and mitigation, and if possible drawing from the sectors of forestry and sustainable land management, **what recommendation(s) would you make to climate change negotiators and the international development community to make climate change actions more effective? Can you make the case** for your recommendation(s) using the experience and practice in your country?

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