Rio Conventions'
ECOSYSTEMS
PAVILION
Linking biodiversity, climate change and sustainable land management

KEY MESSAGES

FROM THE INAUGURAL

RIO CONVENTIONS' ECOSYSTEMS AND CLIMATE CHANGE PAVILION

A Compilation from Nagoya

A parallel event of the tenth Conference of the Parties of the Convention on Biological Diversity, Nagoya, Japan October 2010

http://ecosystemspavilion.org

Biodiversity loss. Climate change.

Desertification, land degradation and drought.

Our response to these global environmental challenges will define the 21st century.

We recognize the increasing urgency to reduce greenhouse gas emission, maintain natural carbon sinks and adapt to the adverse effects of climate change.

We now know of the increased vulnerability of species and ecosystem services resulting from climate change.

We are witnesses to the human face of climate change through increased human insecurity linked to land degradation, especially in drylands.

Ecosystem-based approaches provide multiple benefits at comparatively low cost and lead us towards a sustainable future.

Despite these linkages, there is general under-appreciation and corresponding under-investment in ecosystem-based solutions.

We continue to work to overcome the difficulties in developing sustainable land management strategies.

The linkages between these challenges provide us with the building blocks for a sustainable future.

Climate-resilient communities. Climate-resilient ecosystems. Development.

Three inter-related challenges.

Biodiversity. Climate change. Sustainable land management.

For a sustainable future.

The **Rio Conventions' Ecosystems and Climate Change Pavilion** is a collaborative outreach activity involving the Rio Convention secretariats, with the Global Environment Facility and other important partners. The CBD's LifeWeb is also playing a key role.

Launched during the International Year of Biodiversity, the Ecosystems Pavilion is a platform for raising awareness and sharing information about the latest practices and scientific findings on the co-benefits that can be realized through implementation of the three Rio conventions. It is an example of enhanced collaboration, as mandated by the UN General Assembly in its resolution 64/203 of 14 December 2009.

Key messages from each thematic day of the inaugural Ecosystems Pavilion held in Nagoya during the CBD COP10 were disseminated daily. They have been compiled in this document as a reflection of the main issues and points emerging throughout the Nagoya Ecosystems Pavilion. They are not statements or positions nor do they necessarily reflect the opinions of all Pavilion partners or participants.

Nagoya Ecosystems Pavilion Programme Overview – 18-28 October, 2010

Additional information about Ecosystem Pavilion events in Nagoya, including key messages, presentations, videos and interviews can be found at http://ecosystemspavilion.org.

	Thematic Days	**Evening Sessions**
18 October, Monday	*The linkages between biodiversity, sustainable land management and climate change* With the European Commission and other partners	*REDD+ Hour: Reducing emissions from degradation and forest degradation in developing countries (REDD)* With UNEP and other UN REDD members
19 October, Tuesday	*Key role of protected areas in climate change adaptation and mitigation strategies* With IUCN WCPA and other partners	Session 1: Inter-linkages of biodiversity, carbon and economics
20 October, Wednesday	*Indigenous peoples and communities – benefits and livelihoods* With UNDP, Conservation International and other partners	Session 2: Traditional knowledge in conserving biodiversity and carbon
21 October, Thursday	*Forest biodiversity: mitigation and adaptation – the linked benefits provided by forests* With members of the Collaborative Partnership on Forests and other partners	Session 3: Environmental safeguards and REDD
22 October, Friday	*Water, ecosystems and climate change* With SCBD and other partners	Session 4: Measuring and monitoring of biodiversity and ecosystem services within REDD
23 October, Saturday	*UNCCD Land Day 3: The Nexus Between Biodiversity and Desertification*	Session 5 (11am -1:30 pm): Empowerment of the biodiversity constituency in REDD processes
		Commitments and international cooperation for financing synergies, in partnership with CBD's LifeWeb Initiative
25 October, Monday	*Economics of ecosystem services and biodiversity, climate change and land management* With TEEB and other partners	Session 1: Mesoamerican financing synergies through protected area solutions, featuring Costa Rica Forever and other national initiatives
26 October, Tuesday	*Ecosystem-based approaches for adaptation* With IUCN, ICLEI and other partners	Session 2: Caribbean and Micronesian financing synergies through protected-area solutions
27 October, Wednesday	*Promoting synergies for sustainable development and poverty reduction* With UNDP and other partners	Session 3: South American financing synergies through protected area solutions, featuring the Pan-Amazonian Vision
28 October, Thursday	*Ecosystems and Climate Change Pavilion Summit: Moving Towards Rio+20*	Session 4: West African coastal and marine financing synergies through protected area solutions

KEY MESSAGES: Linkages between biodiversity, climate change and sustainable land management

- Climate change is already affecting biodiversity. It interacts with and often exacerbates other threats on biodiversity and ecosystem services, such as over-exploitation, habitat change, invasive species and pollution. These impacts are expected to grow in the coming decades. The natural adaptive capacity of many species may be exceeded under future projected changes (an increase in global mean temperatures of 2.0 to 7.5 ºC by 2100) if aggressive mitigation actions are not taken.
- We cannot reduce biodiversity loss without addressing climate change, but it is equally impossible to effectively address climate change without conserving, restoring and sustainably using ecosystem services.
- The protection and restoration of resilient ecosystems are among the most cost-effective means of limiting the scale and negative consequences of climate change for both biodiversity and people/livelihoods. Addressing the multiple drivers of biodiversity loss and land degradation contributes to climate change mitigation and adaptation through increasing resilience and reducing vulnerability.
- Decisive and appropriate action to protect biodiversity can help to mitigate climate change by maintaining and restoring the ability of ecosystems to store and sequester carbon.
- Maintaining and restoring healthy ecosystems represents an insurance policy in times of global change and plays a key role in adapting to and mitigating climate change through biodiversity conservation, sustainable use and sustainable land management and yields multiple environmental, economic and social benefits, especially when considering the role of soil biodiversity in combating desertification.
- Ecosystem-based approaches to climate change adaptation and mitigation are ready for use and bring multiple benefits at comparably low cost; investing in green infrastructure makes economic sense, provides job and business opportunities and is vital to control climate change.
- The implementation of ecosystem-based approaches for adaptation and mitigation and the integration of biodiversity considerations into relevant climate change adaptation and mitigation plans and strategies will require enhanced cooperation and synergies between the different biodiversity, climate change and sustainable land management actors, including the key stakeholders of the three Rio conventions, while respecting their different mandates and priorities.
- There is a need to scale-up and scale-out local best practices linking biodiversity conservation, climate change and sustainable land management to combine local experience and knowledge with national implementation and international policy-making, thus contributing to sustainable development. Doing so represents one of the most effective means to localize all of the Millennium Development Goals (MDGs) and realize gains in poverty reduction, educational attainment, the availability of health care, and the sustainability of local livelihoods. Climate change, biodiversity and development policies benefit from being mutually supportive.
- Effective management of the most vulnerable ecosystems, especially those of oceans and islands, can help adapt to the impacts of climate change and support economies andlivelihoods. This is particularly important for the economies of small-island developing States (SIDS) and dryland countries with a high reliance on biodiversity-based livelihoods. This includes:
    - enhancing the sustainable use of goods and services from dryland ecosystems to contribute to poverty reduction, thus making the rural poor less vulnerable to the impacts of land degradation and climate change while also ensuring biodiversity conservation and sustainable use, especially for those living in sensitive dryland areas.
    - developing and implementing priority actions that enhance the contribution of marine and coastal ecosystems to climate change mitigation and adaptation, including maintaining the capacity of oceans to store carbon and strengthening the resilience of marine and coastal systems to the impacts of climate change and ocean acidification.
    - recognizing the special importance of marine biodiversity in SIDS and other developing nations and the need to build capacity to address threats to biodiversity in these areas.

KEY MESSAGES: The central role of protected areas in climate change

Protected areas can contribute to the major challenges facing the world today – biodiversity loss, water shortages, food insecurity and rapid climate change. Although they cover only 12.9% of land and 6.3 % of territorial waters, protected areas are the cornerstones of biodiversity conservation, protecting 80% of threatened species. Many protected areas also provide social and economic benefits by supporting local livelihoods and economies, and safeguarding crucial services such as fresh water, food and carbon storage. Well managed and governed protected areas can thus play a critical role in national and local mitigation and adaptation strategies as natural solutions to climate change.

Protected areas and climate change mitigation: Globally, protected areas store more than 312 gigatons of carbon (GTC) or 15% of the terrestrial carbon stock. Tropical**,** temperate and boreal forests, grasslands and wetlands, especially peat swamps, are key carbon stores and sinks, especially in tropical areas.

Protected areas and climate change adaptation: Water stress, food shortages and natural disasters, with loss of lives and assets, will become increasingly frequent, exacerbated by climate change. Protected areas can provide:

1. **Clean water:** 33 of the 105 (approximately one third) world's largest cities derive drinking water from forested protected areas. Another 10% obtain water from sources that originate in "protected" watersheds. Some natural forests (especially tropical montane cloud forests) increase total water flow;

2. **Food security:** Protected areas conserve populations of wild species, pollinators and crop wild relatives, safeguarding species and populations vital for food security and agriculture;

3. **Health security:** Climate change and lack of clean water are expected to lead to increased health risks and epidemics. Protected areas contribute to health by protecting intact ecosystems and supplies of medicinal plants. Many people (80% in Africa) rely on traditional medicines; some 28% of plants are used medicinally and 60% of medicinal plants are collected from the wild, including within protected areas; and

4. **A buffer from natural disasters:** Economic losses from natural disasters have increased ten-fold over the last 50 years. Protected areas can play a role in helping reduce their occurrence and scale of impacts such as floods, landslides, tsunamis, typhoons and storms, fire, drought and desertification. For example, in Argentina flood protection programmes have integrated conservation of natural habitats to reduce vulnerability and disaster risks, to complement infrastructure and early-warning investments.

Financing for protected areas: Ensuring effective management of protected area networks will require new and additional funding resources, including support through LifeWeb and from the Global Environment Facility for biodiversity, sustainable forest management and new climate change mitigation and adaptation funds. The CBD COP agreed to support and finance the conservation and management of naturally functioning ecosystems and in particular, protected-area systems contributing to carbon sequestration and maintenance of carbon stocks as well as to ecosystem-based approaches to adaptation to climate change, while recognizing that biodiversity conservation remains the primary objective.

- **Marine protected areas:** Coastal systems such as saltmarshes, mangroves and sea grass beds are major carbon sinks**,** sequestering carbon in the sediment at rates up to 50 times greater than terrestrial systems. Coastal and marine habitats also help to reduce the impact of extreme climate events and marine protected areas (MPAs) support sustainable fisheries. Protected coral reefs contribute the equivalent of US$9 billion per year in coastal protection around the world.

Improving management and expanding protected area networks are cost-effective strategies to help national and local communities to address, and adapt to, the impacts of climate change.

KEY MESSAGES: Indigenous peoples and communities – benefits and livelihoods

Indigenous peoples and local communities worldwide demonstrate unique capacity to jointly address the linked challenges of biodiversity loss, climate change, land degradation and livelihood improvement in a socially equitable manner.

Approaches are diverse and encompass a range of fields of work, including indigenous and community-conserved areas, agriculture, agroforestry, apiculture, fisheries, livestock, medicinal plants, non-timber forest products, wildlife management, ecotourism, enterprise development and market innovations, land tenure securitization, eco-agriculture, sustainable land use management, seed banks and more.

There is a growing need to scale-up and scale-out local best practices in biodiversity conservation, climate change and sustainable land management to link local experience and knowledge with national and international policy-making, thus contributing to sustainable development. Doing so represents one of the most effective means to localize the Millennium Development Goals (MDGs) and realize quicker gains in poverty reduction, educational attainment, the availability of health care, and the sustainability of local livelihoods—in essence to achieve all of the MDGs.

Key aspects to consider in linking local experience and knowledge with national and international policy-making are:

1. Indigenous peoples and local communities must be engaged in all conservation- and climate-related actions at all levels through full and effective participation.
2. On traditional knowledge,
    - protected areas are more effective when they incorporate traditional knowledge, including traditional management practices
    - traditional knowledge is a valid companion to modern science; the two approaches can work together but traditional knowledge does not rely on modern science for validation
    - further work needs to be done on how traditional knowledge can be incorporated into national plans for biodiversity and climate change.
3. Key components for implementing protected areas policy include government cooperation and capacity building with indigenous peoples and local communities.
4. Indigenous and local communities must be included in biodiversity and climate policy design and development, as they have impacts on the lands, rights and livelihoods of communities
5. Development activities must reach those communities that are most vulnerable, including remote communities and those located in "security" risk areas.
6. Governments must recognize and include indigenous peoples and local communities in their national processes.
7. Women must be included and supported in conservation, climate and development processes and not side-lined.
8. Safeguards must be recognized before beginning any REDD-plus projects.
9. Indigenous peoples have different ways to implement free and prior informed consent, and as there is no one model, community processes need to be respected and ensured.

KEY MESSAGES: Forest biodiversity: Mitigation and adaptation – the linked benefits provided by forests

Connecting agendas: Towards Rio +20
Moving towards Rio +20, the secretariats of the Rio conventions, and their partners in the Collaborative Partnership on Forests (CPF), are committed to a comprehensive approach to forest-based climate change mitigation and adaptation.

Ecosystem-based approaches to adaptation
Ecosystem-based climate change mitigation and adaptation measures should be pursued concurrently. The impacts of climate change are likely to affect poor forest-dependent communities disproportionately and policy approaches to adaptation should therefore particularly address their needs. Measures for climate change mitigation and adaptation should also aim to ensure the continued (or increased) delivery of other forest-related benefits – "co-benefits".

Financing forest biodiversity
There is a clear need for large-scale financing for forest biodiversity. The current scale of financing for forest biodiversity falls short of the required funds. Given that the causes of inadequate financing for forest biodiversity often lie outside of the forest sector, cross-sectoral and cross-institutional approaches beyond the forestry sector are required to implement the conservation and sustainable use of forest biodiversity.

Forest landscape restoration
More than a billion hectares of lost and degraded forest land could be restored worldwide. Restoring this vast area has the potential to enrich, for example, communities, their environment and enterprises large and small. Forest landscape restoration can facilitate precious gains in forest area, thus complementing measures to reduce forest loss and degradation.

Improving monitoring and reporting on forest degradation
Accurate forest monitoring and reporting helps informed decision-making. Monitoring forest degradation has proven difficult, but a joint CPF initiative under the leadership of FAO has made encouraging progress in developing a set of robust criteria and indicators for forest degradation, including forest biodiversity. The robust monitoring of forest status and area change is necessary for the design, implementation and verification of climate change and biodiversity commitments.

Environmental safeguards and REDD-plus
Any well designed mechanism in the context of REDD-plus will have significant and unprecedented benefits for biodiversity and also has the potential to deliver significant benefits to indigenous peoples and local communities. Both biodiversity and the full and effective participation of indigenous peoples and local communities are necessary for the success of REDD-plus. The permanent storage of carbon depends on well-functioning and resilient forest ecosystems, and on indigenous and local community participation and ownership. Safeguards, if designed and implemented appropriately, will reduce the risks and enhance the potential benefits of REDD-plus.

KEY MESSAGES: REDD and biodiversity[1]

Inter-linkages between biodiversity, carbon and economics: The first of five "REDD+ Hours" featured the inter-linkages between biodiversity, carbon and economics, in an initiative that sought to bridge the biodiversity and climate change communities. The session concluded that forests deliver many more economic benefits other than carbon storage and that these multiple benefits add to and can even overshadow those from carbon storage. It demonstrated how biodiversity underpins ecological resilience and the permanence of forest carbon stocks. The session also concluded that reversing drivers of deforestation and forest degradation has been demonstrated to be beneficial for economic development and that REDD+ would be a catalyst to achieving these benefits and recognized the importance of capacity building in this regard, particularly a coordinated approach among the multilateral initiatives.

The role of traditional knowledge and REDD+: The second REDD+ Hour dealt with the role of traditional knowledge and REDD+. The session clearly identified the importance of free, prior and informed consent (FPIC) in assuring that the rights, interests and knowledge of indigenous and local people are assured and incorporated in national REDD design. The session highlighted the potential of cash incentives for forest carbon benefits to divide communities against each other and have undesirable effects on livelihoods and cultures, unless communities are given sufficient time to inform themselves and consult with each other. It was stressed that such processes should have adequate resources and time.

Environmental safeguards and REDD+: While there was clear consensus on the need for safeguards, there was an equally firm consensus that safeguards must not constrain or overburden an agreement on REDD+, as REDD+ is in itself potentially one of the most important safeguards for forests and related ecosystem services. The point was made, however, that while conservation of biodiversity is a safeguard for forests and consequently for forest carbon, the reverse was not necessarily true. In regard to existing voluntary standards, it was stated that at present, none of them are adequate to act comprehensively as environmental safeguards for REDD+ on their own. The session also stressed the important role of local people and the private sector in delivering on safeguards either through change of behaviour or in the kinds of investments that are made.

Measuring and monitoring of biodiversity and ecosystem services within REDD+: This session established a clear, positive correlation between biological diversity and forest carbon and that there are methods available to monitor biodiversity and related impacts of forest management decisions. The session also noted that the purpose of the monitoring determines the methodology and associated cost of biodiversity and ecosystem services monitoring.

Empowerment of the biodiversity constituency in REDD+ processes: The fifth REDD+ Hour stressed the importance of connecting key national focal points, e.g. those for REDD+ and biodiversity, to each other so that they could share information and tools. It was noted that CBD focal points have information that could be valuable to REDD+ processes, such as results from biodiversity gap analyses and monitoring and that it was vital to involve CBD stakeholders in planning and implementing REDD+ activities. It was also concluded that clarifying roles and responsibilities as early as possible is essential and that many consultation processes on forest stewardship are on-going and REDD+ discussions can piggy-back on these. It was noted that there are existing spatial planning tools that are available for land-planning and REDD+ processes.

[1] from the REDD+ Hour

KEY MESSAGES: Water, ecosystems and climate change

Water, in terms of both availability and quality, is increasingly recognized as one of the most important, and challenging, natural resource issue facing the world.

- Degradation of ecosystems and decline in the services that they provide has already affected the availability of water and increased water-related risks in many areas. Already one third of the world's population lives in areas of high water stress; this proportion will increase to half the world's population by 2030.

Water scarcity creates conflicts and is increasingly becoming an issue of security in some parts of the world.

- The importance and scarcity of our freshwater resources cannot be overstated; it is estimated that by 2025, 1.8 billion people will be living in regions with absolute water scarcity, and two-thirds of the world's population could experience water-stress conditions. There are also crucial economic linkages that need to be understood, such as the water storage function of forests, which can often be significantly higher than the potential timber value of those forests.

Water is key to achieving most of the Millennium Development Goals (MDGs), particularly for food production, drinking water and sanitation, poverty reduction and environmental sustainability. The improved management of water is central to achieving sustainable development — in all countries.

Ecosystems are a key factor determining the timing, duration and location of water availability on local and regional scales.

- Water availability and quality are services provided by ecosystems, underpinned by biodiversity — and both terrestrial and aquatic components (wetlands) play critical roles in driving nature's water cycle.
- Desertification, land degradation and drought have negative impacts on the availability, quantity and quality of water resources, resulting in water scarcity. Most of the main impacts of climate change on ecosystems and people are manifested as changes in water availability. The subject of water therefore forges strong links between the three Rio conventions.

It is crucial that the linkages between water, wetlands and forests are taken into consideration to adequately protect our water resources and related ecosystems. Water needs to be managed as part of an ecosystem with inter-related elements and processes. The ecological linkages between water, wetlands and forests represent the intricate interdependence of our ecosystems and our resources.

- Forests play a pivotal role in the hydrological cycle by affecting rates of transpiration and evaporation, and influencing how water is routed and stored in a watershed. This consequently plays a vital role in the preservation of our wetlands, which act as natural reservoirs and are extremely rich in terms of both biodiversity and the ecological services that they provide, for example, within the realms of agriculture, sanitation and energy.

An important adaptation response to the increased frequency and severity of droughts and floods associated with climate change will be to reduce risks by increasing water storage. There are significant opportunities to use natural ecosystem infrastructure more wisely to that end, including by increasing resilience in the face of environmental extremes and thereby achieve better water security

- This valuable natural infrastructure consists not only of wetlands but also terrestrial vegetation (especially forests), healthy soils (including the ability to absorb and retain water) and renewable groundwater, which is partly recharged by ecological processes, including those provided by wetlands and soils. Importantly, such approaches offer not only more sustainable solutions and other benefits for biodiversity, but can also result in considerable cost savings.

KEY MESSAGES: Land Day 3 - The nexus between biodiversity and desertification

Biodiversity loss and desertification and land degradation go hand in hand. The solutions to the one challenge automatically address the other. Gains can be scaled up through synergy in conservation.

Sustainable land management and the restoration of degraded lands combat land degradation and desertification by stabilizing soils, reducing water and wind erosion and maintaining nutrient cycling in soils. Sustainable use of goods and services from dryland ecosystems and the development of agroforestry systems can, therefore, contribute to poverty reduction, making the rural poor less vulnerable to the impacts of land degradation and climate change while also ensuring biodiversity conservation and sustainable use.

Desertification and the associated loss of vegetation cause biodiversity loss through habitat fragmentation, degradation and destruction and contribute to climate change through reducing carbon sequestration. Efforts to combat desertification by fostering sustainable land management practices have potential co-benefits for climate change adaptation, biodiversity conservation and sustainable use through protecting and restoring the productive potential in drylands. This is particularly important since many of those most vulnerable to climate change are poor people, with a high dependence on biodiversity-based livelihoods, living in sensitive dryland areas.

- Biodiversity loss and desertification, that is, land degradation in the drylands, are mutually reinforcing phenomena.
  - Land degradation in the drylands leads to biodiversity loss and vice versa
  - Action to save biodiversity improves the land. Actions to improve the land save biodiversity.
  - A 'stove-piped' approach to the implementation of the CBD and UNCCD limits the potentially realizable conservation benefits.
- Biodiversity conservation is valuable for food security, poverty eradication and adaptation to climate change at both the global and local levels. For the drylands populations, it is a necessity for each of these aspects as;
  - One in three crops under cultivation worldwide originate from drylands
  - Half the world's livestock is supported by drylands
  - Pastoralism contributes up to 80% of the GDP of countries such as Niger, Senegal and the Sudan
  - 800 million farmers depend on drylands cereals, legumes, vegetables and fruits for basic crops and basic food
  - Traditional plant varieties are the main food supply in drought periods
- The key conservation methods of these conventions are beneficial to:
  - Sustainable land management practices, which enhance biodiversity conservation (UNCCD)
    - No-till agriculture (builds soil biodiversity)
    - Intensive livestock management
  - Equitable access and benefit-sharing (CBD)
    - Compensation to small holders can be a powerful conservation incentive
    - A system of fair and equitable benefit-sharing will support resource users in their efforts to conserve agrobiodiversity and thus contribute to the long-term preservation of biodiversity in drylands

KEY MESSAGES: Economics of ecosystem services and biodiversity, climate change and sustainable land management

Natural capital — our ecosystems, biodiversity and natural resources — underpins economies, societies and individual well-being. However, the values of ecosystem services and underlying biodiversity are all too often overlooked or poorly understood.

The Economics of Ecosystems and Biodiversity (TEEB) study calls for wider recognition of nature's contribution to human livelihoods, health, security and culture by decision-makers at all levels (local to national and business to citizens). It promotes the demonstration, and where appropriate, the capture of the economic values of nature's services through an array of policy instruments and mechanisms. The TEEB study concludes with the following recommendations:

1. Public disclosure of — and accountability for — impacts on nature should be essential outcomes of biodiversity assessment.

2. The present system of national accounts should be rapidly upgraded to include the value of changes in natural capital stocks and ecosystem service flows.

3. An urgent priority is to draw up consistent physical accounts for forest stocks and ecosystem services, both of which are required, for example, for the development of new forest carbon mechanisms and incentives.

4. The annual reports and accounts of business and other organizations should disclose all major externalities, including environmental damage affecting society and changes in natural assets not currently disclosed in the statutory accounts.

5. The principles of "No Net Loss" or "Net Positive Impact" should be considered as normal business practice, using robust biodiversity performance benchmarks and assurance processes to avoid and mitigate damage, together with pro-biodiversity investment to compensate for adverse impacts that cannot be avoided.

6. The principles of "polluter pays" and "full-cost-recovery" are powerful guidelines for the realignment of incentive structures and fiscal reform. In some contexts, the principle of "beneficiary pays" can be invoked to support new positive incentives such as payments for ecosystem services, tax breaks and other fiscal transfers that aim to encourage private and public sector actors to provide ecosystem services.

7. Governments should aim for full disclosure of subsidies, measuring and reporting them annually in order that their perverse components may be recognized, tracked and eventually phased out.

8. The establishment of comprehensive, representative, effective and equitably managed systems of national and regional protected areas should be pursued (especially in the high-seas) in order to conserve biodiversity and maintain a wide range of ecosystem services. Ecosystem valuation can help to justify protected areas policy, identify funding and investment opportunities, and inform conservation priorities.

9. Ecosystem conservation and restoration should be regarded as a viable investment option in support of climate change mitigation and adaptation. Within the UNFCCC process, REDD-plus should be prioritized for accelerated implementation, beginning with pilot projects and efforts to strengthen capacity in developing countries to help them establish credible systems of monitoring and verification that will allow for the full deployment of the instrument.

10. Human dependence on ecosystem services and particularly their role as a lifeline for many poor households needs to be more fully integrated into policy. This applies both to targeting development interventions as well as to evaluating the social impacts of policies that affect the environment.

KEY MESSAGES: Ecosystem-based approaches for adaptation

- Ecosystem-based approaches for adaptation, which integrate the use of biodiversity and ecosystem services into an overall adaptation strategy, can be cost-effective and generate environmental, social, economic and cultural co-benefits contributing to sustainable development and the objectives of all three Rio conventions.
- Ecosystem-based approaches for adaptation to climate change are strengthened by using the principles of the ecosystem approach. They can be widely applicable because they:
    - can be applied at regional, national and local levels, at both project and programmatic levels, and benefits can be realized over short and long time scales.
    - may be more cost-effective and more accessible to rural or poor communities than measures based on hard infrastructure and engineering.
    - can facilitate the integration and maintaining of traditional and local knowledge and cultural values.
- Ecosystem-based approaches for adaptation recognize that the loss of biodiversity directly influences ecological functions that support human life. Ecosystem-based approaches for adaptation by necessity will need to address the negative, cumulative effects of past interventions on natural ecosystems.
- Vulnerability assessments of ecosystem services are an important element of understanding comprehensively the impacts of climate change and the potential options for proposed ecosystem-based adaptation actions.
- Ecosystem-based approaches for adaptation should be integrated into broader adaptation strategies as well as in conservation strategies.
- As with all interventions, a monitoring strategy is essential for ecosystem-based approaches for adaptation.
- Ecosystem-based approaches for adaptation can easily be associated with disaster risk reduction.
- Social participation is an essential structural basis on which ecosystem-based approaches for adaptation is built and allows for consideration of the relevant cultural aspects of adaptation.
    - Ecological restoration with participation of local communities is a relevant adaptation measure within the scope of ecosystem-based approaches for adaptation.
- Community networking is a key part of effective ecosystem-based approaches for adaptation as are appropriate institutional and governance arrangements.
- Ecosystem-based approaches for adaptation have limitations, which should be recognized. Uncertainty is one of the main constraints for adaptation in general, however ecosystem-based approaches have the potential for additional social, economic and environmental benefits, including mitigation, which make them clear no-regret measures
- Capacity-building requirements to implement ecosystem-based approaches for adaptation need to be identified and funded to ensure the effective and sustained implementation of such activities.
- Some lessons learned include recognizing the need to: consider non-climate drivers of biodiversity loss; ensure stakeholder participation; develop multi-partner approaches to develop adaptation strategies, build upon existing good practices in natural resource management and adopt adaptive management approaches.

KEY MESSAGES: Promoting synergies for sustainable development and poverty reduction

Biodiversity loss has serious implications for our fight against poverty, including accelerating and sustaining progress on the Millennium Development Goals and beyond. Biodiversity is the variety of life on Earth in all its forms. Protecting that life means managing our own behaviour. There can be no second chance to get this right; extinction is irreversible.

The poor depend on biodiversity for their subsistence and livelihoods. When trees are cut down, women and girls in nearby communities have to walk for miles to collect essential firewood, food and water – that means they cannot spend that time going to school or generating income.

Meeting biodiversity financing needs

Given these enormous challenges, additional financing above and beyond existing overseas development assistance (ODA) and government budgets is needed to support developing countries to reverse biodiversity loss. It has been estimated that up to US$ 50 billion per year will be needed if considerable progress is to be made. By comparison, ODA allocations for biodiversity management currently amount to only US$ 2 billion. There is a large financing gap that needs to be closed if the world is to successfully combat biodiversity loss.

Three approaches could help developing countries bridge this gap. First, we must make the invisible visible — meaning we recognize the full economic value of our dwindling biodiversity. Second, we have to build biodiversity into the foundations of all development policy. And third, countries need the capacity to tap into innovative financing solutions to bridge the finance gap.

Making the invisible "visible." This means that every country needs to recognize the full economic value of biodiversity. If not, biodiversity will continue to lose out in the allocation of national budgets and development cooperation funds.

Mainstreaming biodiversity into policy of key sectors. Decades of development experience teach us that it is important to mainstream biodiversity into the policy, planning and financing frameworks of key sectors, for example water, health, and agriculture. A look at the development plans in six African countries shows that the water and health sectors receive high budget allocations. However, sector planners do not automatically make the link between functioning ecosystems and improved health and clean water. As a result, investments are not geared towards safeguarding the ecosystem services that provide for health and clean water. Such development is not sustainable. If it's not sustainable, it's not development. The new generation of national biodiversity strategies and action plans will help countries to reconcile biodiversity and development as will national action plans, national climate change adaptation and mitigation plans.

Tapping into innovative financing solutions. Countries need to identify, combine and sequence different sources of funds to meet their biodiversity financing needs. There is a need for increased development assistance to meet the funding gap. Innovative financing and market mechanisms, such as the carbon markets, biodiversity offsets and payments for ecosystem services, offer promising opportunities for complementing domestic budgets and ODA.

New policies and capacities are needed to realize the potential of such financing mechanisms, especially in developing countries. While it will take time and funding to put these in place, it is essential that we do so if we are to leverage funds on the scale needed to address biodiversity loss and move towards a sustainable model of development.

KEY MESSAGES: Linking biodiversity, climate change and sustainable land management — moving towards Rio+20

Moving forward, we need to turn challenges into opportunities and find ways to enhance investment in ecosystem-based approaches to climate change that also address biodiversity loss and land degradation/desertification. We need to improve the way we communicate about these opportunities to other sectors. And we need to build partnerships to involve and engage people at all levels and in many sectors.

Enhanced cooperation at the national level will help to promote actions needed to move ahead towards the achievement of the Millennium Development Goals and the mutually supportive and reinforcing objectives of the Rio conventions in a manner that is coordinated, cost effective and efficient.

The implementation of ecosystem-based approaches for adaptation and mitigation and the integration of biodiversity and sustainable land management considerations into relevant climate change adaptation and mitigation plans and strategies will require enhanced cooperation and increased linkages at the national level between the different biodiversity, land management and climate change actors, including the key stakeholders under the three Rio conventions, while taking into account their different mandates and priorities.

Many best practice examples of mechanisms to promote linkages at the national and local level are available, including the establishment of national committees consisting of focal points to the three Rio conventions, the development of common pools of experts and communities of practice, the integrated management of funding to address biodiversity and climate change, and the integration of climate change and biodiversity elements within national biodiversity strategies and action plans and national adaptation plans and programmes.

At the international level, a joint work programme between the UNCCD and CBD is already in place and ongoing efforts towards harmonized reporting and planning, including the UNCCD Inter-agency Task Force on Harmonized Reporting, are improving information management and identifying opportunities for the achievement of multiple benefits. Knowledge and information on the impacts of climate change and climate change response measures on biodiversity and land management is also improving although some gaps remain, especially in developing countries.

Complex interlinked challenges such as biodiversity loss, climate change, desertification and poverty cannot be dealt with in isolation. Postponing action to reverse the environmental trends that are undermining the very basis of human civilisation and economies will inevitably lead to a dead end. Swift integrated, holistic approaches are key. This implies solidarity amongst the nations and strong political will to make the right changes in the time available. Ongoing and future policy reviews and policy development including the harmonization and mainstreaming of national planning mechanisms under the three Rio conventions should be seized as opportunities towards better integration and necessary finance mobilisation.

Rio Conventions' Ecosystems and Climate Change Pavilion

The Rio Conventions' Ecosystems and Climate Change Pavilion is a collaborative outreach activity involving the Rio Convention secretariats, with the Global Environment Facility and other important partners. The CBD's LifeWeb is also playing a key role.

Launched during the International Year of Biodiversity, the Ecosystems Pavilion is a platform for raising awareness and sharing information about the latest practices and scientific findings on the co-benefits that can be realized through implementation of the three Rio Conventions. It is an example of enhanced collaboration, as mandated by the UN General Assembly in its resolution 64/203 of 14 December 2009.

Through highlighting a number of specific themes and cross-cutting issues relevant to the three Rio Conventions and their common objective to support sustainable development and the achievement of the Millennium Development Goals (MDGs), the Pavilion demonstrates the challenges and opportunities for biodiversity and land managers due to the unavoidable and projected adverse impacts of climate change.

The Pavilion, a reflection of the importance being placed by the Rio Conventions' secretariats and numerous international organisations on promoting linkages to maximize co-benefits and minimize negative interactions between these three critical environmental, social and economic issues, was convened in 2010 at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP 10) (18-29 October, 2010) in Nagoya, Japan, and will be convened in 'virtual' format at the UNFCCC COP 16/CMP 6 in Cancun, Mexico (29 November – 10 December, 2010).

In 2011, the Pavilion will be convened at the UNCCD COP 10 in Changwon, Republic of Korea (10-21 October, 2011) and the UNFCCC COP 17 in South Africa (December 2011). The Pavilion partners hope to also extend the momentum of these collaborative initiatives to the UN Conference on Sustainable Development in Brazil in May 2012.