

Making Biodiversity Safeguards for REDD+ Work in Practice

- Developing Operational Guidelines and Identifying Capacity Requirements -

9 May 2011

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Acknowledgements:

This report is based on the findings of a project funded by the UK Department of the Environment, Food and Rural Affairs (Defra Project CR 0494 “Review to Support the Post-Nagoya Development of Biodiversity Safeguards and Indicators for International Forestry Agreements (REDD+ - Reducing Emissions from Forest Degradation and Deforestation)”). The project was carried out by UNEP-WCMC in collaboration with Conservation International.

The report further benefited from analyses carried out under the UN-REDD programme.

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Suggested citation:

Epple, C., Dunning, E., Dickson, B., Harvey, C. (2011): Making Biodiversity Safeguards for REDD+ Work in Practice. Developing Operational Guidelines and Identifying Capacity Requirements. Report. UNEP-WCMC, Cambridge, UK.

Executive Summary

The negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) about a REDD+¹ mechanism, which would provide incentives for developing countries to slow and/or reverse the loss of forest carbon on their territories, have made significant progress over recent years. In order to prevent unintended side-effects and promote the delivery of social and environmental co-benefits from actions to maintain and enhance forest carbon stocks, the concept of safeguards has been raised.

At the 16th Conference of the Parties in December 2010, Parties to the UNFCCC adopted the decisions known as the Cancun Agreements. These include a list of safeguards for REDD+, which address both social and environmental aspects, and affirm that the implementation of REDD+ activities should be carried out in accordance with the safeguards. Parties aiming to undertake REDD+ activities “in the context of the provision of adequate and predictable support” are requested to develop, among other things, “a system for providing information on how the safeguards (...) are being addressed and respected throughout the implementation of the activities (...), while respecting sovereignty.”

An analysis has been carried out of the practical requirements in terms of knowledge and capacity for implementing and monitoring those elements of the Cancun safeguards which relate to the impacts of REDD+ on biodiversity. The analysis was informed by a review of the specific opportunities and risks for biodiversity conservation linked to the range of activities that can be supported under REDD+. Further input was derived from a review of provisions and guidance developed for existing biodiversity-related standards from a variety of contexts, including REDD+, forest and biofuels certification, and development cooperation. While there is a close interrelationship between the social and environmental dimensions of REDD+, the implementation of the social safeguards contained in the Cancun Agreements has not been focused upon in this analysis.

It is clear that the Cancun safeguards provide a strong call for comprehensive steps to prevent harm to biodiversity from REDD+ activities and support its conservation. However, due to their general wording they are not operational in the present form. Further work is therefore needed to facilitate their coherent and effective application across all types of REDD+ initiatives and funding institutions. Such work should also take account of the different sets of provisions on addressing biodiversity impacts that are currently being developed and applied in a number of REDD+-related initiatives².

A proposed initial set of operational guidelines has been drawn up with the intention to inform discussions on the further development and implementation of biodiversity safeguards for REDD+ in the relevant fora, as well as to support REDD+ practitioners in their efforts to implement the different sets of provisions in a harmonized way. These guidelines address the procedural steps for ensuring the consideration of biodiversity throughout the preparation, planning and implementation process of

¹REDD+ being short for: measures related to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

² e.g. the REDD+ Social and Environmental Standards, UN-REDD Social and Environmental Principles, FCPF Strategic Environmental and Social Assessment Framework and the Operational Guidelines of the Forest Investment Programme.

REDD+ initiatives. They also specify the full range of opportunities and risks to biodiversity from REDD+ that should be addressed in line with the Cancun Agreements, and suggest desirable outcomes as well as measures to achieve them.

As the analysis of practical requirements for effective implementation and monitoring of biodiversity safeguards in line with the proposed operational guidelines demonstrates, some gaps related to the knowledge base, policy integration, institutional capacities and legal frameworks will need to be addressed for most countries. However, case studies and figures from available literature show that the cost of meeting requirements for the implementation of biodiversity safeguards is likely to make up a small fraction of the total investments needed to prepare a country for participating in REDD+.

It is estimated that for most of the requirements related to the knowledge base and policy integration, provision of staff time for one or two suitably qualified experts to pull together existing information and to work on the integration of biodiversity safeguards throughout the stage of preparing for REDD+ implementation could facilitate significant progress towards a positive outcome. Where possible, further opportunities to build capacities and develop baseline information should be used, for example by employing targeted funding provided for REDD+ readiness actions or attracting additional funding from sources that support biodiversity conservation in general.

More substantial effort is likely to be needed with regard to the monitoring of biodiversity impacts and the communication of, and monitoring of compliance with, the biodiversity-related elements of any land use regulations or incentive schemes that countries may choose to apply as part of their portfolio of REDD+ actions. Significant synergies will often be possible with related work undertaken to address the carbon-related aspects of REDD+. With regard to the monitoring of biodiversity impacts, synergies can also be achieved with monitoring efforts under the Convention on Biological Diversity (CBD), and in particular the current work on the development of indicators for the CBD Strategic Plan 2011-2020. Further work on the development of indicators for the CBD Strategic Plan might consider the potential usefulness of these indicators for use in monitoring biodiversity safeguards.

In recognition of the important role of biodiversity (and other) safeguards for the sustainability of REDD+ initiatives, building capacity for their implementation should be a key consideration in efforts to support Parties to prepare for participation in REDD+.

The close interlinkages between the environmental and social dimensions of REDD+ should be communicated widely in order to further strengthen the case for a coherent and ambitious implementation of both types of safeguards.

In support of work under the UNFCCC related to systems for providing information on how the safeguards agreed in Cancun are being addressed and respected, indicators and monitoring methods that can be adapted for use at the national level should be developed further. These indicators and monitoring methods should address both the process and outcomes of implementing biodiversity safeguards.

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1 Introduction

The negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) about a REDD+³ mechanism, which would provide incentives for developing countries to slow and/or reverse the loss of forest carbon on their territories, have made significant progress over recent years.

It is generally acknowledged that initiatives related to REDD+ can not only address climate change, but also deliver substantial environmental and social co-benefits. These include the conservation and/or enhancement of biodiversity and the ecosystem services provided by forests, as well as positive effects on forest governance, equity and the livelihoods of indigenous peoples and local populations.

However, the extent to which REDD+ will achieve both climate and other policy goals depends strongly on the way the activities are designed and implemented, and there are also risks of doing harm. The concept of social and environmental safeguards has been raised to facilitate transparency and consistency, promote the realization of benefits and avoid unintended negative effects.⁴

Work on safeguards has been initiated under the UNFCCC as well as in several other fora, and important decisions have been taken at the 16th Conference of the Parties to the UNFCCC in 2010. However, a significant amount of further elaboration is still needed to facilitate the application of the general elements that have been developed to the different steps of REDD+ preparation and implementation, and to allow for assessment and monitoring of their effectiveness.

There is a role for safeguards in all types and phases of REDD+-related initiatives, including REDD+ demonstration activities, programmes or national REDD+ strategies guiding the preparation of countries for participation in a future REDD+ mechanism, and eventually implementation of the REDD+ mechanism itself. However, the requirements on the safeguards and related indicators may be different in each of these contexts. For example, in a national programme for achieving REDD+ readiness, it will be important to address policy coherence and consider how to build capacity for successful management of impacts on biodiversity, but it may be too early for a detailed discussion of the design of individual measures. Safeguards related to the enabling conditions for REDD+ will therefore be more relevant in this context than safeguards which specify desired features of on-the-ground management.

This report proposes a set of operational guidelines to assist the implementation of those elements of the Cancun safeguards which relate to the impacts of REDD+ on biodiversity. Development of the guidelines was informed by a review of the specific opportunities and risks for biodiversity conservation linked to the range of activities that can be supported under REDD+, and a review of provisions and

³REDD+ being short for: measures related to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

⁴ In line with current UNFCCC language, the term 'safeguard' is used in this document to include both minimum standards to prevent harm and provisions aiming to increase benefits.

guidance developed for existing biodiversity-related standards from a variety of contexts, including REDD+, forest and biofuels certification, and development cooperation. It also presents the results of an analysis of the practical requirements in terms of knowledge and capacity for implementing the Cancun safeguards in line with the proposed guidelines. It is hoped that the results can inform ongoing efforts to assist countries in translating the Cancun Agreements into practice, as well as future work on biodiversity safeguards under the UNFCCC and CBD.

While the main emphasis of this report is set on safeguards that are specifically related to biodiversity, it is recognized that the environmental and social dimensions of REDD+ are closely linked. One of the reasons for this is that the provision of biodiversity and ecosystem services such as water regulation and provision of non-timber forest products is vital for the well-being of local communities. On the other hand, achieving social benefits from REDD+ and obtaining the free, prior and informed consent of local communities to planned actions is considered key to securing the long-term political acceptance of interventions and thus the sustainability of any other achieved benefits. Both environmental and social safeguards therefore need to receive thorough consideration when REDD+ actions are planned and implemented.

2 Background

2.1 Elements of the Cancun Agreements that are relevant to biodiversity safeguards

Discussions about a potential mechanism to provide positive incentives to reduce the loss of forest carbon stocks in developing countries have been held under the UNFCCC since 2005. Although important elements of the architecture of such a mechanism still remain to be agreed, the concept has been progressively developed and a number of aspects with important implications for biodiversity outcomes have been settled.

The Bali Action Plan (Dec. 1/CP.13) provided the mandate for negotiations on REDD+ through the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA). Key outcomes from this negotiating process, especially with regard to the development of safeguards, have been adopted at COP 16 in the decision known as the Cancun Agreements (Dec. 1/CP.16).

Dec. 1/CP.16 on the ‘Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention’ lists both guidance and safeguards for policy approaches and positive incentives on issues relating to REDD+.

The main elements of the guidance and safeguards that have implications for the biodiversity outcomes of REDD+ are as follows:

a) Guidance

- “Activities (...) should (...) be **consistent with the objective of environmental integrity and take into account the multiple functions of forests and other ecosystems**” (Annex I para 1 (d))⁵

⁵ The second part of this sentence is worth noting not only because it refers to the ‘multiple functions’ of ecosystems, but also because it specifies that ‘forests and other ecosystems’ should be included in the consideration.

- “Activities (...) should (...) be **consistent with Parties’ national sustainable development needs and goals**” (Annex I para 1 (f))⁶
- “Activities (...) should (...) be **consistent with the adaptation needs of the country**” (Annex I para 1 (h))
- “Activities (...) should (...) be **results-based**” (Annex I para 1 (j))
- “Activities (...) should (...) **promote sustainable management of forests**” (Annex I para 1 (k)).

b) Safeguards:

“When undertaking activities (...), the following safeguards should be promoted and supported:” (Annex I para 2)

- “Actions complement or are consistent with **the objectives of national forest programmes and relevant international conventions and agreements**” (Annex I para 2 (a))
- “The **full and effective participation of relevant stakeholders**, in particular **indigenous peoples and local communities**”, in REDD+ activities and the development and implementation of national strategies and action plans for REDD+ (Annex I para 2 (d)).
- “Actions are **consistent with the conservation of natural forests and biological diversity**, ensuring that actions (...) are **not used for the conversion of natural forests**, but are instead used to **incentivize the protection and conservation of natural forests and their ecosystem services**, and to **enhance other social and environmental benefits**” (Annex I para 2 (e))
- “Actions to **address the risks of reversals**” (Annex I para 2 (f))
- “Actions to reduce **displacement of emissions**” (Annex I para 2 (g)).

The safeguard provision in para 2 (e) is the one that most explicitly refers to biodiversity conservation. The following elements can be drawn from the text:

- negative impacts on natural forests and biological diversity should be avoided;
- REDD+ activities should not support the conversion of natural forests – this point is highly relevant in the light of concerns that REDD+ could provide incentives for replacing natural forests with plantations;
- there should be incentives for the protection and conservation of natural forests and their ecosystem services;
- positive impacts should be achieved for “other social and environmental benefits”.

While it is apparent that these safeguards provide a strong call for comprehensive steps to prevent harm to biodiversity from REDD+ activities and support its conservation, it is important to note that due to their general wording they are not operational in the present form, and further guidance for their practical application is needed. Agreed biodiversity policy goals at the international, national and subnational levels will have a strong role to play in this.

⁶ This element of guidance reaffirms the need for consistency with other policy goals related to the broad range of environmental, social and economic issues that are considered relevant to sustainable development.

The COP 16 decision also contains a request to developing country Parties aiming to undertake REDD+ activities “in the context of the provision of adequate and predictable support” to develop among other things “a system for providing information on how the safeguards (...) are being addressed and respected throughout the implementation of the activities (...), while respecting sovereignty” (para 71 (d)).

This request is of particular importance, as it introduces a way of following up on the outcomes of applying the safeguards. Further guidance on the implementation of this provision will be developed by the SBSTA as part of its work programme on REDD+, and is to be completed in time for consideration by COP 17.

2.2 Relevant processes under the CBD

Under the Convention on Biological Diversity, the interlinkages between climate change and biodiversity are considered as a cross-cutting issue that has implications for many other areas of work. The opportunities and risks to biodiversity from REDD+ and other ecosystem-based approaches to climate change mitigation have been addressed in the reports of the first and second Ad Hoc Technical Expert Group on Biodiversity and Climate Change⁷. Guidance to Parties has also been provided in a number of decisions, most notably Dec. IX/16 and X/33 on Biodiversity and Climate Change.

The latter decision, taken at COP 10 in Nagoya, among other things requested the Executive Secretary to provide advice, in collaboration with partners and based on consultation with Parties, on the application of relevant safeguards for biodiversity with regard to REDD+, and identify possible indicators and monitoring mechanisms for biodiversity benefits and impacts from REDD+ and other ecosystem-based mitigation measures, without pre-empting future UNFCCC decisions.

Following up on this decision, a request for submissions of views from Parties on relevant safeguards in REDD+ was circulated in January 2011, and a series of regional workshops on REDD+, including on relevant safeguards, is being held.

Another relevant document in this context is the decision on the CBD’s Strategic Plan for 2011-2020, which was also agreed at COP 10. Four of the targets of the Strategic Plan have the potential to provide immediate synergies with REDD+. These are Target 5 on reducing loss, degradation and fragmentation of natural habitats (including forests)⁸, Target 7 on sustainable management of areas under agriculture, aquaculture and forestry, Target 14 on restoring and safeguarding ecosystems that provide essential services, and Target 15 on enhancing ecosystem resilience and the contribution of biodiversity to carbon stocks.

Work on the development of indicators for the Strategic Plan is ongoing, and may support the development of indicators and monitoring mechanisms for the impacts of REDD+ on biodiversity.

⁷ CBD Technical Series 10 and 41, see <http://www.cbd.int/doc/publications/cbd-ts-10.pdf> and <http://www.cbd.int/doc/publications/cbd-ts-41-en.pdf>

⁸ The full text of target 5 is: “By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced”.

2.3 Risks and opportunities for biodiversity conservation from REDD+

In order to provide more concrete guidance for the design of REDD+ measures that will avoid negative impacts on natural forests and biological diversity, and promote the protection and conservation of natural forests, ecosystem services and other social and environmental benefits, as demanded by the UNFCCC safeguards, an analysis of the possible impacts of REDD+ is needed.

2.3.1 Implications of the Cancun Agreements on the range of measures that may be supported under REDD+

The negotiation mandate on REDD+ contained in the Bali Action Plan (dec. 1/CP.13) called for consideration of five types of forest-based activities, without pre-empting a decision on whether or not all of them should be supported by the potential future framework of positive incentives. At COP 16, Parties to the UNFCCC clarified this point by including all five activities in a list that is referenced throughout the decision, stating that the COP:

“Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- (a) Reducing emissions from deforestation;
- (b) Reducing emissions from forest degradation;
- (c) Conservation of forest carbon stocks;
- (d) Sustainable management of forest;
- (e) Enhancement of forest carbon stocks.” (para 70)

This decision has far-reaching implications on the risks and opportunities for biodiversity arising from REDD+, as it widens the scope of potential biodiversity impacts that need to be considered.

So far, no definition of the five types of activities has been provided by the COP, and it has to be noted that it will not always be possible to distinguish between them in practice. One reason for this is that the list has to be seen as outlining the main mechanisms of forest-based climate change mitigation whose greenhouse gas balances will be eligible for accounting under the REDD+ framework, rather than as providing an exhaustive description of the types of specific measures that may be undertaken to address climate change through each of these mechanisms. For example, measures to reduce emissions from deforestation may well include the introduction of sustainable methods of forest management or the creation of additional forest resources in areas threatened by conversion as a result of destructive harvesting practices.

See Miles & Dickson (2010) for some examples of typical measures that may be undertaken under each of the headings.

2.3.2 Possible impacts on biodiversity linked to the agreed REDD+ activities

In order to guide the development of biodiversity safeguards, an analysis of the main risks and opportunities linked to the five types of activities, as well as of possible ways to address them, is needed.

Both risks and opportunities can arise as a direct or indirect consequence of REDD+ measures. For example, increased human use of a low-carbon forest ecosystem can be a direct and intended consequence of incentive measures introduced in an attempt to relieve the pressures on high-carbon forests in the same region, or an indirect consequence of a tightening of use regulations related to the high-carbon forest area, leading to spontaneous displacement of land use.

The types of changes by which impacts (be they positive or negative) of REDD+ actions on biodiversity are caused can be further divided into the following categories:

- a) conversion (or prevented / reduced conversion) of ecosystems to other land uses,
- b) changes in the intensity or methods of ecosystem management, and
- c) changes in the connectivity or ecological interlinkages (e.g. functional relationships between upland and lowland ecosystems) with and within the surrounding landscape.

Opportunities for biodiversity are mostly associated with the following processes:

- Reduced loss, degradation and fragmentation of habitat for forest biodiversity, and reduced disruption of ecological interlinkages within the landscape
- Increase in forest area, restoration of habitat quality or connectivity for forest biodiversity, and restoration of ecological interlinkages

Options to increase the benefits from the above-mentioned opportunities include:

- Planning of REDD+ interventions on the basis of analyses of areas of high biodiversity value, high sensitivity to disturbance or importance for landscape connectivity or ecological interlinkages, paying particular attention to the current degree of threat and gaps in protection
- Including biodiversity considerations in the design of management options that are promoted, or the choice of use restrictions

Another type of opportunities for biodiversity conservation can arise from the process of REDD+ preparation and implementation as such, without being linked to any particular type of activity. These are mainly related to an increase of institutional and systemic capacity for biodiversity conservation, e.g. as a consequence of the growing knowledge base on forests, enhanced capacities for forest monitoring, impact assessment, spatial planning, stakeholder involvement and cross-sectoral coordination, or improved forest and land use governance.

Risks to biodiversity are mostly associated with the following processes:

- Shifting of agricultural use or use of forest products to low-carbon forests or non-forest ecosystems of high biodiversity value, or to ecosystems that are important for landscape connectivity or ecological interlinkages
- Encouraged or spontaneous intensification of agricultural use with methods that are harmful to biodiversity
- Introduction of forest management methods that are harmful to biodiversity (eg promoting the growth of a limited number of high-yield species or introducing non-native species)

- Reforestation or afforestation of non-forest ecosystems of high biodiversity value or importance for landscape connectivity or ecological interlinkages.

Options to mitigate the above-mentioned risks include:

- Planning of REDD+ interventions on the basis of analyses of areas of high biodiversity value, high sensitivity to disturbance or importance for landscape connectivity or ecological interlinkages in order to be able to provide against shifting or intensification of land use in these areas
- Analysing the potential socio-economic effects of REDD+ interventions (in particular use restrictions or changes to land use rights and opportunities), including through stakeholder consultations, and taking measures to avoid unintended effects
- Providing incentives for the application of best available practice in agriculture to minimize negative impacts of intensification on biodiversity
- Providing incentives for the application of best available practice in forest management to minimize negative impacts of changes in forest management methods or expansion of forest management to new areas

When measures to enhance benefits and reduce risks to biodiversity from REDD+ are developed, their implications for other goals, including effective climate change mitigation and the achievement of economic and social benefits, will need to be taken into account. It is often possible to design measures in a way that links different types of benefits. However, in certain cases trade-offs will have to be made, as some management options or spatial allocations of actions will favour specific benefits (or beneficiaries) at the expense of others.

3 Need for operationalisation of safeguards and opportunities to build on existing standards and initiatives

As stated above, there is a need for further elaboration to guide implementation of the safeguards contained in the Cancun Agreements, in order to facilitate their application in all stages of the development of REDD+ initiatives, to provide guidance on the different risks and opportunities to biodiversity from REDD+ that should be considered, and to allow their implementation to be monitored and verified.

Significant challenges to the development of biodiversity safeguards result from the high spatial variability of biodiversity and the complex ecological requirements and relationships that need to be taken into account in its conservation. These result in a need to define biodiversity goals at various scales and make it difficult to provide universally applicable safeguards that are both stringent and appropriate to the context in which they are implemented.

Efforts to develop biodiversity-relevant safeguards for REDD+ programmes or projects have been started within several initiatives. Examples of emerging sets of guidance or requirements include the REDD+ Social and Environmental Standards developed by CCBA and CARE International (CCBA 2010), the UN-REDD Social and Environmental Principles (UN-REDD 2010, UN-REDD 2011), and the FCPF Strategic Environmental and Social Assessment framework (FCPF 2010, FCPF & UN-REDD 2010 a, b & c). In line

with the UNFCCC safeguards, all three frameworks address the social and environmental implications of REDD+ alongside each other, giving recognition to the fact that integration between the two dimensions is important for achieving sustainable outcomes.

Important lessons for the implementation of biodiversity safeguards can also be drawn from the more advanced development of environmental standards for land use and ecosystem management in related contexts such as development cooperation, the certification of forest products and biofuels and carbon crediting for the voluntary market (e.g. World Bank 2011, FSC 1996, RSPO 2007, CCBA 2008).

A review of existing biodiversity safeguards from REDD+ initiatives and other environmental standards reveals that there are a number of different approaches for dealing with the challenge of defining appropriate goals at the relevant scales:

- 1) Many standards place a strong emphasis on safeguards that are process- rather than outcome-oriented, i.e. call for certain steps to be taken rather than certain results to be achieved.
- 2) Some standards (e.g. the REDD+ SES, the FSC Principles and Criteria or the Principles and Criteria of the Roundtable for Sustainable Palm Oil) recommend or require further interpretation of the safeguards at the national scale.
- 3) Some standards (e.g. the World Bank Operational Policies) are supported by extensive guidance documents which contain definitions, references and recommendations on how to interpret and implement the safeguards in different circumstances.

If properly applied, all three approaches can help to allow for sufficient consideration of context in the application of safeguards while ensuring that they contribute to reaching overall goals.

An assessment of the range of existing safeguards in light of the need to address the risks and opportunities for biodiversity from REDD+ in an effective and measurable way yields the following conclusions:

- 1) All of the risks and opportunities are addressed by some of the standards in some way. However, the specificity of the safeguards and the amount of available guidance and indicators varies, and further elaboration would appear helpful for certain points.
- 2) Few standards provide detailed guidance on the enhancement of benefits as compared to the prevention of harms.
- 3) Although the analysis of indirect effects is a frequent requirement in procedural safeguards related to impact assessment, there is little concrete guidance on how to actually address or mitigate these effects. Such guidance should be produced for the effects that are relevant in the context of REDD+.
- 4) The most frequent type of impacts addressed by the standards is the direct conversion of ecosystems. Few standards emphasise degradation due to intensified use or processes such as fragmentation and disruption of ecological linkages.
- 5) Many of the safeguards are worded in a way that is not sufficiently clear to allow for an unambiguous judgement on whether they have been complied with. Definitions and guidance for interpretation are not always provided.

- 6) There is a general lack of indicators to measure compliance. The few standards which provide indicators (e.g. REDD+ SES, RSPO Principles and Criteria, CCBA Standards) mostly make use of process-related measures, which indicate whether certain actions have been carried out rather than if objectives have been achieved.

While the analysis presented above points towards a need for further work on biodiversity safeguards for REDD+, attention should be paid also to the need for consistency between the standards being developed in the relevant ongoing initiatives. This will be of particular importance for cases where different initiatives are operating in the same country.

4 Identification of operational guidelines for the implementation of the Cancun safeguards with regard to biodiversity

In order to address the need for further elaboration to guide implementation of the safeguards contained in the Cancun Agreements with regard to biodiversity, a proposed initial set of operational guidelines has been drawn up, and is presented in the Annex to this report. The guidelines are intended to inform discussions on the further development of biodiversity safeguards for REDD+ in the relevant fora, as well as to support REDD+ practitioners in their efforts to implement the different sets of requirements in a harmonized way. It is anticipated that the guidelines can be further improved with time through more widespread consideration.

The possible scope of application of these guidelines is intended to include all types of REDD+-related initiatives, including REDD+ demonstration projects, programmes guiding the preparation of countries for participation in a future REDD+ mechanism, national REDD+ strategies and eventually implementation of the REDD+ mechanism itself.

The guidelines have been designed to build on and be compatible with the relevant existing and emerging standards, in particular the frameworks that guide the activities of the Forest Carbon Partnership Facility (SESA framework and World Bank Operational Policies), the REDD+ Social and Environmental Standards and the UN-REDD Social and Environmental Principles.

In order to achieve the successful implementation of biodiversity safeguards, a number of steps need to be taken to provide necessary framework conditions. Such conditions include a knowledge base concerning the potential impacts of REDD+ actions on biodiversity in the target region (e.g. country or project area), the definition of clear and measurable objectives concerning the biodiversity-related outcomes of the REDD+ initiative, and the development of a monitoring plan.

There is also a need to ensure that these framework conditions are developed at the right point in time. For example, if biodiversity-related objectives are to be taken into account in the selection and design of actions to maintain and enhance forest carbon stocks under a particular REDD+ initiative, they need to be agreed during the early stages of the planning process.

Recognizing the importance of these process-related issues for putting biodiversity safeguards into practice, they have been addressed in the first section of the guidelines, which outlines procedural steps

for ensuring the consideration of biodiversity throughout the preparation, planning and implementation process of REDD+ initiatives. The content of this section draws on comparable provisions and guidance that have been developed for existing biodiversity-related standards from a variety of contexts, including REDD+, forest certification and development cooperation.

The sequence of the steps described in this first section is not intended to imply a necessary chronological order. Depending on the situation of the REDD+ initiative in which they are applied, several steps may need to be implemented in a synchronous and complementary way, and there may be feedback loops between the respective processes. For example, the processes of assessing potential social and environmental impacts of REDD+, setting objectives related to biodiversity, and selecting and designing REDD+ actions need to be aligned with each other. While it is important that a thorough understanding of the evidence base is developed before objectives and actions are decided upon, the kind of objectives and actions that are envisaged will in turn determine the areas where particular attention to analysing potential impacts is needed, and the three activities are thus likely to take place at least partly in parallel.

The second and third section of the guidelines are designed to ensure that the full range of potential positive and negative impacts on biodiversity from REDD+ is addressed in line with the Cancun Agreements. These guidelines specify the opportunities and risks to biodiversity and suggest desirable outcomes as well as measures to achieve them, reflecting the need for information on recommended approaches as well as measurable targets towards which to proceed.

5 Possible approaches to monitoring the implementation of the operational guidelines

In monitoring the implementation of biodiversity safeguards in line with the operational guidelines, two approaches should be combined: process-oriented monitoring to show whether the procedural steps recommended by the guidelines have been carried out, and outcome-oriented monitoring to show whether the intended effects have been achieved. While monitoring the implementation of the procedural guidance is generally possible with limited effort, and can be combined with monitoring of the implementation of the REDD+ initiative as a whole, monitoring the achievement of outcomes will require greater effort and will need to be carried out on an ongoing basis throughout the lifespan of the initiative. As recommended in guideline 1.7, a monitoring plan should be drawn up for this.

In order to make the successful implementation of the procedural part of the guidelines measurable, a checklist or set of guiding questions can be drawn up, taking into account the national context where appropriate. For example, in order to determine whether the analysis of possible biodiversity impacts from REDD+ actions has been carried out in accordance with guideline 1.2 and/or relevant national regulations on impact assessment, a checklist could be developed which describes the different elements of the analysis that need to be completed (e.g. identification or development of a map of priority areas for conservation, spatially explicit analysis of the changes in land use that would result from different alternatives for REDD+ action) and the required level of detail. Assessment of whether the coordination of a national REDD+ strategy with relevant government agencies, sectors and

organizations has been achieved in accordance with guideline 1.4.2 could be based on a list of institutions and organisations that have been consulted and declared their support for the strategy, and a list of the ministries that have formally endorsed it.

Often, a certain level of judgement will need to be applied in determining whether a procedural guideline has been fully implemented. This is particularly the case with regard to the guidelines contained in sections 2 and 3 on enhancing the positive and avoiding negative impacts on biodiversity from REDD+. For example, it may often be difficult to make a definitive statement as to whether or not options for REDD+ action which reduce the conversion of natural forest have been prioritized adequately over other options in line with guideline 1.3.2. However, the assessment can be guided by transparent documentation on the level of detail with which the analysis and comparison of different options have been carried out, as well as documentation on the criteria which were used for making the final decision.

The design of a monitoring plan for measuring outcomes in terms of the biodiversity impacts from REDD+ will need to take account of the agreed biodiversity objectives for the REDD+ initiative, as well as available capacities and resources. A minimum set of indicators could address changes in land use in identified priority ecosystems, changes in the state, extent and distribution of ecosystem types (including different types of natural forest and non-forest ecosystems), and trends in the populations of selected indicator species and species of conservation concern (see guideline 1.7).

Monitoring of the extent and fragmentation of forest types can be carried out on the basis of remote sensing data, if baseline information on the distribution of forest types is available. For non-forest ecosystems, the applicability of remotely sensed information may be more limited. Different metrics can be used to measure fragmentation, e.g. changes in patch size and average distance between patches.

Monitoring the state of ecosystems is likely to require field sampling. Indicators of changes in the state of ecosystems (i.e. degradation or recovery) can consist of structural characteristics (e.g. decreased canopy or vegetation cover, simplification of vegetative strata) or changes in the presence of indicator species (e.g. species typical of undisturbed / disturbed habitat).

While indicators of the status and trends of biodiversity provide the most direct measures of achieved outcomes, adding indicators of the status and trends of relevant pressures (such as harmful management methods in forestry or agriculture) or drivers of change, or information on the degree to which planned measures have actually been implemented, can allow early detection of positive or negative developments (Teobaldelli et al. 2010).

In order to measure changes in the prevalence of harmful management methods, the most relevant negative effects on biodiversity resulting from existing management practices should be identified. Indicators can then be developed that provide information on the use of certain practices (e.g. application of agrochemicals, planting of non-native species) or on the impacts themselves (e.g. abundance of sensitive species).

A key problem with regard to the interpretation of monitoring results is the issue of analysing causality, i.e. determining whether observed changes are a consequence of the REDD+ initiative or caused by other factors. One approach to address this is the development of a theory of causality describing the factors that determine developments in biodiversity, and subsequent monitoring and analysis of these factors (e.g. general trends in land use and socio-economic conditions). Causal analysis is particularly important for identifying indirect impacts of REDD+ actions on biodiversity.

The development and implementation of monitoring systems for biodiversity safeguards can be facilitated by making use of synergy with other processes. The two most relevant processes in this regard are the development of information on (changes in) carbon stocks as part of the preparations to participate in REDD+, and the development of indicators and monitoring systems to measure progress towards the targets of the Strategic Plan of the Convention on Biological Diversity (cp. Teobaldelli et al. 2010, Epple et al. 2010, UNEP-WCMC 2011).

Indicators that can be measured through remote sensing are likely to provide the greatest potential for synergies, as analyses of remotely sensed data will play a large role in the measuring, reporting and verification of changes in carbon stocks, and significant efforts are currently being undertaken to support countries in accessing and making use of such data (e.g. within the framework of the Global Forest Observation Initiative). However, despite significant potential, there are also limitations to the type of biodiversity-relevant information that can be collected in this way (cp. e.g. Strand et al. 2007), so opportunities to link ground-based collection of biodiversity data with efforts such as the ground-truthing of remotely sensed carbon information or community-based approaches to carbon monitoring need to be taken into account as well.

Opportunities for synergy with monitoring efforts under the CBD are likely to increase as a consequence of the renewed emphasis on the setting of national targets in the CBD Strategic Plan for Biodiversity 2011-2020. The development and use of indicators to monitor implementation is a central part of the new Strategic Plan at global, regional and national level. Also, a significant share of the global targets of the new Strategic Plan are relevant to the issue of obtaining biodiversity benefits from REDD+ (see Chapter 2.3).

It is considered likely that without additional international and national funds most Parties will not be able to establish the necessary indicator, monitoring, and reporting systems for their implementation of the CBD's new Strategic Plan (UNEP-WCMC 2011). Still, the efficiency gains in addressing the monitoring requirements of the CBD together with those for measuring biodiversity impacts from REDD+ may benefit both processes.

6 Capacity requirements for implementation of biodiversity safeguards in line with the operational guidelines

Implementing and monitoring biodiversity safeguards for REDD+ will pose certain requirements in terms of available data, knowledge and expertise, institutional capacities and funding. For most countries, some capacity gaps will need to be addressed to allow safeguards to be applied effectively.

Major requirements for the implementation of biodiversity safeguards in line with the proposed operational guidelines include:

- General knowledge on biodiversity values, their interaction with socio-economic factors and the likely impacts of REDD+ actions on both
- Knowledge on the spatial distribution of biodiversity (e.g. distribution of major ecosystem types and priority species, location of nationally and internationally identified priority areas for conservation, distribution of areas that are important for the delivery of ecosystem services)
- Political agreement on the biodiversity objectives for REDD+
- Consistency between regulations, policies, strategies and plans related to REDD+, land use, biodiversity and natural resources management
- Development of a monitoring plan including indicators to measure achievement of biodiversity objectives for REDD+
- Institutional capacity for implementation of the monitoring plan
- Institutional capacity and a supportive legal framework for the implementation of REDD+ actions that are in line with biodiversity safeguards; this may include capacity for spatial planning, capacity for the design and delivery of incentive schemes, and capacity for the communication, control and enforcement of land use regulations.

Country circumstances (such as existing capacity and possibility to draw on results from previous projects and initiatives) will influence the choice and design of appropriate measures to implement biodiversity safeguards. While a minimum level of capacity will be needed with regard to each of the identified requirements, more ambitious approaches may be feasible under favourable circumstances (e.g. where there is a possibility for building on previous work, where funding can be drawn from several sources or where there is particularly strong in-country commitment).

The costs of establishing the necessary conditions for implementing biodiversity safeguards depend not only on the already existing capacities, but also to a significant degree on the status of other initiatives or processes in the country which can provide synergies (e.g. actions related to the carbon and social dimensions of REDD+, initiatives for biodiversity conservation). If synergies are planned for from the outset, significant cost savings are possible.

For many of the identified requirements, a certain amount of progress can be achieved at relatively low cost by working with the data and capacities that exist and fully exploiting synergies. On the other hand, opportunities to build capacities and develop baseline information for a more effective implementation of biodiversity safeguards should be exploited during the REDD+ readiness phase, when significant investments in data and capacities are being made. Opportunities to attract funding for these activities from outside the REDD+ context should be used where possible.

Overall, figures from available literature on costs for certain elements of preparing for REDD+ (e.g. UNFCCC 2009, Hoare et al. 2008) and conclusions drawn from case studies show that the cost of meeting requirements for the implementation of biodiversity safeguards is likely to make up a small share of the total investments needed to prepare a country for participating in REDD+. The most

substantial effort for meeting basic requirements is likely to be needed with regard to the monitoring of biodiversity impacts, the control and enforcement of land use regulations designed to meet biodiversity safeguards, and the monitoring of compliance with the conditions of incentive schemes that include biodiversity criteria, as all of these elements require both a sustained effort beyond the REDD+ readiness stage and field presence. For most other requirements, it is estimated that the provision of staff time for one or two experts to work on the integration of biodiversity safeguards throughout the REDD+ readiness stage could go a long way towards achieving a positive outcome.

7 Conclusions

In order to facilitate the coherent and effective application of the safeguards spelled out in the Cancun Agreements across all types of REDD+ initiatives and funding institutions, further work is needed to promote a common understanding of how they should be translated into practice.

A common understanding would also be helpful on how countries can meet the different sets of requirements on addressing biodiversity impacts that are currently being developed and applied in a number of REDD+-related initiatives (e.g. REDD+ Social and Environmental Standards, UN-REDD Social and Environmental Principles, FCPF SESA framework, Operational Guidelines of the FIP). It would further be helpful to have a common approach to those elements of the different standards that cover similar issues, as well as on definitional matters.

The proposed operational guidelines included in this report are intended to contribute to both areas of discussion.

Regional processes could play a role in promoting the generation and sharing of expertise for the application of the Cancun safeguards for biodiversity, and developing additional guidance which is appropriate for the regional context.

Monitoring the biodiversity impacts from REDD+ is crucial to the implementation of safeguards. In support of the UNFCCC work related to systems for providing information on how the safeguards agreed in Cancun are being addressed and respected, indicators and monitoring methods that can be adapted for use at the national level should be developed further. These indicators and monitoring methods should address both the process and outcomes of implementing biodiversity safeguards.

Processes related to the implementation of the CBD and the biodiversity-related aspects of REDD+ could inform each other in order to enhance synergy. For example, further work on the development of indicators for the CBD Strategic Plan might consider the potential usefulness of these indicators for use in monitoring biodiversity safeguards. Agreed biodiversity objectives for REDD+ should be reflected in national biodiversity strategies and vice versa.

Support for the implementation of biodiversity (and other) safeguards should be provided to Parties, including through capacity building and the further development of guidance. In recognition of the important role of safeguards for the sustainability of REDD+ initiatives, building capacity for their implementation should be a key consideration in efforts to support Parties to prepare for participation in REDD+.

The close interlinkages between the environmental and social dimensions of REDD+ should be communicated widely in order to strengthen the case for a coherent and ambitious implementation of both types of safeguards.

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ANNEX: Proposed operational guidelines for applying biodiversity safeguards in REDD+ initiatives

1 Consider implications for biodiversity in all stages of the REDD+ preparation, planning and implementation process

1.1 Consider biodiversity-related impacts and capacity needs in plans to achieve REDD+ readiness

Biodiversity considerations should be included from the beginning in a country's preparations for engagement with REDD+. This may mean for example addressing the potential positive and negative impacts of REDD+ on biodiversity in actions such as consultations and awareness-raising measures aimed at decision-makers or local stakeholders. Where readiness preparations include the identification of capacity needs for REDD+ and needs for adaptation of legal frameworks, data requirements and capacity needs for addressing biodiversity impacts⁹ should be taken into account. Plans for the collection of data to support development of reference emission levels or carbon stock baselines should be designed to make use of the possible synergies with the collection of biodiversity data.

1.2 Analyse the possible impacts on biodiversity when considering options for REDD+ actions

Consideration of impacts on biodiversity should be an integral part of REDD+ strategy, programme or project development. Depending on the type and scale of actions considered, application of existing assessment frameworks (such as Strategic Environmental Assessment in the case of strategies or programmes, and Environmental Impact Assessment in the case of individual projects) may be appropriate.

In the case of individual projects or the planning of concrete interventions under a programme or strategy, the analysis of possible impacts on biodiversity should address the following aspects:

- consideration of effects on ecosystems and habitats as well as on landscape connectivity and ecological linkages, and resulting effects on species;
- consideration of different alternatives for action (with regard to design and siting of actions, and including comparison against the 'no action' alternative);
- consideration of indirect effects and landscape-level effects such as impacts on the water balance;
- consideration of cumulative and long-term effects such as changes in fire frequency and their impacts;
- consideration of opportunities / potential for environmental benefits (including enhancement of biodiversity and ecosystem services); and
- consideration of the feasibility of mitigating impacts and consideration of uncertainties and gaps in knowledge.

⁹ see also Chapter 6 of this report

For a programme or strategy, the implications of decisions related to the future choice and design of interventions should be analysed, and their likely effects on biodiversity assessed along the criteria outlined above. However, this assessment may need to remain at a more general level, as details about the location and design of REDD+ actions may not be discussed at this stage. For example, if the preparation of a strategy involves consideration of plans to invest in the restoration of degraded lands or to halt the issuing of logging concessions in certain types of forest, it will be possible to provide some general statements about the potential impacts of these strategic options on biodiversity, and advice on how to enhance positive impacts, even before details of the plans are discussed.

More specific guidance on the analysis of potential impacts tailored to different levels of country capacity and scale of REDD+ intervention can be helpful, as experience shows that aspects which are not explicitly mentioned, or for which suitable operational guidance is not provided, tend to get overlooked. Independent review of and/or public consultation on the analysis may also help to close any remaining gaps.

1.2.1 Spatial component of the analysis

In view of the high spatial variability of biodiversity and the need to consider the characteristics of the ecosystems concerned, all assessments of impacts on biodiversity should contain a spatial analysis component, although the level of detail that can be achieved will vary according to the context (programme, strategy or project development) and available capacities.

At a minimum, the following elements should be mapped and considered together with results of any spatial analysis carried out on carbon stocks and other relevant factors (such as pressures on forest): land use categories (in particular forest and different agricultural uses) and biomes, available results of priority-setting approaches for biodiversity conservation such as key biodiversity areas (cp. Conservation International 2010), high conservation value areas (cp. Jennings et al. 2003, Stewart et al. 2010) and areas identified in national gap analyses for the CBD (cp. CBD Secretariat 2009), protected areas and priority areas identified in NBSAPs, and areas of natural forest¹⁰. Where feasible, more detailed mapping of ecosystems, including identification of different forest types and different types of other natural ecosystems, should be carried out, as well as mapping of environmentally sensitive areas (e.g. areas susceptible to erosion), analyses of the distribution of priority species, identification of areas providing important ecosystem services, analysis of areas that are important for the connectivity of natural habitats, and analysis of minimum areas for the conservation of ecosystems and species.

1.2.2 Consideration of socio-economic aspects

Any analysis of possible biodiversity impacts from REDD+ should consider the likely socio-economic effects of REDD+ actions and the indirect impacts on biodiversity that will result from

¹⁰ Note the need to specify the definition of natural forest that is applied. For a discussion of the advantages and disadvantages of different options, see Pistorius et al. (2010).

these. It should also consider the possible interaction of socio-economic developments that are independent from REDD+ with the planned interventions. At its simplest, such consideration could consist of expert judgement based on information from the social impact assessment and other components of REDD+ planning (e.g. analysis of drivers of forest loss and cost-benefit analyses of options for REDD+ action). Where possible, more detailed analyses, e.g. spatially explicit modelling of socio-economic effects and their implications for land use and biodiversity, or targeted assessments of potential impacts on identified priority areas for conservation, should be carried out.

1.2.3 Consideration of long-term viability of actions

Any analysis of biodiversity impacts from REDD+ should consider (and propose options to ensure) the long-term sustainability of the planned actions and achieved biodiversity benefits, taking into account institutional stability and long-term finance as well as identified socio-economic developments and impacts of climate change (e.g. as described in national adaptation strategies or programmes of action). Where possible, the results of socio-economic modelling and scenario development should be included in the analysis, as well as outputs from regionalized climate scenarios and assessments of the potential impacts of climatic change on environmental and socio-economic conditions.

1.2.4 Development of a baseline scenario

Where feasible, it would be helpful to establish a scenario of likely future land use and socio-economic developments in the absence of REDD+ interventions, and their impacts on biodiversity. This will provide a basis for identifying biodiversity values most at risk and main potential drivers of future forest biodiversity loss, and can inform the selection and design of REDD+ actions. It can also provide a basis for assessing the achievement of biodiversity benefits. Synergies with the setting of a Reference Emissions Level may be possible if that is developed using scenario techniques.

1.3 Set objectives for the biodiversity impacts of REDD+

Based on the assessment of possible impacts and available baseline data on biodiversity, clear, measurable and, where appropriate, time-bound objectives should be defined and politically agreed for the maintenance and enhancement of biodiversity as a result of the REDD+ project, strategy or programme. These objectives should be consistent with the outcome-oriented goals specified in sections 2 and 3 of these guidelines, as well as with existing biodiversity policies, goals and commitments. They should be integrated into the overall objectives of the REDD+ initiative.

1.4 Ensure policy integration and coordination throughout the REDD+ process

1.4.1 Integration of plans for REDD+ actions with relevant policies, strategies and plans, and applicable laws and treaties, concerning land use and the environment

Countries (or proponents of individual projects) should seek to ensure that REDD+ initiatives are consistent with existing policies, strategies, plans and commitments for biodiversity, environmental protection, climate change mitigation and adaptation, sustainable development and land and resource use, including spatial planning. Where possible (e.g. in the case of a national programme or strategy), a process for resolving identified inconsistencies with and between relevant policies, strategies and plans, and applicable laws and treaties, should be defined.

1.4.2 Coordination of plans for REDD+ actions with relevant government agencies, sectors and organizations

Relevant partners and stakeholders for REDD+ actions should be involved in the planning process and their support should be secured. This should involve representatives of all government agencies whose responsibilities are related to the planned actions, as well as representatives of affected stakeholder groups. Obtaining the support of all relevant stakeholders in forestry, agriculture and other land uses is equally important for achieving positive biodiversity outcomes as making use of the expertise of biodiversity stakeholders (such as environmental ministries, national park authorities, conservation NGOs). Available guidance on stakeholder consultations for REDD+ from existing initiatives (e.g. FCPF, UN-REDD programme) should be used to inform the process.

1.5 Select and design REDD+ actions with a view to maintaining and enhancing biodiversity

REDD+ actions should be selected and designed in line with the defined objectives for the maintenance and enhancement of biodiversity and the outcome-oriented goals specified in sections 2 and 3 of these guidelines. More specific guidance for this process can be developed once the biodiversity-related objectives for REDD+ are agreed.

This element of guidance is relevant to all stages of the REDD+ process, although the stage at which final decisions on location and implementation of actions are taken is most important.

If necessary, measures to manage risks and opportunities to biodiversity from the selected REDD+ actions should be agreed. Timetables, financial plans, plans for building of necessary capacities, and documentation of responsibilities for the implementation of agreed measures should be developed.

A process and responsibilities for adaptive management of the REDD+ initiative should be established to take account of new scientific and technical information and changing environmental, social and economic circumstances.

1.6 In the context of strategies and programmes, identify a process for application of safeguards during later stages of the development and implementation of actions

REDD+ strategies and programmes often do not go into detail about the location and design of actions that will be carried out on the ground to maintain, conserve and enhance forest carbon stocks. A process should therefore be identified to ensure that biodiversity safeguards will be

applied at a later stage, when the relevant decisions regarding the design of REDD+ actions are taken.

The process should either include a screening process to determine the appropriate extent and type of impact assessment that will be needed at the time when the details of actions foreseen in the strategy or programme are being shaped, or be guided by defined principles on which potential impacts need to be assessed for different types of action and which design features should be observed. For example, a national REDD+ strategy could include defined principles on where and under which conditions afforestation measures can be supported as part of REDD+ implementation, and which social and environmental parameters should be examined before a final decision is taken.

1.7 Develop and implement a monitoring plan for biodiversity outcomes

A monitoring plan and indicators should be developed to track the achievement of the agreed objectives related to the biodiversity impacts from REDD+, and to track whether the actions foreseen under the REDD+ project, strategy or programme are being implemented as planned in line with the biodiversity objectives.

Monitoring of actions will be particularly important in the early phases of a REDD+ initiative, when it may not yet be possible to detect impacts on the ground.

The monitoring plan for outcomes should contain monitoring activities at all relevant scales, i.e. in the case of a national programme or strategy, relevant trends in biodiversity should be monitored both at the national scale and in more detail for selected areas where REDD+ interventions are taking place. The plan should address both positive and negative impacts, and direct and indirect impacts.

The monitoring should be designed to allow inferences to be made as to whether the detected effects are attributable to REDD+ or other causes. At a minimum, (changes in) land use in identified priority ecosystems and the implementation of REDD+ actions should be monitored, to provide an indication of whether REDD+ is successful in maintaining or enhancing the integrity of these areas. If possible, this should be complemented with more detailed monitoring of trends in ecosystem state, extent and distribution, as well as monitoring of selected indicator species (e.g. species typical for intact natural forest landscapes) or species of particular conservation concern. Full land use monitoring and monitoring of socio-economic developments (e.g. changes in the distribution of population, poverty rates, sources of income) would be desirable to support cause-and-effect analysis.

2 Enhance positive impacts of REDD+ actions on biodiversity

The positive impacts of REDD+ actions on biodiversity can be enhanced through appropriate selection of the types of REDD+ actions, as well as the location and design of interventions. During the analysis of options for REDD+ actions and related impacts on biodiversity (see element 1.2 of these guidelines), opportunities to design actions in a way that simultaneously enhances benefits in terms of carbon and

biodiversity, or that enhances benefits for biodiversity without reducing carbon benefits, should be identified and used. In situations where trade-offs between emission reductions and biodiversity benefits are inevitable, decisions should be made after careful evaluation of the environmental and social benefits of each option, and criteria for making these decisions should be decided. Where available, results from valuation of natural assets¹¹ may provide important input to the decision-making process.

2.1 Reduce loss, degradation and fragmentation of habitats for forest biodiversity

Where possible, REDD+ actions should be prioritized to provide benefits to identified areas of importance for biodiversity, including areas of high biodiversity value and areas important for landscape connectivity and ecological linkages.

When choosing the type and design of actions, status and trends of biodiversity in the target area should be taken into account. In forest landscapes with large areas of currently threatened forest, reducing deforestation is generally the most effective way to increase both climate and biodiversity benefits, and should be prioritized over other REDD+ activities where possible. This is also in line with the particular emphasis on the protection and conservation of natural forests called for in the Cancun safeguards.

2.1.1 Preferentially direct measures to reduce deforestation and forest degradation towards priority, threatened, large and/or representative areas

Positive impacts can be enhanced by preferentially directing measures to reduce deforestation and forest degradation towards identified areas of high importance for biodiversity, taking into account factors such as degree of threat and representation of different habitat types.

2.1.2 Preferentially direct measures to conserve forest carbon stocks towards valuable, large and/or representative areas that might become threatened

Where conservation measures are being considered as part of REDD+ implementation, these should be directed towards identified priority areas for biodiversity where possible, also taking into account the representation of different habitat types.

2.1.3 Preferentially direct measures for sustainable management of forest towards areas of less importance for biodiversity; implement such measures in areas of priority for biodiversity conservation only if these areas are currently threatened and more stringent protection is not an option

There is currently no agreed definition of what 'sustainable management of forest' means in the context of REDD+ (Pistorius et al. 2010, Miles & Dickson 2010). However, although different approaches to sustainable management of forests vary in their implications for biodiversity, management interventions

¹¹ "Natural assets" are here understood to include all elements of the natural environment which are of value to humans, including for the provision of ecosystem services.

in previously unmanaged natural forests generally have negative impacts on biodiversity. They should therefore be avoided in identified priority areas for conservation where this is possible.

2.1.4 Include biodiversity considerations in the design of use restrictions when developing measures to reduce emissions from deforestation and forest degradation and introduce sustainable management of forests

In order to reduce emissions from deforestation and forest degradation, including by introducing sustainable management methods, use restrictions may be defined. Examples of use restrictions that can be considered, and which have different implications for biodiversity, include prescription of longer harvesting cycles or low-impact harvesting techniques, requirements on assisting regeneration of harvested forest and the exemption of certain areas from forest management. Where possible, use restrictions should be designed to enhance biodiversity benefits¹².

2.2 Restore forest area, habitat quality, connectivity or ecological linkages

Where possible, REDD+ measures aiming for the enhancement of forest carbon stocks, including through afforestation and reforestation and the introduction of sustainable management of forests, should be designed to restore functional, structural and floristic attributes of forest ecosystems that benefit biodiversity, especially in degraded landscapes where the potential for biodiversity benefits is high.

2.2.1 Preferentially direct afforestation and reforestation measures to areas with high potential for restoration of on-site biodiversity, landscape connectivity or ecological linkages

Positive impacts can be enhanced by preferentially directing measures towards identified areas with a high potential for on-site biodiversity restoration (e.g. areas in proximity to remaining natural forest, areas with landscape ecological features that would allow the growth or regeneration of forest types that provide habitat to rare or endangered species). Areas which could significantly contribute to landscape connectivity or the restoration of ecological linkages should also be preferred (e.g. areas in the proximity of isolated forest areas with high biodiversity value, areas which could support ecological links between forest and non-forest areas due to their habitat values or role in landscape ecology).

2.2.2 Preferentially design afforestation and reforestation measures to resemble natural forests in structure and composition

Where possible, afforestation and reforestation measures should be specifically designed to favour the recovery of natural forest biodiversity, e.g. by making use of a diverse mix of native species and paying attention to rare or endangered species and genetic diversity.

2.2.3 Consider biodiversity in the design of measures to introduce sustainable management in degraded forests

¹² Although social impacts are not the main focus of these guidelines, it seems worth pointing out that avoiding negative impacts of use restrictions on local livelihoods should also be a key consideration.

When measures to introduce sustainable management of forests are developed, the management practices that should be promoted will need to be identified. By including biodiversity considerations in this process, the potential contribution of the change in management regimes to the restoration of habitat quality in degraded forests can be enhanced. Examples of beneficial management practices include use of natural regeneration processes and favouring natural species assemblages and key habitat features for wildlife.

2.3 Use afforestation and reforestation to relieve pressure on natural forest

Where possible, the potential of afforestation and reforestation measures to relieve pressure on natural forest, and in particular priority ecosystems for biodiversity conservation, should be used. This can be done for example by preferentially directing reforestation measures to areas where a strong demand for subsistence use of forest products currently leads to pressure on existing high biodiversity value forests. In such a case, the needs of local populations should be considered in the design and management of the newly created forest areas.

As a first step to implementing this element of guidance, priority areas for conservation that are currently under pressure from subsistence use need to be identified. This step could be facilitated by a simple screening process which analyses the proximity of priority areas to settlements and makes use of available information on the rates of timber or firewood extraction from sources such as conservation initiatives and protected area management plans.

3 Avoid, reduce or mitigate negative impacts of REDD+ actions on biodiversity

Possible negative impacts of REDD+ actions on biodiversity can be avoided or reduced through appropriate selection of the types of REDD+ actions, as well as the location and design of interventions. During the analysis of options for REDD+ actions and related impacts on biodiversity (see element 1.2 of these guidelines), opportunities to design actions in a way that avoids harm to biodiversity without reducing carbon benefits should be identified and used. In situations where trade-offs between emission reductions and maintaining biodiversity are inevitable, decisions should be made after careful evaluation of the environmental and social benefits of each option, and criteria for making these decisions should be decided.

3.1 Conversion of natural forest

The conversion of natural forest to plantations has been identified as one of the main potential risks of REDD+ to biodiversity, and the Cancun safeguards put special emphasis on the need to protect and conserve natural forests. Efforts to address this risk should therefore receive particular attention.

3.1.1 Avoid REDD+ actions that entail or incentivize conversion of natural forest

The Cancun safeguards stipulate that actions be “consistent with the conservation of natural forests (...) ensuring that REDD+ activities are not used for the conversion of natural forests”. In order to comply with this safeguard, measures should be taken to preclude the implementation of, or granting of support for, measures under a REDD+ initiative which take place in areas currently covered by natural

forest and lead to their conversion into plantations¹³ (e.g. measures aimed at enhancement of forest carbon stocks or introducing sustainable management of forests). Ways should also be found to counteract the potential emergence of incentives for forest conversion by actors who are not directly involved in REDD+ implementation. Such incentives could arise as a consequence of the way carbon sequestration is accounted for and rewarded under the REDD+ initiative. For example, if local governments or community organisations receive payments based on all changes in forest carbon stock on their territory, there might be an incentive for them to promote conversion of low carbon natural forests to plantation by other stakeholders, who are not receiving support for this activity under REDD+ and are not otherwise involved with the mechanism¹⁴. Ways to prevent such effects from occurring could include the discounting of increases in carbon stock achieved through conversion of natural forest when calculating benefits to be distributed to local stakeholders, or placing an obligation on authorities wishing to participate in a REDD+ mechanism to ensure restrictions on natural forest conversion are in place in the territories for which they are responsible.

3.1.2 Prioritize REDD+ actions that reduce the conversion of natural forest

Where possible, options for REDD+ action which reduce the conversion of natural forest to plantations or other land uses by addressing existing drivers of conversion and targeting such measures to areas where natural forests are under threat should be preferred over other approaches.

3.2 Conversion of other ecosystems with high value for biodiversity

In many countries, priority areas for biodiversity conservation include ecosystems other than natural forests, and their conversion (to either agriculture or plantations) as a consequence of REDD+ actions should be avoided where possible.

3.2.1 Avoid REDD+ actions that lead to the conversion of forest areas with high value for biodiversity other than natural forest, such as areas important for landscape connectivity and ecological linkages

Forest areas that are not classified as natural forest may still have a high value for biodiversity conservation depending on their biological characteristics and situation in the landscape context. (This is particularly true in cases where a narrow definition of natural forest is applied, which is why the consequences of different definition alternatives should be considered carefully - see also discussion in Pistorius et al. 2010). Where possible, measures should therefore be taken to avoid the implementation of, or granting of support for, measures under a REDD+ initiative which would lead to the conversion of such areas.

3.2.2 Avoid REDD+ actions that lead to the conversion of non-forest ecosystems with high value for biodiversity, such as afforestation of high biodiversity value grassland

¹³ For a discussion of issues surrounding the definition of “natural forest” and “plantations”, see Pistorius et al. (2010).

¹⁴ Depending on the methods for measuring changes in forest carbon stock (e.g. whether soil carbon is included), incentives might even arise for conversion activities that lead to a net decrease in carbon storage.

High biodiversity value ecosystems outside of forest are at particular risk of being converted as a direct consequence of REDD+ actions, either through afforestation or through reclamation as agricultural land to relieve conversion pressure on forests. Where possible, measures should therefore be taken to avoid the implementation of, or granting of support for, measures under a REDD+ initiative which would lead to the conversion of such areas. Ways should also be found to prevent the conversion of high biodiversity non-forest ecosystems as a consequence of emerging incentives to stakeholders benefiting from REDD+ to promote conversion by actors who are not directly involved in REDD+ implementation, and are thus not bound by safeguards.

3.3 Introduction or expansion of forest or agricultural management regimes with negative impacts on biodiversity

In the course of efforts to maximize forest carbon stocks, and to reduce area requirements for non-forest land uses such as agriculture, REDD+ may lead to the introduction or expansion of forest or agricultural management methods that have negative impacts on biodiversity. Examples of relevant effects are soil drainage, pollution, eutrophication of streams, elimination of natural habitat features, unsustainable harvesting levels and the introduction of species with high water demands in areas with water scarcity, or of non-native or invasive species (e.g. in reforestation and afforestation measures). Where possible, such effects should be avoided.

3.3.1 Avoid REDD+ actions that lead to intensification or expansion of forest or agricultural management regimes with negative impacts on biodiversity in priority areas

Where possible, measures should be taken to avoid the implementation of, or granting of support for, measures under a REDD+ initiative which would lead to the introduction or expansion of management methods that are harmful to biodiversity in priority areas for biodiversity conservation.

3.3.2 Provide incentives for the application of best practice when undertaking actions related to agriculture and forest use

Where possible, incentives should be provided for the application of beneficial management options (in particular with regard to impacts on biodiversity) when actions related to changes in agriculture or forest management are implemented or granted support under a REDD+ initiative. For example, when subsistence farmers receive support for switching to more efficient crop production methods in order to decrease conversion pressure on forests, incentives (e.g. in terms of capacity-building and/or money) could be applied to encourage use of best practice (such as avoiding overdosage of agrochemicals, preventing soil erosion etc.). Where appropriate, the application of credible certification systems that include biodiversity criteria could be encouraged.

3.4 Indirect adverse impacts

Indirect impacts on biodiversity such as those caused by displacement of pressures to other areas or ecosystem types are another important type of risks from REDD+. During the analysis of options for REDD+ actions (see element 1.2 of these guidelines), the potential socio-economic effects of actions

should be assessed in order to identify potential indirect impacts on biodiversity. Measures to avoid, reduce or mitigate indirect adverse impacts can then be chosen.

3.4.1 Avoid REDD+ actions that carry a particularly high risk of indirect adverse impacts on biodiversity

Where possible, REDD+ actions for which a high risk of indirect adverse impacts on biodiversity can be expected, should be avoided altogether. Such actions may include the introduction of use restrictions on forests in areas where local populations have no alternative livelihood options, or where displacement of activities to nearby high biodiversity non-forest ecosystems can be expected, or the afforestation of agricultural land that is key to local livelihoods (as opposed to e.g. degraded land). Social and environmental considerations may often concur in these situations.

3.4.2 Take measures to avoid or minimize indirect adverse impacts such as displacement of land use to other natural ecosystems

If options for REDD+ actions are to be implemented despite a certain risk of indirect adverse impacts on biodiversity, measures should be taken to avoid or minimize such impacts. Possible measures include the promotion of alternative livelihood options, support for agricultural diversification and sustainable increases in productivity or the promotion of alternative fuel sources. Particular attention should be paid to measures that can prevent displacement of pressures into natural forest areas.

3.4.3 Take measures to safeguard priority areas against indirect adverse impacts

Where a risk of displacement effects as a consequence of REDD+ actions has been identified, precautions should be taken to prevent negative impacts on priority areas for biodiversity conservation. For example, regulations on land use could be introduced which would protect high biodiversity non-forest ecosystems from conversion to agriculture.
