The United Nations General Assembly defines sustainable forest management (SFM) as a “dynamic and evolving concept, which aims to maintain and enhance the economic, social and environmental values of all types of forests, for the benefit of present and future generations”.

The SFM concept encompasses both natural and planted forests in all geographic regions and climatic zones, and all forest functions, managed for conservation, production or multiple purposes, to provide a range of forest ecosystem goods and services at the local, national, regional and global levels.

Criteria and indicators developed for boreal, temperate and tropical forests provide a framework to assess, monitor and report on the implementation of SFM based on: the extent of forest resources; biological diversity; forest health and vitality; productive functions; protective functions; socio-economic functions; and the legal, policy and institutional framework. Certification processes and best-practices guidelines have been developed to guide, assess, attest to and monitor SFM at the forest management unit level.

There has been significant progress in implementing SFM, but many challenges remain. The objective of this series of fact sheets produced by the Collaborative Partnership on Forests is to inform decision-makers and stakeholders about some of the issues and opportunities facing the implementation of SFM in the 21st century.

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What is REDD+?

REDD+ encourages developing countries to contribute to climate-change mitigation in the forest sector through the following activities: reducing emissions from deforestation and forest degradation; conservation of forest carbon stocks; the sustainable management of forests; and the enhancement of forest carbon stocks. REDD+ activities should be consistent with the adaptation needs of a country.

What is at stake?

Forests sequester carbon and store half the global terrestrial carbon pool. However, deforestation and forest degradation are responsible for an estimated 1.6 gigatonnes of greenhouse gas emissions per year, which is 17.4 percent of total global emissions. Developing countries have therefore been encouraged to take mitigation actions in the forest sector through activities known collectively as REDD+.

Key issues

Gross and net deforestation. The gross rate of deforestation, although decreasing, remains high, particularly in tropical developing countries. Globally, the gross deforestation rate in the period 2000–2010 was about 13 million hectares per year. The net annual deforestation rate, adjusting for afforestation and natural forest expansion, was 4.9 million hectares per year in the period 1990–2005.

Multifunctional role of forests. Forests harbour a large part of the world’s biodiversity, protect soils from wind and water erosion, prevent land degradation and desertification, provide water-related and other ecosystem services, sustain many indigenous cultures and support the livelihoods of millions of forest-dependent people (see fact sheets 1 and 3). Comprehensive, integrated approaches are needed to address deforestation and forest degradation and to accommodate the role of forests as carbon sinks. The management of forests specifically for carbon sequestration while maintaining other forest values and benefits presents new challenges for sustainable forest management (SFM). The Collaborative Partnership on Forests, through its Global Forest Expert Panels joint initiative, is preparing a synthesis of available scientific findings on the linkages between forest biodiversity, carbon storage and forest management interventions in the context of REDD+ activities (i.e. conservation, sustainable management of forests and enhancement of carbon stocks). The synthesis report will be available in December 2012.

Causes of deforestation and forest degradation. Deforestation and forest degradation are caused by drivers both outside and within the forest sector, including policies that subsidize non-forest land use, high prices for agricultural products, weak governance and a lack of land-use planning that allows unsustainable or illegal harvesting. The main direct causes are the expansion of agriculture; residential, mining and infrastructural developments; unsustainable or illegal harvesting;
and biotic (pests and diseases) and abiotic stressors (e.g. fire, winds, droughts and floods). The role of forests in climate-change mitigation has long been the subject of discussion and negotiation at the global level. For example, references to the role of forests and the sustainable management of forests are present in the UNFCCC and the Non-Legally Binding Instrument on All Types of Forests. REDD was officially introduced into the UNFCCC agenda at the end of 2005 after an official request from Costa Rica and Papua New Guinea. The most relevant REDD+ milestones are as follows:

- The 13th Conference of the Parties (COP) of the UNFCCC (Bali, 2007) adopted the Bali Action Plan, within which REDD+ was recognized as a potential element of an expected new agreement.
- COP 15 (Copenhagen, 2009) adopted Decision 4/CP.15 on methodological guidance for the implementation of REDD+, with particular reference to monitoring and reporting.
- COP 16 (Cancun, 2010) adopted a decision that defined REDD+ and agreed on a phased approach to it. Developed countries were urged to provide financial and technical support to assist developing countries to engage key stakeholders (including communities and indigenous peoples) to prepare national strategies, policies and measures to implement REDD+ and to develop national forest reference emission levels, national forest monitoring systems and a system for providing information on how REDD+ social and environmental safeguards are being addressed and respected.
- COP 17 (Durban, 2011) discussed technical methodologies and modalities for REDD+ related to forest reference emission levels, forest reference levels and monitoring, reporting and verification (MRV). It also continued the development of guidance on social and environmental safeguards. A decision was also adopted on financing for the full implementation of results-based REDD+ actions.

**Emergence of REDD+.** The role of forests in climate-change mitigation has long been the subject of discussion and negotiation at the global level. For example, references to the role of forests and the sustainable management of forests are present in the UNFCCC and the Non-Legally Binding Instrument on All Types of Forests. REDD was officially introduced into the UNFCCC agenda at the end of 2005 after an official request from Costa Rica and Papua New Guinea. The most relevant REDD+ milestones are as follows:

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- COP 19 (Paris, 2011) discussed technical methodologies and modalities for REDD+ related to forest reference emission levels, forest reference levels and monitoring, reporting and verification (MRV). It also continued the development of guidance on social and environmental safeguards. A decision was also adopted on financing for the full implementation of results-based REDD+ actions.

**REDD+ technical and financial support.** The launch of the REDD+ Partnership provided interim funds and a non-legally binding framework to scale up and fast-track REDD+. The World Bank’s Forest Carbon Partnership Facility and Forest Investment Programme, the UN-REDD Programme (UNDP–FAO–UNEP partnership) and the GEF are collaborating to assist 40 or more developing countries to prepare REDD+ strategies by 2015. ITTO and other CPF members are also providing technical support to countries to undertake activities relevant to REDD+. It is estimated, however, that US$17–40 billion per year will be required to halve greenhouse gas emissions from the forest sector. Work has therefore commenced to encourage private-sector financing that would complement multilateral initiatives and official development assistance.

**Restoration.** There is potential for REDD+, through SFM, including protection, restoration, afforestation and reforestation, to contribute to efforts to reverse deforestation and prevent forest degradation. The Global Partnership on Forest Landscape Restoration has estimated that 1–2 billion hectares of deforested or degraded land are suitable for forest restoration.

**Experience and knowledge**

**Multiple benefits of SFM.** Criteria and indicators for SFM, which have been adopted in some form by most countries, as well as guidance from members of the Collaborative Partnership on Forests and other entities, provide a well-tested framework for maintaining forest ecosystem services, including the mitigation of climate change. SFM can promote the sequestering of carbon, reduce greenhouse gas emissions, and enhance ecological and social resilience to environmental change. At the same time it can ensure the sustained supply of low-carbon forest products and services; protect biodiversity, water supplies and soils; provide jobs for millions of people; and support the livelihoods of forest-dependent people.

**Managed forests.** Under SFM, forests can be harvested for goods, such as wood and non-wood forest products (NWFPs), without a long-term net decline in their carbon stocks. Harvested trees and other forest resources are replaced through natural regeneration or replanting, sometimes assisted by silvicultural treatment. For example, forests in Japan and Europe have been subject to forest management for centuries with measured increases in their carbon stocks and often with positive impacts on biodiversity.

Agroforestry in production landscapes and on degraded lands also has considerable mitigation potential. Harvested wood is a valuable, renewable, energy-efficient product which, if used for long-term purposes, can store carbon for decades or centuries in finished wood products.

**Challenges**

**Safeguards.** Environmental and social safeguards and accurate information on environmental and social impacts are essential for the long-term success of REDD+. The application of safeguards agreed under the UNFCCC can build on existing SFM policies and measures such as the seven thematic elements of SFM, which draw on the criteria and indicator processes of SFM agreed at regional and national levels, as well as guidance provided under the Convention on Biological Diversity on environmental impact assessment and the ecosystem approach.

Balancing monitoring, governance and management. To date, preparations for REDD+...
have focused on capacity-building and the transfer of knowledge and technology in two critical areas: governance and MRV. However, forest management practices must also be strengthened if REDD+ objectives are to be achieved. Achieving REDD+ objectives will require a balanced approach that not only focuses on governance and monitoring concerns, but also includes a greater emphasis on forest management practices.

**Build on existing commitments.**
There is a need to harmonize REDD+ national strategies and actions with international and national development aspirations, commitments and emerging norms. This applies especially to socio-economic development and the opportunities provided by forest ecosystems for a low-carbon development path. REDD+ safeguards designed to minimize the risk of unintended negative consequences will help to avoid conflicts with related international commitments.

**Building on SFM.** Existing forest certification schemes and best-practice guidelines on various aspects of SFM (e.g. forest inventory, socio-economic surveys, biodiversity conservation, sustainable land management, secondary forest management, fire management, forest health, reduced impact harvesting, planted forests, agroforestry, forest governance and land tenure) provide REDD+ with a tested framework for implementation. To date, however, insufficient finance and a lack of enabling conditions have limited the transfer of knowledge and technology and the implementation of SFM in developing countries. The implementation of REDD+ can help promote SFM by building on existing intellectual and institutional capital.

**Timely and reliable data.** Timely and reliable forest-related greenhouse gas inventories and data to establish emissions reference levels remain sparse. Methodologies exist for quantifying deforestation, but measuring carbon loss from forest degradation is more difficult. MRV capacity is growing in many developing countries, but there is still a need for long-term support.

**Partnerships between REDD+ and SFM proponents.** The proponents of REDD+ have not always been familiar with the concepts, definitions, tools, expertise, experience and resources associated with SFM or its increasingly transparent and participatory processes, as practised in many countries. There are mutual benefits to be gained if the proponents of REDD+ and SFM work more closely together. The members of the Collaborative Partnership on Forests are committed to supporting partnerships to better use existing expertise, experiences and practices.

**Co-benefits and benefit-sharing.** Processes at the national level to develop REDD+ strategies, policies and plans provide opportunities for debating how to optimize co-benefits (e.g. poverty alleviation, governance reform, and biodiversity and soil conservation) in developing countries; which stakeholders should receive REDD+ payments; and how to ensure transparency, accountability and equity in such transactions. The equitable sharing of the benefits and costs of REDD+ is crucial to its sustainability.

**Opportunities**

**Harmonization.** There is an opportunity to achieve synergy between SFM and REDD+ by harmonizing their processes, terminologies, tools, methodologies, technical assistance, capacity-building and funding mechanisms. The capacity and infrastructure that has been developed for SFM can be applied for the efficient implementation of REDD+, while the resources that REDD+ brings to bear will encourage greater uptake of SFM. REDD+ can benefit from on-going forest governance reform.

**Cross-sectoral approaches.** REDD+ offers an opportunity for the integration of SFM into policies for national development, agriculture, land, food security, poverty alleviation, sustainable livelihoods, and biodiversity and soil conservation.

**Primary forests.** An estimated 36 per cent of forests are primary forests (see fact sheet 2), which often contain very high volumes of carbon and high biodiversity. SFM in these forests can contribute to biodiversity conservation, carbon storage and the maintenance of other essential ecosystem services, particularly when it involves the conservation of large intact forest areas.

**Multi-stakeholder participatory approaches.** In taking into account tenure, rights, gender, the equitable sharing of benefits and rural livelihoods, REDD+ can benefit from the multi-stakeholder participatory processes that have been established for SFM, such as national forest programmes.

**Monitoring, assessment and reporting.** Multi-purpose national forest monitoring and assessment programmes (NFMAs) designed for SFM integrate national forest inventories and surveys of livelihoods, biodiversity and other forest parameters. REDD+ MRV systems would benefit from building on existing NFMs.

What is still to be learned?

Better understanding is needed of:

- The carbon pools and sinks in different types of forests and forest soils.
- The effects of various forest management practices on carbon sequestration and sinks.
- How, and to whom, to deliver REDD+ payments efficiently, effectively and equitably.
- How to set up transparent and robust national forest monitoring systems and provide the institutional and technical capacity to maintain them.
- How to deliver REDD+ co-benefits.
- How to better engage the private sector in REDD+ initiatives and financing.
Key messages

- Criteria and indicators for SFM, as well as guidance from members of the Collaborative Partnership on Forests and other entities, provide a tested framework for maintaining forest goods and ecosystem services, including the mitigation of and adaptation to climate change.
- Established processes, tools, mechanisms and capacity-building for SFM can be applied in the implementation of REDD+.
- REDD+ finance, capacity-building and technical support can help to promote SFM in developing countries.
- REDD+ provides an opportunity to better integrate SFM into national climate-change and development strategies and policies.

Endnotes

3 Topics: SFM and the multiple functions of forests; SFM and primary forests; SFM, food security and livelihoods; SFM and indigenous peoples; SFM and REDD+; SFM and biodiversity; SFM and gender; and SFM and adaptation to climate change. The Partnership hopes to periodically update these fact sheets and to prepare new fact sheets on other important topics, including financing.
4 As per Decision 1/CP.16 of the Conference of the Parties of the UNFCCC, the UN General Assembly by resolution A/62/98 of 31 January 2008.
6 FAO (2010). Forest governance and climate change. Forest Governance and Climate Change: A policy brief prepared by ITTO and FAO. ITTO, Yokohama, Japan and FAO, Rome, Italy.
11 UN General Assembly (2008), as cited in endnote 1.
12 The ‘+’ was added to REDD later when the concept evolved to explicitly include netking emissions from deforestation and forest degradation; conservation of forest carbon stocks; the sustainable management of forests; and the enhancement of forest carbon stocks.
15 See http://www.forestcarbonpartnership.org/cpf/node/29.
16 See http://www.un-redd.org/aboutREDD/582/.
17 GEF (2011). The GEF incentive mechanism for forests: a new REDD+ multilateral finance program. GEF, Washington, DC, USA.
20 See www.idoatransformlandscapes.org.
21 Collaborative Partnership on Forests (2008), as cited in endnote 5.
23 IUCN (2010). REDD opportunities: integrating sustainable forest management approaches. IUCN, Gland, Switzerland.