European Commission

Life, lives, livelihoods

The European Commission's work on biodiversity and development

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Biodiversity and development

Fishermen at Tiwi coast, Kenya - Detail of cover

Foreword

Andris Piebalgs

Janez Potočnik

Biodiversity is crucial for the sustainable production of food, fish, fuel, fibre and medicines. These products are especially important for the rural poor in our partner countries. 70% of the world's poor live in rural areas and depend directly on biological diversity for their livelihoods. For this reason the European Union, has shown on-going leadership in encouraging partner countries in their efforts to value the potential of their biodiversity and to cherish their precious natural resources.

For many developing countries, their rich natural resources offer huge potential in terms of growth which can help them to improve the lives of millions of people. The EU's aim is to support partner countries to find synergies between preserving limited natural resources, including biodiversity, and overcoming poverty through investment in natural capital.. The European Commission has invested more than EUR 1 billion in biodiversity-related projects since 2002.

Halting the loss of nature and biodiversity requires broad commitment by nations, businesses and individual stakeholders. The European Union took an ambitious commitment in this area with its new Biodiversity Strategy 2020, announced in May 2011. The strategy aims to stop or reverse the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, restoring them and speeding up the transition towards a resource efficient and green economy.

The EU recognises that the link between ecosystems and employment, income and livelihoods in partner countries is even stronger than in developed countries. As emphasised in the new EU policy framework, the Agenda for Change, development is not sustainable if it damages the environment, biodiversity or natural resources. EU development policy therefore has a key role to play in promoting a green economy that can generate growth, create jobs and help reduce poverty.

This brochure contains detailed information on EU-funded work with developing countries on biodiversity conservation and restoration. It provides both decision-makers and the general public with relevant, reliable information on the EU's current policies, tools and practical examples in our partner countries.

This publication also provides readers with ideas on how to link their day-to-day activities with preserving biodiversity and ecosystem services. Biodiversity preservation is everybody's business and our children and our grandchildren expect us to get it right.

Andris Piebalgs
European Commissioner
for Development

Janez Potočnik
European Commissioner
for Environment

Biodiversity, life on Earth

Aerial view of the Okavango Delta, Botswana

Biodiversity is the variety of all living organisms, their habitats, their interactions. Biodiversity provides food, fiber and medicine, forms the soil, maintains and regulates the air quality, climate, and water supply, and locates many of our prized cultural and aesthetic values. For these reasons maintaining biodiversity is crucial to the world-wide reduction of poverty. Ecosystem services are critical for achieving the Millennium Development Goals (MDGs) as well as for ensuring sustainable development and human security and for the livelihoods of people in all parts of the world.

But global biodiversity and ecosystem services are everywhere under threat, with the current species extinction rate being between 1,000 and 10,000 times higher than it would naturally be. And ecosystems are costly if not impossible to restore, once degraded. The welfare loss of ecosystem services from land-based ecosystems alone is around EUR 50 billion a year under a business-as-usual scenario.

Biodiversity loss is due to changes in land use such as converting forests to agricultural development, roads and infrastructure construction, the unsustainable use of natural resources, such as large-scale mono-cropping and overfishing, invasive alien species, environmental pollution and climate change. Inadequate governance systems lead to ineffective or incoherent policies and unclear and insecure land tenure rights. International and national economic systems do not place sufficient value on biodiversity and ecosystem goods and services, and this contributes to the continuing loss of biodiversity and the degradation of ecosystems. Biodiversity and development are closely linked. Biodiversity sustains development, and development impacts biodiversity. Robust and protected biodiversity and ecosystems support livelihoods, enhance food security and nutrition, enable access to water, and to health, and contribute significant climate change mitigation and adaptation benefits.

Sustainable development cannot be achieved if the world's biodiversity is compromised by our international development efforts. And since the poor are particularly dependent on the goods and services supplied by biodiversity, development strategies which ignore biodiversity protection undermine our efforts to alleviate poverty and are counterproductive.

Biodiversity loss is therefore one of our most pressing challenges, but it also provides a major opportunity for green development. Our enhanced appreciation of the value of biodiversity and ecosystems implies that investing in nature can make good economic sense. Economic incentives to support the financing of conservation will have a significant role in the greening of the world economy, as governments, companies, and individuals increasingly come to recognize that such investments are critical for their well-being and survival.

This brochure provides an overview of the European Commission's support to developing countries as they strive to meet the objectives of the Convention on Biological Diversity and play their parts in averting further loss of global biodiversity.

Sustainable development cannot be achieved if the world's biodiversity is compromised by our international development efforts

Aboriginal woman making baskets. Project for the Conservation and sustainable development of the bio-geography of Chocó, Colombia

The European Union and biodiversity: global commitments

Rainforest Sumatra, Indonesia

In 2010 at the Convention for Biological Diversity10th summit in Nagoya, Japan, the European Union and all other parties agreed on a new global Strategic Plan for biodiversity, including 20 targets to be achieved by 2020, known as the Aichi targets. The targets aim to address the underlying causes of biodiversity loss, to reduce pressures on biodiversity, to safeguard biodiversity, to enhance the benefits provided by biodiversity and to improve capacity.

The nations of the world also adopted the Access and Benefit Sharing Protocol, an internationally binding regulation for access to genetic resources and for the fair and equitable sharing of the benefits. So the international community now has an effective instrument to prevent bio-piracy, with a reliable framework for the fair use of genetic resources.

Parties also agreed on a decision on the Resource Mobilization Strategy that stresses the importance of mainstreaming biodiversity in national strategies for sustainable development and poverty reduction. Biodiversity is now a mainstream element in the plans of development banks, agencies and policy institutions. Parties committed themselves to substantially increase resources (financial, human and technical) from all sources, including innovative financial mechanisms, against an established baseline. This plan also provides for a substantial increase in levels of Official Development Assistance to support biodiversity.

Building upon Nagoya's outcomes, the European Union announced in May 2011 its new Biodiversity Strategy to 2020. This aims at halting or reversing the loss of biodiversity and the degradation of ecosystem services in the European Union by 2020, restoring them, and speeding up the European Union's transition towards a resource efficient and green economy. The strategy also includes a global dimension and steps up the European Union's contribution to averting global biodiversity loss.

Biodiversity is now a mainstream element in the plans of development banks, agencies and policy institutions

Our life insurance, our natural capital: a European Union biodiversity strategy to 2020

The European Commission has adopted a new strategy to protect and improve the state of biodiversity over the next decade. The strategy includes six targets to address the main drivers of biodiversity loss, which will reduce the main pressures on nature and ecosystem services in the European Union and abroad:

Target 1: Fully implementat European Union nature legislation;
Target 2: Maintain and restore ecosystems and their services;
Target 3: Increase the contribution of agriculture and forestry to maintaining and enhancing biodiversity;
Target 4: Ensure the sustainable use of fisheries resources;
Target 5: Combat invasive alien species;
Target 6: Help avert global biodiversity loss.

For Target 6, the European Union commits to stepping up its contribution to averting global biodiversity loss with developing countries by:

1) Reducing indirect drivers of biodiversity loss, such as harmful subsidies, impacts of European Union consumption patterns, potential impacts resulting from the liberalization of trade and investments;
2) Mobilizing additional resources for global biodiversity conservation;
3) Biodiversity proofing European Union development cooperation;
4) Regulating access to genetic resources and the fair sharing of benefits arising from their use.

See: http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_ACT_part1_v7[1].pdf

The European Commission helps local populations dependent on ecosystems to define actions to manage their biological resources in a sustainable way

The European Commission's actions on international commitments

The European Commission helps local populations dependent on ecosystems to define actions to manage their biological resources in a sustainable way. It supports and develops income-generating activities that encourage the sustainable use of biodiversity, complementing other financing sources. The European Commission operates with two strategic and operational approaches:

Saving habitats for sustainable use
The European Commission promotes actions to ensure that ecosystems are used sustainably. It provides long-standing support to numerous national parks and protected areas, mostly in Africa, by increasing capacities for management and finance, for monitoring and evaluation, and for the promotion of income generating activities compatible with conservation.

Mainstreaming biodiversity in all sectors of development
The European Commission, in dialogue with recipient countries and partners, seeks to integrate biodiversity and ecosystem services into every sector of development cooperation. The conservation of ecosystems is mainstreamed in the forestry sector, in climate change projects, in rural development and in marine resources management. The European Commission has also developed a set of risk and impact assessment tools in order to "biodiversity proof" every step of its cycle of operations and to improve the ecological performance of its actions.

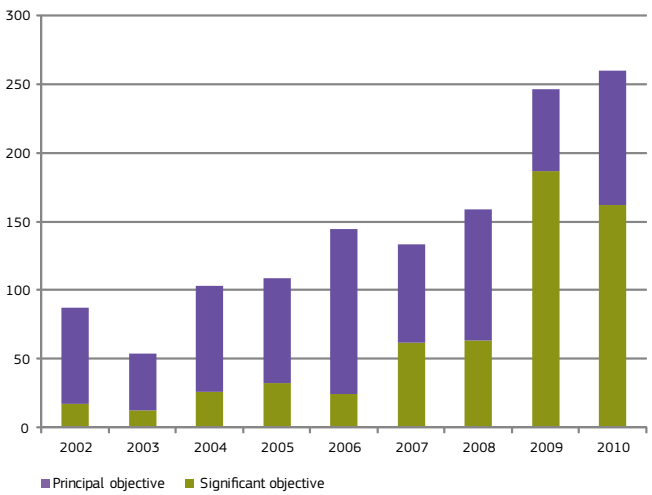
Talking numbers

The European Union is the largest contributor of biodiversity finance to developing countries. In 2006-2010 the European Union and its member States committed around EUR 1.7 billion each year for biodiversity-related aid, representing 53% of total Official Development Assistance for biodiversity from all bilateral donors and multilateral organisations reporting to the OECD. The volume of European Union assistance related to biodiversity increased by over 130% during this period, from EUR 1.3 billion in 2006 to EUR 3 billion in 2010.

http://ec.europa.eu/europeaid/what/development-policies/financing_for_development/accountability_report_2012_en.htm

European Commission commitments on biodiversity related actions per year (Million Euros, 2002-2010)

The European Commission alone has provided official aid funds for biodiversity related interventions of around EUR 1.3 billion since 2002. Its contribution to biodiversity increased from EUR 50 million per year in 2003 to more than EUR 250 million per year in 2009 - 2010. The contribution to projects where biodiversity conservation was the principal objective (Rio Marker 2) has been fairly constant over the last 10 years, representing EUR 80 million per year on average. The contribution to projects where ecosystem conservation was a secondary objective (Rio Marker 1) increased from EUR 20 million in 2002 to more than EUR 150 million in 2009 - 2010. This can be explained by the significant increase in climate and forestry projects with co-benefits for biodiversity in recent years, and illustrates the efforts of the European Commission to mainstream biodiversity conservation in other sectors of activity.

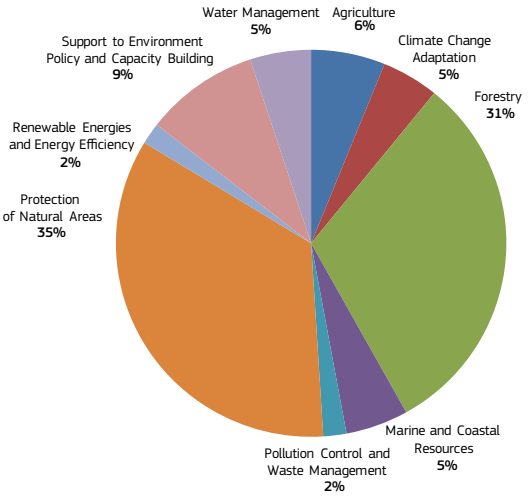


European Commission funding for biodiversity per sector for the period 2002-2010

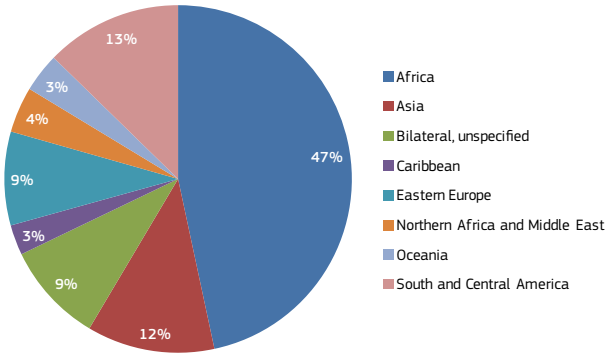
Rio Markers for biodiversity financing

To avoid overestimating its financial contribution the European Commission applies a fixed adjustment factor to account for activities that are only partially relevant to the objectives of the CBD. Only 40% of the allocated budget is accounted if biodiversity conservation is only a significant objective (Rio Marker 1) whereas 100% is accounted if biodiversity is a principal objective (Rio Marker 2).

The largest share of the European Commission investments in biodiversity is in support to protected areas, representing 35% of the biodiversity contribution. This includes projects to strengthen local capacities to maintain and value protected areas, to promote income generating activities in the protected areas and their buffer zones and to support scientific monitoring. The second most significant type of biodiversity related activity is support to the sustainable management of forests, representing 31% of the total European Commission biodiversity finance. This involves efforts to elaborate forest sustainable management plans, to address forest governance issues, to combat illegal logging and to design strategies to mitigate climate change through the prevention of deforestation. The European Commission support to environment policies, such as the contribution to Multilateral Environmental Agreements and the biodiversity mainstreaming projects, represents 9% of the total biodiversity finance. Biodiversity activities are also integrated in several other sectors such as agriculture (6% of the biodiversity finance), marine resources management (5%) and water management (5%).



European Commission funding for biodiversity per region for the period 2007-2010



The European Commission supports biodiversity related activities in developing countries all over the world and in particular where ecosystems are the richest and the most threatened. Countries in Africa, and in particular in Central Africa, are the European Commission's principal partners, receiving 47% of the European Commission funding. This reflects the European Commission's long-standing support for major protected areas in the area. However, significant financing support is also delivered to other biodiversity rich regions in South America (13% of the biodiversity finance), Asia (12%), Eastern Europe (9%), Northern Africa and Middle East (4%), Caribbean (3%) and Oceania (3%).

The European Commission has developed an interactive world map which provides user-friendly access to the Commission activities in biodiversity at country and sector levels.
See: http://ec.europa.eu/europeaid/biodiversity-actions

Saving habitats: safe investment for sustainable use

Zakouma National Park, Chad

Support to protected areas

Protected areas are the cornerstone of the European Union's global strategy for the protection of nature and wildlife. They are often epicentres for sustaining the ecosystem services on which communities depend for their livelihoods, clean water, food and fibre, genetic resources for research and agents for mitigating and adapting to climate change. Protected areas are not just important for preserving biological diversity, they are also important economic assets. They are a source of formal employment in management, tourism and associated private enterprises, not only inside the protected areas but also in their buffer zones and neighbouring areas.

COP 10 in Nagoya set ambitious new targets to be reached by 2020 for at least 17% of terrestrial and inland water and 10% of coastal and marine areas to be protected, but governments often have only limited capacities to establish, finance and manage protected areas. Many parks are not being properly managed, or are in irreversible ecological decline with little realised economic benefit. So for many years, the European Commission has been financing a wide variety of actions to support the development and sustainable management of protected areas and their neighbouring landscapes.

European Commission funded activities support the strengthening of local capacities to maintain protected areas, including buffer zones and biological corridors, the construction of access roads, ecotourism lodges, parks headquarters, training for managers, and research and scientific monitoring.

The projects funded promote income generating activities compatible with sustainable resources management, such as ecotourism, sustainable agriculture, fishing and livestock production, exploitation of the pharmacopoeia, honey production, non-timber products, and other green production. The central strategy is always to ensure that local populations are involved in the management of resources and receive benefits from them inside and outside the protected areas.

The central strategy is always to ensure that local populations are involved

Protected areas: three examples

The MIKE (Monitoring the Illegal Killing of Elephants) project provides information needed for elephant range states to take appropriate management and enforcement decisions and to build institutional capacity for the long-term management of their elephant populations.

The BEST (Biodiversity and Ecosystem Services in Territories of European Overseas) scheme supports conservation actions in the European Union overseas entities. This initiative promotes the conservation and sustainable use of biodiversity and ecosystem services, including ecosystem-based approaches to climate change adaptation and mitigation, through the provision of small grants to local stakeholders.

In 2012 the European Commission launched a Call for Proposals to develop frameworks for the sustainable financing of protected areas in Least Developed Countries.

Elephants, Kenya

Coral reef coast, French Polynesia

Protected area Odzala, Congo

ECOFAC: Programme for Conservation and Rational Utilization of Forest Ecosystems in Central Africa

Aerial view of African elephants, in Zakouma National Park, Chad

Central Africa is home to the second largest area of tropical forest on earth after that of the Amazon. The riches of its unparalleled biodiversity remain largely unexplored. The forest is a vital resource for the people who live in and around it. Exploited rationally, it can be a real vector for development. ECOFAC has been sponsored by the European Commission since 1992 in a total investment of EUR 120 million. ECOFAC supports sixteen major protected areas in seven countries (Congo, Cameroon, Central African Republic, Equatorial Guinea, Gabon, Chad and Sao Tome and Principe) with a combined population of 20 million, growing by 3.2% yearly. Tropical rainforest stretches over about 670,000 km2 of these countries' territory but this area is declining at a rate of almost 1% a year.

The Odzala-Koukoua National Park, one example of park supported by ECOFAC, is one of the most important strongholds for elephant and western gorilla conservation remaining in Central Africa and is arguably one of the most spectacular wilderness areas in the world. The programme combines two basic and complementary principles, conservation and development, and fully involves the forest dwellers in its activities. It supports the sustainable management of 180000 Km^2 of forests in protected areas, and ecosystem management techniques have been promoted and forest data collected to allow rapid management decisions. Reconnaissance surveys and biological inventories have been carried out in the seven countries, infrastructure has been repaired, and eco-tourism activities have been promoted as sources of revenue. Alternatives to hunting have been supported by training people in carpentry, brick making, and new farming techniques.

See http://www.rapac.org

BIOPAMA: Boosting capacity for protected areas in Africa, the Caribbean and the Pacific

The BIOPAMA program aims at improving the long-term conservation of biodiversity in Africa, the Caribbean and the Pacific regions and at reducing the poverty of populations surrounding protected areas. The objective of the project is to improve planning and management by enhancing existing institutions and networks, and by building their capacity to strengthen policy and implement well-informed decisions on biodiversity conservation, protected areas management and Access and Benefit Sharing.

Jointly implemented by the IUCN, the European Commission Joint Research Centre and GIZ, the programme aims to establish Regional Observatories as platforms for exchanging knowledge between local, national, regional and global experts and institutions.

Eco-guards patrolling Odzala National Park by boat in Congo

Climbing beans increased yields and conserved ecosystems in Uganda

Innovative approaches to biodiversity conservation

The European Commission funds a number of conservation projects with innovative approaches for the preservation of ecosystems and their services. An increasing number of projects aims at leveraging development funding and applying new financial mechanisms, such as Payment for Ecosystem Services, Markets for Green Products, Public Private Partnerships, and Access Benefit Sharing.

In order for economic incentives to be effective the European Commission supports the principle that those who live with biodiversity, and whose behaviour influences the conservation or destruction of biodiversity, shall always receive part of the compensation or benefit arising from development support.

Payment for Ecosystem Services

Marketing ecosystem services is a successful way of attracting financial resources, by making conservation a more competitive kind of land use.

The European Commission finances several projects supporting Payment for Ecosystem Services, with the guiding principle of providing funding for maintaining and enhancing ecosystems and their services for the benefit of the local communities.

Payment for ecosystem services: three examples

In Colombia, the project Environmental Governance to Prevent Deforestation and Promote Forest Conservation of the Colombian Amazon contributes to the sustainable financing of protected areas and their economic benefits. The project strengthens the indigenous authorities' role in the management of systems, ensuring a fair system of payments for their contribution to the maintenance of key ecosystem services.

In Ethiopia, a project supports policy development to secure forest rights for communities, and promotes the integrated development of non-timber forest products, local participatory forest management, forest-based economic activities and explores the potential role for carbon credit payments as an incentive for sustainable forest management.

In the Guyana Shield eco-region a project is testing ways of compensating people for providing environmental services, and is developing culturally appropriate ecosystem management contracts, benefit-sharing mechanisms and monitoring schemes.

Colombian forest

Ethiopian farmer in a seedling nursery

Aboriginal child from the Guyana Shield

Virunga National Park. View of the Virunga volcano and local farming

Public Private Partnerships

In the last ten years a number of Public Private Partnerships have been supported by the European Commission. Some governments have recognized their limited ability to finance and manage their parks and have delegated the management of protected areas to private agencies or NGOs.

A management mandate from the Government enables the private partner to establish the necessary mechanisms for managing the park sustainably.

The private partner optimises the income generating potential of the park and is sometimes able to mobilise large amounts of private funding from a number of institutions and individuals through fund leveraging, tourism activities and charities.

Access and Benefit Sharing

The Nagoya Protocol on Access Benefit Sharing aims at sharing the benefits arising from the utilization of genetic resources, including fair access to genetic resources, the appropriate transfer of relevant technologies, and appropriate funding. The European Commission supports this innovative approach through a number of initiatives.

Example: a joint project

A joint European Commission-GIZ project aims to improve the capacities of stakeholders to participate in the negotiations of the international Access and Benefit Sharing (ABS) regime, to develop and improve ABS conditions at the national level and to create flagship projects and best practices for ABS implementation.

Public Private Partnerships: two agreements

An agreement was concluded between the government of Chad and the African Parks Network for the long-term management of the Zakhouma National Park, with a particular focus on curbing elephant poaching which has decimated the herd from 4000 animals to just 550 in the last 10 years.

An agreement was concluded between the Congolese Wildlife Authority and the African Conservation Fund to manage the Virunga National Park and to raise global awareness of the conservation of its Gorilla populations. The Fund is related to Wildlife Direct, an innovative internet-based fundraising initiative that allows numerous small donors to commit to conservation efforts and helps to secure funds for improvements to the Park's wildlife protection systems and infrastructure.

Curbing elephant pouching

Silver Back Gorilla, inhabitant of Virunga National Park

CEPF: Protecting Nature's Hotspots for people and prosperity

Founded in 2000, the Critical Ecosystem Partnership Fund is a global leader in enabling civil society to participate in and benefit from conserving some of the world's most critical ecosystems.

The fund provides small grants for nongovernmental and private sector organizations to help protect biodiversity hotspots in developing countries, Earth's most biologically rich yet threatened areas. The convergence of critical areas for conservation with millions of people who are impoverished and highly dependent on healthy ecosystems for their survival is more evident in the hotspots than anywhere else. Enabling a stronger voice, influence and action by civil societies is the hallmark of the fund's approach.

Grant recipients range from small farming cooperatives and community associations to private sector partners and international organizations, in order to build vital constituencies for conservation alongside governmental partners and to create working alliances among diverse groups, combining unique capacities and eliminating the duplication of efforts.

The Fund is a joint program of l'Agence Française de Développement, Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation, the World Bank and the European Commission.

See http://www.cepf.net

Silk production is one of the activities of the Dolphin Foundation in Manas, India. Supported by CEPF

Those who live with biodiversity shall always receive part of the benefit arising from development assistance

Mainstreaming biodiversity in all sectors of development

Grazing land, Changtang, China

Non–conservation sectors do not always understand the impacts of biodiversity loss on livelihoods and economies. It is crucial to raise the awareness of policy makers, administrators and technical staff in the energy, agriculture, irrigation, mining, financial, tourism and infrastructure sectors on the links between biodiversity conservation, economic development and the eradication of poverty.

Accordingly the European Commission supports mainstreaming biodiversity into all aspects of development cooperation. Partner countries are supported in their efforts to integrate biodiversity and ecosystem services into all development policies, sector plans and budget processes. The European Commission aims to strengthen civil society, in particular local communities and indigenous peoples, to build a broad domestic constituency for the integration of biodiversity into all aspects of development.

Biodiversity and climate change: eco-system based adaptation and mitigation

Biodiversity and climate change challenges are interconnected. Climate change has a direct impact on biodiversity and ecosystems, and often exacerbates other existing pressures such as pollution, over-exploitation, invasive species and habitat fragmentation.

The Intergovernmental Panel on Climate Change has concluded that 20 % to 30 % of species assessed may be at risk of extinction from climate change impacts this century if global temperatures increase by 2-3 °C. Therefore tackling climate change has direct benefits for biodiversity conservation. In turn, conserving nature reduces the vulnerabilities of people and their livelihoods to the impacts of climate change.

Tackling climate change has direct benefits for biodiversity conservation

Restoration of mangroves, Senegal

Healthy, resilient ecosystems have a greater potential to mitigate and adapt to climate change.

Healthy, resilient ecosystems have a greater potential to mitigate and adapt to climate change. Coastal ecosystems such as wetlands, mangroves, coral reefs, and barrier beaches provide natural shoreline protection from storms and flooding, and by working with nature and restoring ecosystems the vulnerability of livelihoods to climate change can be significantly reduced.

The European Commission promotes ecosystem-based approaches, a positive way to contribute to climate change mitigation and adaptation through the conservation or restoration of biodiversity.

These approaches preserve carbon stocks, maintain and increase resilience, reduce the vulnerability of ecosystems and people, help communities to adapt to climate change impacts, regulate water flow and storage, improve biodiversity conservation and livelihood opportunities and provide health and recreational benefits. They are cost-effective and accessible to rural and poor communities.

The European Union and its Members States are the largest contributor of climate finance flows to developing countries. The European Commission alone has provided funding for climate change related interventions of around EUR 3.3 billion since 2002, with direct co-benefits for the conservation of biodiversity.

The Global Climate Change Alliance, the main tool of the European Commission for climate change adaptation, supports many projects applying eco-system-based approaches.

Conserving nature reduces the vulnerabilities of people and their livelihoods to climate change

Two examples

Small Island Developing States: a joint project with UNEP, UNDP and IUCN aims to strengthen the resilience of coral reefs and associated ecosystems, and of the coastal communities that depend upon them, by promoting ecosystem-based adaptation policies and actions. The programme supports site-specific vulnerability and impact assessments of coral reefs and associated ecosystems and promotes capacity-building for ecosystem-based adaptation planning and decision-making.

Vulnerability assessment Small Island Developing States

The Clima East programme, implemented in the eastern neighbouring countries of the European Union, aims to increase the focus on national climate change policies and to improve information access to European Union climate change policies and expertise. This project uses ecosystem-based approaches to support permafrost and boreal forest protection, peatland rehabilitation, and improved pasture management in selected pilot regions.

Boreal forest

Global Climate Change Alliance: Providing innovative and effective approaches to address climate change

The Alliance provides technical and financial support to developing countries to integrate climate change into their development policies and budgets and to implement adaptation and mitigation interventions. From 2008 to 2011 the GCCA has committed and engaged over EUR 200 million in support of 31 programmes across the world in LDCs and SIDS. The GCCA promotes innovative and effective approaches to address climate change in areas like climate change mainstreaming, disaster risk reduction, adaptation, and in climate sensitive sectors like agriculture, forestry, land and water, and coastal zone management.

Planting mangrove seedling

GCCA supports several projects applying ecosystem-based adaptation strategies. In Senegal, Gambia and Guyana, three projects promote sustainable coastal zone protection, notably through mangrove management. In Tanzania, a GCCA project aims to facilitate the transformation of rural communities into eco-villages, where innovative climate change adaptation and mitigation measures are tested in agriculture and food security, forestry and sustainable natural resource management. Activities include agroforestry, afforestation and reforestation, and the promotion of alternative farming systems including the use of adaptive species and conservation agriculture.

See *http://www.gcca.eu*

Future of Reefs in a Changing Environment: an ecosystem approach to managing Caribbean coral reefs in the face of climate change

Climate change already impacts coral reefs and will cause irreparable damage in our lifetimes, putting at risk the livelihoods of half a billion people worldwide that depend directly or indirectly on the ocean ecosystems. International cooperation is needed to address the threats to coral reefs, underscoring its importance in marine biodiversity conservation, livelihood and food security.

Coral Reef

The FORCE project is an integrated research project funded by the European Commission which applies an ecosystem approach, linking social and ecological aspects, to the management of Caribbean coral reefs in the face of climate change. The scientific objective of FORCE is to identify the most appropriate management interventions for coral reefs and the governance structures needed for their implementation. The project involves 20 partners from 10 countries from Europe and the Caribbean.

See *http://www.force-project.eu*

Rubber extraction, forest under sustainable management

Biodiversity and forest management

Forests represent some of the richest biological areas on Earth. They offer a variety of habitats for plants, animals and micro-organisms, and 70% of the world's known terrestrial biodiversity is found in forests, a large part of it yet to be discovered. Forest ecosystems are also a key part of the ecological infrastructure that supports human well-being, as over 350 million people living in poverty depend on forests for some part of their livelihoods or subsistence, and 60 million people, particularly indigenous people, depend wholly on forests.

Forest biodiversity is increasingly threatened as a result of deforestation, forest degradation, fragmentation and other stresses, and about 13 million hectares of the world's forests are lost due to deforestation each year. These pressures affect the unique forests' biodiversity and lower the resilience of forest ecosystems, making them more vulnerable to changing environmental conditions like climate change.

The EU supports developing countries in their efforts to manage their forest resources sustainably and to address forest governance issues, to combat illegal logging and associated trade, and to design strategies to mitigate climate change. In 2003 the EU launched the FLEGT Action Plan to address illegal logging and associated trade. The EU also strongly supports and is actively contributing to, negotiations under the UNFCCC on actions to Reduce Emissions from Deforestation and forest Degradation. It has proposed that future climate agreements should aim to reduce gross tropical deforestation to at least 50% of current levels by 2020 and halt the global loss of forest cover by 2030. The European Commission supports the sustainable management of forests through several projects.

350 million people living in poverty depend on forests for some part of their livelihoods

Forests: two examples

A project in Brazil aims to contribute to conservation, territorial planning and shared governance in the Xingu River headwaters region, through support to protection networks, grassroots organizations and social movements participating in forest governance processes, and developing their contribution on municipal, state and federal public policies.

Debating the Belo Monte Hydroelectric Complex on the Xingu River

The Observatory for the Forests of Central Africa aims to pool knowledge and available data to monitor the ecological, environmental, and social aspects of Central Africa's forests. Data available to the public are used for biodiversity monitoring, climate modelling, natural resource management and land use planning. The loss of forest cover through deforestation or degradation is described.

Central Africa Forest

Forest Law Enforcement, Governance and Trade: a European Union response to illegal logging

The international timber trade is estimated to be worth some EUR 150 billion per year. Studies suggest that 20-40% of trade from tropical countries has been in illegally harvested timber. The European Union is one of the largest consumers of timber in the world, importing in 2007 the equivalent of 180 million m^3 of timber with a value of $40 billion. The European Commission's Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) was endorsed in 2003. This blends measures in producer and consumer countries to facilitate trade in legal timber, and to eliminate illegal timber from trade with the European Union. FLEGT offers support for timber producing countries' efforts to develop multilateral collaboration to tackle trade in illegal timber, support for private sector initiatives, as well as measures to avoid investment in activities that encourage illegal logging.

Sumatran Forest, Indonesia

The cornerstone of the Action Plan is the establishment of voluntary FLEGT Partnership Agreements (VPAs) between the European Union and timber producing countries aimed at stopping illegal logging. FLEGT VPAs are bilateral trade agreements to guarantee that the wood exported to the European Union is from legal sources and to support partner countries in improving their own regulation and governance of the sector. FLEGT VPAs have been concluded with Cameroon, Central African Republic, Ghana, Indonesia, Liberia and Republic of Congo, while negotiations are under way with Democratic Republic of Congo, Gabon, Malaysia and Vietnam. Within VPAs, Environmental Impact Assessments (EIA) and forest management plans are formally required before timber exploitation can start, and this includes an analysis of biodiversity hotspots, biodiversity challenges, and proposals for mitigating the effects of logging on biodiversity. Management plans generally include provisions to ensure that the forest is managed sustainably and that biodiversity is preserved. In some countries, anti-poaching measures and the development of alternative sources of food for populations are also encouraged.

REDD+ Reducing Emissions from Deforestation, forest Degradation, conservation, restoration and sustainable management of forests

Tropical deforestation is a major cause of biodiversity loss, but it also results in the release of carbon dioxide, a major cause of climate change. The IPCC estimated emissions from deforestation in the 1990s to be about 20% of annual global greenhouse gas emissions, so reducing and preventing deforestation is an important climate change mitigation option. In the last decade, international negotiations have resulted in new policy approaches and positive incentives mechanisms for reducing emissions from deforestation and forest degradation under REDD+. Several REDD+ projects have been developed in the voluntary carbon markets, despite methodological challenges related to monitoring, leakage, and the permanence of emission reductions. It has become clear that a REDD+ mechanism can deliver multiple benefits.

In addition to mitigating climate change, REDD+ has the potential to support enhanced rights and livelihoods of forest dwellers, maintain vital ecosystem services and preserve globally significant biodiversity hotspots. Discussions on the linkages between REDD+ and biodiversity conservation have increased and a number of research projects and policies are being developed around the issue. The European Commission supports the REDD+ mechanism and actively participates in its design and implementation. The European Commission supports a number of global and local initiatives to develop ways of ensuring that the REDD+ regime will not only provide credible and lasting climate benefits but also substantial non-carbon social and environmental benefits.

Carbon measurements in an area of tropical forest.

Biodiversity and rural development

Nearly one third of the world's land area is used for food production, and agriculture is one of the key motors of the global economy, being the source of foods, fibres and fuel. It provides livelihoods for almost 30% of the people worldwide and is critical to poverty alleviation. Biodiversity is crucial for successful agriculture, as farming relies on biodiversity for pollination, the creation of genetically diverse plant and crop varieties, natural insect and disease control, the maintenance of soil fertility and watershed regulation. But agriculture is also a major contributor to biodiversity loss. In many regions of the world the spread of agriculture has led to the loss of valued wildlife habitats, such as native grasslands, forests, peat lands and mangrove swamps. Population growth is responsible for an increasing demand for food and non-food crops, and as populations become wealthier, consumption patterns change and the demand for products which necessitate high surface areas, such as meat and milk products, rises accordingly.

The European Commission supports a number of projects towards a greener agriculture with sustainable practices and quality products. The major challenge is to secure and increase agricultural yields while at the same time conserving ecosystems and maintaining resources for those who rely on agriculture for their livelihoods. The key lies in the implementation of sustainable agriculture integrating economic profitability, environment protection and social equity.

Projects funded promote sustainable agriculture practices, including the efficient use of water, extensive use of organic and natural soil nutrients, optimal cultivation and tillage techniques, integrated pest control, the development of green or ecologically certified products and the promotion of eco-tourism. Greening agriculture in developing countries, and concentrating on smallholders in particular, is the most effective way to improve food security, to increase carbon sequestration, and to minimise climate change risks, while preserving biodiversity.

Greening agriculture is the most effective way to improve food security

Rural development: three examples

The CAFNET programme, Connecting Environmental Services and Market Values of Coffee Agroforestry, implemented in major coffee agro-forest regions in Central America, East Africa and India, aims to link sustainable management and the environmental benefits of coffee agro-forests with appropriate remuneration for producers through providing a better access to markets and payment for environmental services. This involves finding ways to improve livelihoods for coffee farming communities while at the same time conserving natural resources.

A project in Brazil promotes the organic production of cacao through the development of farmers' cooperatives. The use of certification schemes for sustainable production practices results in biodiversity and ecosystem gains as well as profitable business opportunities for farmers.

The European Commission supports eco-tourism in several developing countries. Tourism, developed in an environmentally sensitive way, can be an important creator of employment in rural areas, and help to reduce poverty while being an alternative to other, environmentally damaging, economic activities. A project in the Choke mountain area of Ethiopia strengthens community capacity for natural resource conservation and tourism development. Through training in cooperative organization, management and indigenous knowledge, it fosters the active and effective participation of non-state actors in decentralized planning and implementation, contributing to regional ecotourism development and positive environmental governance.

Coffee Central America

Cacao Brazil

Mountain Village Ethiopia

Ocean livelihoods are under threat. Fishing trip, Ghana.

Biodiversity and the oceans

The oceans occupy more than 70% of the Earth's surface and contain somewhere between 500,000 and 10 million marine species. Marine fish and invertebrates are among the primary sources of natural food on the planet, providing over 2.6 billion people with at least 20% of their average per capita protein intake. But the oceans now face unprecedented threats from fishing and transportation, waste disposal, excess nutrients from agricultural runoff, and the introduction of exotic species. Nearly 70% of the world's fish stocks are now fully fished, overfished or depleted, and 60% of the world's coral reefs may disappear over the next two decades.

An integrated approach to marine and coastal area management is therefore necessary to promote the recovery of biodiversity and fisheries resources and to control land-based sources of pollution. For open ocean and deep sea areas, sustainability can only be achieved through increased international cooperation to protect vulnerable habitats and species. The European Union combats illegal fishing through the Illegal Unreported and Unregulated Fishing Regulation. Under this recently adopted regulation, only marine fisheries products validated as legal by the relevant flag state or exporting state may be imported to or exported from the European Union. The European Commission also supports specific projects promoting the sustainable management of marine and coastal resources.

Biodiversity in accounting and planning

The world has underestimated the economic value of nature in developing nations. Many valuable ecosystem services, such as clean water, air, soil fertility, forests, marine resources and natural disaster risk reduction are invisible in national and local accounts and budgets, and policy makers and markets give only limited consideration to the value of these goods and services.

Ecosystem services and other non-marketed natural goods account for 47 to 89 per cent of the so-called GDP of the Poor, the effective GDP or total sources of livelihoods of poor, rural and forest-dwelling households in some large developing countries. Consequently, the real costs of the depletion or degradation of natural capital are felt most seriously at the micro-level, and particularly by the poor, but they are rarely recorded or brought to the attention of policy-makers.

The European Commission, through various initiatives, calls for a wider recognition of nature's contribution to human livelihoods, health, security, and culture. It supports capacity development to enable the integration of pro-poor management of biodiversity and ecosystem services into development policies, plans, programs and projects. This includes the

Oceans: two examples

A project in Tanzania aims at reducing poverty through improved livelihoods and sustainable coastal and marine resource management. It aims to raise awareness of collaborative fisheries management and improved data availability, to help generate incomes through credit, enterprise training and market identification, and to plan for the sustainable management of resources.

Sustainable fisheries Tanzania

The SCIFISH programme provides Scientific Support for Oceanic Fisheries Management in the Western and Central Pacific Ocean. It aims at promoting the conservation and optimum exploitation of fish stocks by promoting regional cooperation and the coordination of policies to eradicate poverty and secure maximum benefits for the people of the Region.

Fish marketing, Pacific

capacity for making an inventory of biodiversity and for assessing the economic value of ecosystems, integrating environmental issues in national planning strategies for poverty reduction and macroeconomic policy instruments, and monitoring progress in turning policies into action.

Accounting and planning: two initiatives

The European Commission has recently launched a joint programme with UNDP to help developing countries assess biodiversity financing needs and to address financing gaps. The project will develop a methodology for mainstreaming biodiversity into national development and sectoral planning, and the results will contribute valuable elements to the CBD's Resource Mobilization Strategy and to the formulation of the next generation of National Biodiversity Strategies.

The European Commission supports the Wealth Accounting and the Valuation of Ecosystem Services program, a global partnership led by the World Bank, to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources. By working with central banks and Ministries of Finance and Planning in several developed and developing countries such as Botswana, Colombia, Costa Rica, Madagascar and the Philippines, the program aims to enable more informed decision-making that can ensure genuine green growth and long-term advances in wealth and human well-being.

Biodiversity-proofing development cooperation

The European Commission is committed to biodiversity-proofing all of its development cooperation interventions.

All projects and programs are systematically screened at the design phase using a specific questionnaire including biodiversity and climate change consideration and safeguards, to minimise any negative impacts on the environment. For actions likely to have significant effects on biodiversity, environmental impact assessments are undertaken to secure a full understanding of the impacts and to propose any necessary mitigation options.

The European Commission calls for a wider recognition of nature's contribution to human livelihoods

The Economics of Ecosystems and Biodiversity

The European Commission is to date the main contributor to the TEEB initiative. This is a major international initiative that draws attention to the global economic benefits of biodiversity and highlights the growing costs of biodiversity loss and ecosystem degradation. It draws together expertise from the fields of science, economics and policy to enable practical actions.

The TEEB initiative has produced a report to support the mainstreaming of biodiversity and ecosystem considerations in policymaking, drawing on examples from across the globe for explicitly considering biodiversity and ecosystem services in policy development and public management. It gives an overview of options for appraising ecosystem services and a how-to guide to apply such options in local policy settings, including a needs-oriented approach to appraisal.

Following the presentation of TEEB results, many governments have committed themselves to undertaking national or regional ecosystem and biodiversity valuation studies. The European Commission recently launched a project in collaboration with UNEP on TEEB national studies in 5 developing countries in Africa, Asia and Latin America. This project seeks to assist governments in assessing the values of biodiversity and ecosystem services and reflecting these values in their decision making.

See http://www.teebweb.org

Fisheries, coast of Ghana

Five from the field

Rice field, Bali, Indonesia

Restoration of the Mau forest ecosystems in Kenya

Location: Mau forest, Kenya
Duration: 2011-2014
Partners: Government of Kenya, UNEP, Kenya Forest Service, World Wildlife Fund

The European Commission funds a project implemented by UNEP to assist in the restoration of the north western part of the Mau forest in Kenya in order to deliver multiple benefits for the region. These range from the restoration of vital water catchments and the establishment of payments for environmental services to improving the livelihoods of local communities and monitoring carbon storage in the Mau Forest.

Context

The Mau Forests Complex forms the largest closed-canopy forest ecosystem of Kenya. Its ecosystems provide vital ecological services to the country. It is the single most important source of water for direct human consumption in the Rift Valley and Western Kenya. It supports the livelihoods of millions of people. In the tea sector alone 35,000 jobs and the livelihoods of 50,000 small farmers, supporting 430,000 dependants, benefit from the ecological services provided by the Mau Forests Complex.

View of farmland and forest. Mau Forest Complex, Kenya

Despite its critical importance for sustaining current and future economic development, the Mau Forests has lost around 107,000 hectares over two decades, approximately 25% of its forest cover, due to irregular and unplanned settlements, illegal resources extraction, in particular logging and charcoal burning, the change of land use from forest to unsustainable agriculture and changes in ownership from public to private.

Continued destruction of the forests may inevitably lead to a water crisis of national and regional proportions that extend far beyond the Kenyan borders. In order to maintain the vital role of the Mau Forests Complex in contributing to the health and prosperity of the country, the Government of Kenya has decided to engage all the stakeholders, including all relevant Government Ministries, to provide a sustainable solution to the current crisis.

Objectives

- Develop a Mau ecosystem complex General Management Plan;
- Establish an environmental monitoring system, including baseline data for forest carbon;
- Sustain the livelihoods of three hundred households and their communities living adjacent to the forest;
- Support enhanced economic activities in the areas surrounding the forest;
- Rehabilitate degraded water catchments and forests lands in two forest blocks in Northern Mau.

See: http://www.maurestoration.go.ke

Mangrove Restoration

Sustainable coastal zone protection through mangrove restoration in Guyana

Location: Guyana
Duration: 2010-2014
Partners: Ministry of Agriculture through the National Agriculture Research and Extension Institute

In the context of the Global Climate Change Alliance the European Union is providing EUR 4.2 million for an innovative Sector Budget Support for sustainable coastal zone protection through mangrove management.

Context

The link between climate change and mangroves is strong, since mangroves contribute both to resilience to extreme weather events and sea level rise, and to the abatement of climate change through carbon sequestration. Mangroves contribute to sea defence by damping wave actions and protecting coastal banks against the effect of heavy storms, playing an important role in disaster risk reduction. They also provide a number of ecosystem services essential for human populations, including food and wood sources, water sanitation and waste absorption. Mangroves also act as nurseries for many species of tropical fish, providing a complex habitat that attracts food and creates a refuge from predators. Climate change is a major issue for Guyana, and the new Low Carbon Development Strategy has become a central theme in forest conservation and in the protection of coastal areas. The National Mangrove Management Action Plan includes public awareness activities, replanting, research, monitoring and development of a code of practice.

Objectives

To abate climate change through carbon sequestration, but also to mitigate its effects through sea defence and biodiversity protection. The results foreseen from the support programme include rehabilitation of mangrove fields, mapping of existing mangroves for better monitoring, mainstreaming mangroves issues in the national Forest Plan, and raising the awareness of the general public and the involvement of local communities living close to mangroves.

Results

Guyana has planted 200,000 mangrove seedlings along different sections of the coastline. Surveys of site designs for hard structures to increase sedimentation have been undertaken, and a mangrove ranger unit has been established.

See: *http://www.mangrovesgy.org*

Coco beach
Dar Es Salaam, Tanzania

Coastal, Marine and Island Specific Biodiversity Management in the Eastern Southern Africa and the Indian Ocean Coastal States

Location: Eastern and Southern Africa and Indian Ocean (Comoros, Kenya, Madagascar, Mauritius, Seychelles and Tanzania)
Duration: 2012-2017
Partners: Governments of Comoros, Kenya, Madagascar, Mauritius, Seychelles and Tanzania

The European Commission is providing EUR 15 million for an initiative on the sustainable management of biodiversity in the Indian Ocean region. The objective is to develop and strengthen national and regional capacities, including local capacities, for coastal, marine and island specific ecosystems management.

Context

The Eastern and Southern Africa and the Indian Ocean region is rich in biodiversity and endemic species, but many have degraded as a result of the pressure of human population expansion and economic development.

The Indian Ocean Commission Secretariat identified limited capacities to effectively manage the use of biodiversity, namely i) inadequate policies and policy implementation; ii) a low level of awareness and skills among key decision-makers; iii) a lack of harmonised data collection, storage and exchange systems; iv) limited exchange of information, experiences and best practices.

Objectives

- Improve and harmonise policies and legal and institutional frameworks for the sustainable use of biodiversity;
- Promote education, sensitisation, communication and information tools;
- Improve systems for networking and the exchange of data, statistics and other biodiversity-related information;
- Create or enhance Biodiversity Thematic Centres;
- Support and enhance the contribution of biodiversity to sustainable economic development through a Call for Proposals aimed at eligible institutions, Non-State Actors and communities.

Consolidation of the Amazon

Location: Amazon Basin
Duration: 1990 - 2012
Partners: Foundation Gaia-Amazonas

The COAMA programme initiated in 1990 is a network of national and international NGOs which share the objective of conserving the Amazon through the support and implementation of indigenous peoples' rights. This project has received continuous European Union support for almost 20 years. It aims to consolidate a mosaic of protected areas and indigenous territories for the conservation of more than 100 million hectares of forest in the Northwest Amazon, through environmental governance practices and from a cultural perspective, as a joint initiative of indigenous peoples, organized civil society and government entities.

Context

The Amazon basin contains half of the planet's remaining tropical forests and one in ten known species on Earth. There is a clear link between the health of the Amazon and the health of the planet, as the rain forests help to stabilize the local and the global climate. More than 30 million people from 350 indigenous and ethnic groups live in the Amazon and depend on nature for their agriculture, clothing and traditional medicines, but the basin has been damaged and devalued for short-term gains.

Unsustainable expansion of agriculture and cattle ranching, construction of roads and dams, and extractive activities including illegal logging, and climate change are the biggest drivers of deforestation and river degradation. At current deforestation rates, 55% of the Amazon's rainforests could be gone by 2030.

Objectives

- Support the governance and protection of indigenous rights through a strengthening of their cultural identity, as well as their traditional knowledge and management of the natural environment;
- Cooperate with indigenous communities and the government in the conservation and management of Amazon natural resources;
- Promote conservation and governance strategies among protected areas and indigenous territories.
- Monitor projects that directly affect indigenous communities and ecosystem conservation, and influence public policies;
- Carry out exchanges of indigenous experiences in socio-environmental themes with other communities;
- Promote financial sustainability of the Colombian Amazon through conservation incentives and payment for environmental services.

Results

1. Promoting protected areas over 4 million hectares of the Amazon rainforest.
2. Establishment of 17 indigenous governments in the departments of Amazonas, Guainía and Vaupés, to manage, administer and conserve their territories.
3. Trans-boundary coordination with NGOs and indigenous organizations in Brazil and Venezuela to conserve 62 million hectares of forest, through a corridor formed by protected areas and indigenous territories.
4. Development of endogenous research processes, by which two hundred young indigenous people learn the traditional knowledge of the ancestral land, health, education and natural resource management under the guidance of the elders and according to traditional gender roles.

See: http://www.gaiaamazonas.org

Ethnic groups in the Amazon depend on nature for their survival. Manaus, Brazil

Mangrove is the main resource in the Sundarbans

Sundarbans Environmental and Livelihoods Security in Bangladesh

Location: Bangladesh
Duration: 2011-2016
Partner: Government Forestry Department; local NGO

The project aims at contributing to maintaining or improving ecosystem productivity and the environmental and social integrity of the north coastal lands of the Bay of Bengal, in a mangrove forest called the Sundarbans.

Context

The Sundarbans is the largest contiguous patch of mangrove forest in the world. It contains a considerably high diversity of species, including the emblematic Royal Bengal Tiger. About 3.5 million people directly or indirectly depend on the resources of Sundarban for their livelihood.

Population growth and economic development have brought immense pressure on the mangrove wealth and its resources for firewood, timber, fishes, honey and building materials. Communities need substantial assistance to reduce their dependence on Sundarbans resources and to make their livelihoods more sustainable.

Objectives

- To improve the value chain of Sundarbans products so that the resource gatherers can obtain a larger share of the profit;
- Introducing or upscaling suitable and acceptable alternative income generating activities.

Results

1. Restore and improve Government capacity to protect and manage the Sundarbans Reserved Forests, through the establishment of a sustainable management system to guide protection and management, activities, together with rehabilitating the necessary infrastructure and equipment.
2. Promote sustainable resource extraction, rationalize resource harvesting and develop alternative means of livelihood.

Life, lives, livelihoods
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