

# BEYOND CARBON

Ecosystem-based benefits of REDD+



# REDD+

## REDD+

= Reducing Emissions from  
Deforestation and forest Degradation

+

Conservation of forest carbon stocks  
Sustainable management of forests  
Enhancement of forest carbon stocks

**Forests have come under increasing pressure** from human activity in recent decades, leading to significant losses of forest area, and the biodiversity and carbon they contain. Whilst forests directly support the livelihoods of 90% of the 1.2 billion people who live in extreme poverty (World Bank, 2004), there are also huge numbers of others whose income depends on converting forest to other land uses. Over the last decade, around 13 million hectares of forest have been lost (FAO, 2010), often being cleared to make way for cattle or crops. Many other areas have been degraded by uncontrolled fires, indiscriminate logging or overuse of other kinds.

Deforestation and forest degradation accounted for more greenhouse gas emissions than the transport sector in 2004 (IPCC, 2007). Growing recognition of this issue has led to increased focus on forests under

the United Nations Framework Convention on Climate Change (UNFCCC). Its Parties are negotiating on how to reduce emissions from deforestation and forest degradation, plus additional forest-related 'activities', in developing countries (REDD+, see diagram above for list of REDD+ activities; after Decision 1/CP.13 of the Bali Action Plan, FCCC/CP/2007/6/Add.1).

When forests that would have been lost or degraded are retained or restored through REDD+, they deliver 'multiple benefits' in addition to protecting or enhancing carbon stocks. These ecosystem-based benefits may include conservation of forest biodiversity, water regulation, soil conservation, timber, forest foods and other non-timber forest products. REDD+ can also lead to direct social benefits, such as jobs, livelihoods, land tenure clarification, carbon credit payments or enhanced participation in decision-making under stronger governance. The UN-REDD Programme works with countries to address both ecosystem-based and social benefits, as well as a range of other REDD+ relevant areas. This brochure focuses on the ecosystem-based benefits of REDD+, which often depend upon forest biodiversity.

Whilst REDD+ can contribute to biodiversity conservation, conservation can also contribute to REDD+. For instance, it is thought likely that the carbon stored in intact, natural forest will be more



# REDD+

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resilient to climate change impacts than the carbon stored in degraded natural forest or plantations.

Unless attention is paid to their possible impacts, REDD+ activities could lead to harms to biodiversity and ecosystem services. There are fears that forest carbon “wins” may equate to “losses” for biodiversity: for instance, if high-carbon forests are always favoured at the expense of low-carbon forests. As each will have different wildlife communities, the whole range of forest types is valuable for biodiversity conservation. Recent work indicates that a small compromise on carbon returns can have major benefits for biodiversity and ecosystem services (e.g. Venter *et al.*, 2009).

Explicit social and environmental safeguards are likely to be included in the final UNFCCC Decision and in future REDD+ planning. These will help to enhance the multiple benefits of REDD+ and ensure that local communities and indigenous peoples are fairly rewarded for their efforts. Minimum standards are being developed in the current ‘readiness’ phase of REDD+ to help make sure that these safeguards are honoured.

The UN-REDD Programme web pages on multiple benefits contain material on the topics discussed in this brochure and more. New publications are being added to these pages as they are released. You can find them at: [www.un-redd.org/multiple\\_benefits/tabid/1051/Default.aspx](http://www.un-redd.org/multiple_benefits/tabid/1051/Default.aspx)



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## The role of the UN-REDD Programme

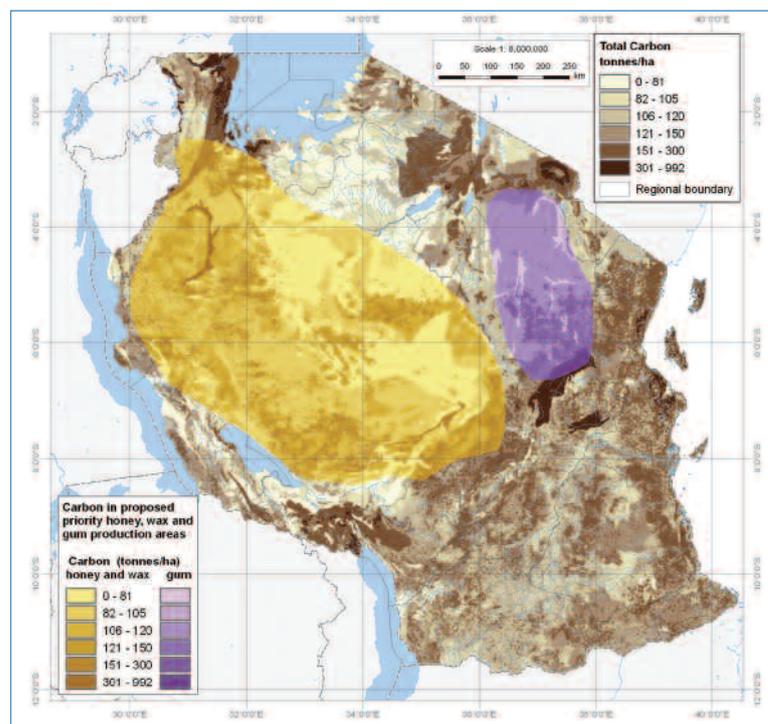
As countries move forward with REDD+, their development priorities and policies on the multiple benefits of forests will need to be formulated. The UN-REDD Programme, a collaboration between the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), supports countries in their efforts to integrate multiple benefits into their REDD+ strategies and development plans.

The Programme seeks to develop common approaches and guidelines for national REDD+ planning that can be easily adapted to be of use to any REDD+ eligible country. UNEP is developing a range of tools and guidance and providing direct assistance on ecosystem-based multiple benefits. The initial outputs can be found in the CD attached to this brochure; more will become available on the multiple benefits pages of [www.un-redd.org](http://www.un-redd.org).

Partner countries of the UN-REDD Programme can expect to receive direct support of this nature through National Programmes. Currently, several UN-REDD Programme countries are being supported to test different approaches such as developing map-based analyses to aid in prioritisation of areas to secure both carbon stocks and additional multiple benefits (see map below), monitoring the impacts of REDD+, and applying minimum environmental standards.

The UN-REDD Programme is stepping up its work in this area with UN-REDD pilot and new partner countries. Anticipated future activities include consultations to identify needs and priorities, further map-based analyses, exploration of the role of multiple benefits valuation and payment for ecosystem services approaches, and development of a framework for understanding the consequences of land use decisions for biodiversity and ecosystem services.

### Carbon in proposed priority honey, wax and gum production areas, Tanzania.



Source: 'Carbon, biodiversity and ecosystem services: exploring co-benefits: Tanzania', see CD.

# The role of the UN-REDD Programme

**Each step along the road to REDD+** may have implications for the quantity and quality of multiple benefits that result. Benefits depend on the location of REDD+ sites, activities undertaken, and on the national policies and investment plans put in place to implement REDD+.

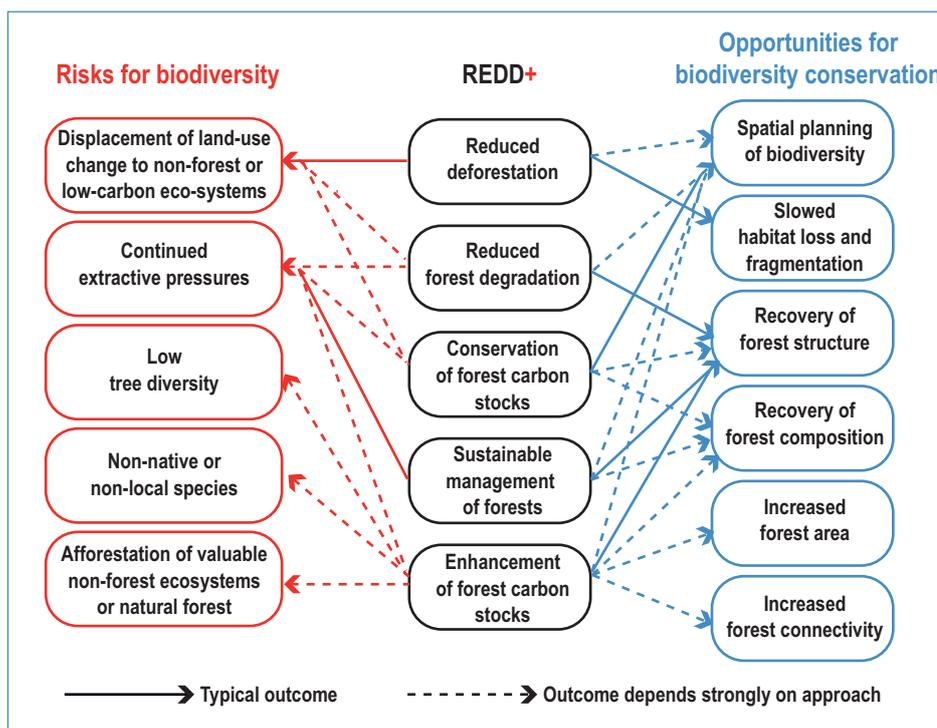
A national REDD+ programme may involve strategy and planning, institutional capacity building, implementation of REDD+, and measurement, reporting and verification (MRV) of results. The decisions made during each of these processes can lead to opportunities and risks for multiple benefits and the development opportunities that depend on them.

For example, reducing deforestation could present opportunities for biodiversity by slowing habitat loss and fragmentation, but could also result in harms if land-use change is displaced to other ecosystems with valuable biodiversity or ecosystem services (see below).

Attention to these issues in the planning phase will help to avoid unintended negative consequences. Participatory planning can ensure that the local value of biodiversity and ecosystem services is properly understood and taken into account, and help to identify which livelihood strategies are degrading forests.

Inclusion of stakeholders involved in land-use change and forestry will be key for a successful REDD+ mechanism. Finding economically viable ways to minimise harms from their land and resource uses will be necessary if additional carbon and other benefits are to be realised. For example, a REDD+ programme could promote reduced impact logging (RIL), which involves less damage to forest carbon and biodiversity than conventional selective logging of timber. In intact forests not previously managed for timber production, any logging regime will negatively affect carbon stocks and provision of many ecosystem-based benefits, but conventional selective logging is more harmful than RIL.

## Major opportunities and risks for biodiversity benefits of REDD+



## Monitoring multiple benefits

**Monitoring can help** us to understand how biodiversity and ecosystem services respond to the different REDD+ activities. The challenge is to reconcile the need for data on these impacts with the limited resources available.

Sometimes monitoring of multiple benefits may be achieved with minimal additional cost. One option is to work with data from existing monitoring schemes. For example, water quality data could be used to assess the effects of forest protection or reforestation on a watershed.

Another option is to ‘piggyback’ multiple benefits monitoring onto the schemes that will be required to measure forest carbon stocks and emission reductions. Much of the necessary information on

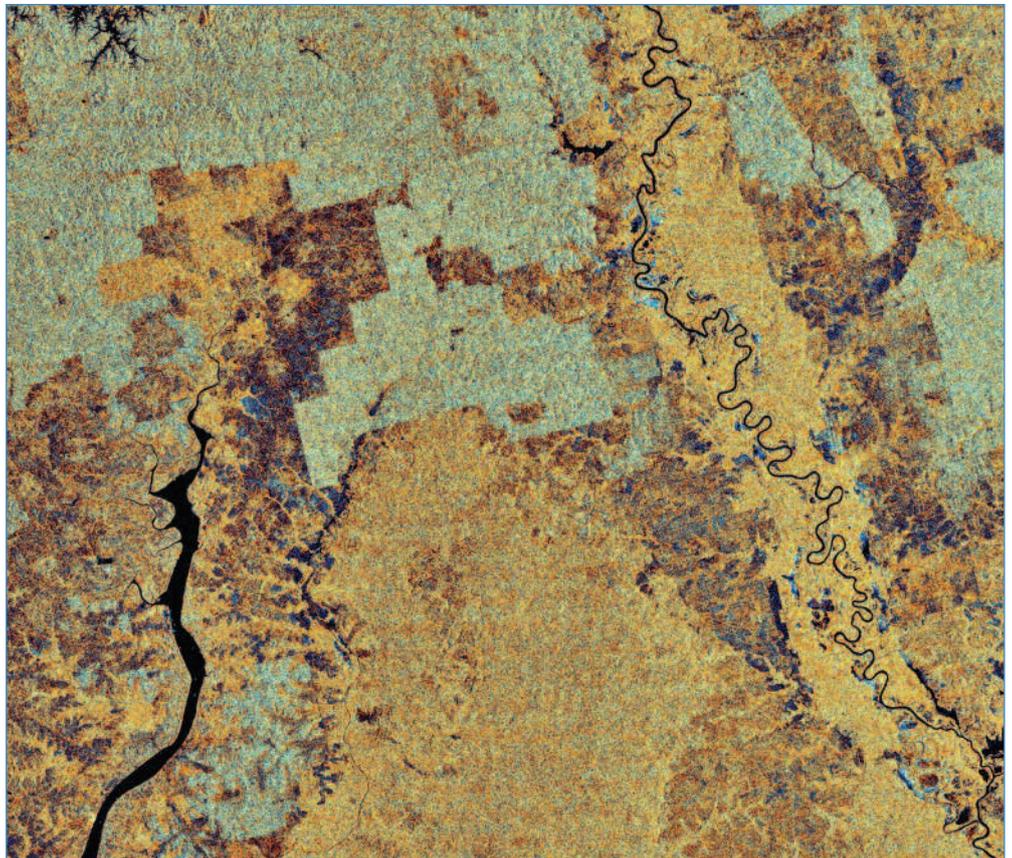
forest area and change will be obtained through remote sensing. Different analyses of the same source data may be able to provide information on extent of ecosystems, forest fragmentation, forest degradation, presence of alien species, plantations, and extent of watersheds (Strand et al. 2007).

Local and indigenous peoples’ experience in forest management makes them indispensable partners in REDD+, including in monitoring ecosystem-based multiple benefits. Their knowledge could significantly contribute to monitoring and reporting of REDD+ results. The UN-REDD Programme believes that assuring the full participation and ownership of indigenous and local communities is required for a successful REDD+ scheme.

**The northern part of the Tanjung Puting Biosphere Reserve, Borneo (Indonesia) is visible in the lower centre half of the image between Kumai Bay (left) and the Seruyan River (right). Areas cleared for palm plantations are shown in green, with linear edges.**

**Image acquired 23 April 2009 by Envisat’s Advanced Synthetic Aperture Radar (ASAR) instrument.**

Source: ESA



## Further reading

**This CD-ROM** includes a range of publications produced by the UN-REDD Programme on multiple benefits from forest ecosystems. These, and the latest updates on the UN-REDD Programme's work on multiple benefits, are also available online at:

[http://www.un-redd.org/multiple\\_benefits/tabid/1051/Default.aspx](http://www.un-redd.org/multiple_benefits/tabid/1051/Default.aspx)

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**REDD+ can bring about benefits** in addition to the primary benefit of carbon storage. Through careful planning and implementation, additional benefits from biodiversity and ecosystem services can be secured. The decisions made and approaches adopted for different REDD+ activities will affect the type, extent and quality of biodiversity and ecosystem services that are delivered. The UN-REDD Programme is helping countries to integrate multiple benefits into their REDD+ planning.

### About the UN-REDD Programme

The UN-REDD Programme, a collaborative partnership between FAO, UNDP and UNEP, was created in response to, and in support of, the UNFCCC decision on REDD at COP 13 and the Bali Action Plan. The Programme supports countries to develop capacity to reduce emissions from deforestation and forest degradation and to implement a future REDD+ mechanism in a post-2012 climate regime. It builds on the convening power of its participating UN agencies, their diverse expertise and vast networks, and delivers as One UN.

### About UNEP-WCMC

The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is the biodiversity assessment and policy implementation arm of the United Nations Environment Programme (UNEP), the world's foremost intergovernmental environmental organization. The Centre has been in operation since 1989, combining scientific research with practical policy advice.

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The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

