

Biodiversity and poverty

GOODS AND SERVICES FOR THE WORLD'S POOREST PEOPLE



70% of the world's poor live in rural areas and depend directly on biodiversity for their survival and well-being. The urban poor also rely upon biodiversity, not only for the production of food and other necessary goods, but also for ecosystem services such as the maintenance of air and water quality and the breakdown of waste. The impact of environmental degradation is most severe for people living in poverty, because they have few livelihood options to fall back on.

Biodiversity **within species, between species and of ecosystems** is crucial to poverty alleviation and development:

GENETIC DIVERSITY

Genetic diversity contributes to **resilience**, since a broad genetic base allows crops and livestock to adapt to changing conditions. For example, genetic diversity helps farmers adapt to climate change by providing crop and livestock varieties that can cope with new conditions such as rising temperatures, drought and flooding.

SPECIES DIVERSITY

Species diversity provides goods that can be used for **subsistence, barter and trade**. Some examples of these goods include:

- » foods such as fruits, vegetables, grains, nuts, roots, fish and meat, milk and eggs,
- » fibers, leather and pelts,
- » medicinal plants,
- » firewood and other fuels,
- » building materials such as wood for furniture, grasses and reeds for baskets and thatch, etc.

Species diversity often contributes to development by supplying material used for **small-income generating activities**, such as the sale of craft items, local foods or traditional medicines.

ECOSYSTEM DIVERSITY

Ecosystem diversity supplies important **ecosystem services**, such as:

- » carbon sequestration,
- » plant pollination,
- » pest control by natural predators,
- » watershed protection and erosion control,
- » maintenance of soil fertility and pasture regeneration,
- » breakdown of waste and pollutants, etc.

Ecosystem services improve local well-being by providing **clean water and productive agricultural systems**. Additionally, ecosystem diversity can contribute to development by encouraging **nature-based tourism**.

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The **Secretariat of the Convention on Biological Diversity** was established to support the goals of the Convention. Its principal functions are to prepare for, and service, meetings of the Conferences of the Parties (COP) and other subsidiary bodies of the Convention, and to coordinate with other relevant international bodies.

SCBD staff is specialized in a variety of fields through the CBD thematic programmes of work and cross-cutting issues, and focuses on different aspects of the clear linkages between biodiversity and human well-being within the framework of the Millennium Development Goals and the 2010 Biodiversity Target.

Due to its expertise and ability to widely disseminate information, the SCBD has established with the support of the French and German governments an initiative that specifically demonstrates the benefits of biodiversity to development and poverty alleviation. This initiative led by the **"Biodiversity for Development" unit** is aimed at the integration of biodiversity into relevant development processes.

The three inter-related specific objectives of the initiative are:

1. To promote the integration of biodiversity considerations into sectoral and cross-sectoral policies at the regional and national levels, as well as to incorporate the development dimension into National Biodiversity Strategies and Action Plans;
2. To facilitate the exchange of experiences and the dissemination of lessons learned and good practices regarding the integration of biodiversity into development sectors and poverty reduction strategies and programmes;
3. To establish a network of professionals coming from the main organizations and cooperation agencies in charge of development at the international and regional levels.

The work of the **"Biodiversity for Development" unit** is conducted in close collaboration with some selected programmes of work of the Convention directly related to development sectors such as forest, agriculture, tourism and a range of international partners involved in this thematic.



For more information about the objectives and activities of this initiative, please contact:

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Biodiversity for Poverty Alleviation and Development

NATURE SERVING HUMANITY

Biodiversity

WHAT IS IT, AND WHY DOES IT MATTER?



WHAT IS BIODIVERSITY?

Biodiversity can be described as the **diversity of life on Earth**.

The Convention on Biological Diversity defines biodiversity as, "the variability among living organisms and the ecological complexes of which they are part, including the diversity within species, between species and of ecosystems". Interactions between the various components of biodiversity make the Earth habitable for all species, including humans.

The Convention on Biological Diversity has three main objectives:

- » the conservation of biodiversity,
- » the sustainable use of its components, and
- » the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

WHAT ARE THE MAIN THREATS TO BIODIVERSITY?

Around the world, **ecosystems are being eroded, fragmented and degraded**. The most important threats to ecosystems and the biodiversity are the following:

- » climate change,
- » over-exploitation of natural resources,
- » large-scale conversion of land to agriculture and urban expansion,
- » introduction of invasive alien species,
- » pollution.

Approximately 45% of the Earth's forests have been cleared, and other ecosystems, including wetlands and coral reefs, are also threatened. It has been estimated that 34,000 plant and 5,200 animal species are currently in danger of extinction.

Climate change will likely become the most significant driver of biodiversity loss by the end of the century, and is already forcing biodiversity to adapt to changing habitats and weather conditions. At the same time, **biodiversity is essential to climate change adaptation and mitigation**. For example, forests reduce the amount of carbon dioxide in the atmosphere, mangroves decrease flooding, and drought-resistant crops help to prevent famine.

WHY IS BIODIVERSITY IMPORTANT TO POVERTY ALLEVIATION AND DEVELOPMENT?

We must develop strategies to protect biodiversity if we want to achieve poverty eradication and sustainable development. More than 3 billion people depend on marine and coastal biodiversity, while over 1.6 billion people rely on forests and non-timber forest products for their livelihoods. Habitat degradation and the loss of biodiversity are threatening the livelihoods of more than 1 billion people living in dry and sub-humid lands. **Biodiversity is the basis for achieving sustainable development**.



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Biodiversity and the Millennium Development Goals

A KEY ELEMENT TO THEIR SUCCESS

Biodiversity for development...

INTERDEPENDENT AND INTERCONNECTED

... Development for biodiversity

INTERCONNECTED AND INTERDEPENDENT

What can be done?

LINKING BIODIVERSITY, POVERTY ALLEVIATION AND DEVELOPMENT



The Millennium Development Goals (MDGs) are eight goals established by the United Nations in 2000 to combat poverty, hunger, disease, illiteracy, gender inequality and environmental degradation. Since 2006, they fully integrate the 2010 Biodiversity Target set in 2002 by the Convention on Biological Diversity to achieve, by 2010, a significant reduction in the rate of biodiversity loss. Even if goal 7 is most specifically focused on biodiversity related issues, biodiversity is important to the achievement of all eight MDG goals, and is essential to the fulfillment of this international commitment by the year 2015. .

GOAL 1: ERADICATE EXTREME HUNGER AND POVERTY.

The world's poor, particularly in rural areas, depend on biological resources for as much as 90% of their needs, including food, fuel, medicine, shelter and transportation. The loss of biodiversity through the reduction of crop and livestock genetic diversity and the decreased availability of wild biological resources threatens food and livelihood security for the poor.

GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION.

Many families in the developing world depend on biological resources, collected from their surrounding environment, for their day to day needs. A shortage of these resources increases the workload of families, including children, which makes it harder for them to attend school.

GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN.

The Convention on Biological Diversity recognizes that gender equality and women's empowerment are important prerequisites for the conservation of biodiversity and sustainable development. Biodiversity degradation makes the daily tasks of women more time-consuming and difficult, due to a reduced availability of firewood, non-timber forest products and potable water.

GOALS 4, 5 AND 6: HEALTH RELATED ISSUES.

The World Health Organization (WHO) has documented that human health is highly dependent on a healthy, well-functioning environment. 80% of the world's people rely on traditional, plant-based medicine. Availability of safe drinking water, provided by ecosystem services, has a direct impact on health. Partly due to biodiversity loss, more than 5.5 billion people may live with a serious shortage of drinking water by 2025. Declines in biodiversity are also associated with a rise in vector-based and other diseases.

GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY.

Biodiversity loss directly affects the quality and quantity of ecosystem services provided, such as carbon sequestration, watershed protection, soil fertility, recycling of nutrients, control of erosion and pollination of crops and trees.

GOAL 8: GLOBAL PARTNERSHIP FOR DEVELOPMENT.

A stronger partnership between all stakeholders, from the global to the local level, is necessary to better integrate biodiversity considerations into poverty alleviation strategies and development programs.



Biodiversity and development are closely linked: biodiversity sustains development, and development has an impact on biodiversity, either positive or negative.

Some key development sectors and related economic activities depend directly on biodiversity, and contribute to poverty alleviation. These sectors include agriculture and livestock, forestry, fishing, and, in many areas of the world, housing construction.

AGRICULTURE AND LIVESTOCK:

Ecosystem services such as watershed protection, pest control, nutrient cycling and pollination sustain productivity in agricultural ecosystems. For example, natural predators from areas adjacent to farmland control more than 90% of crop insect pests. The agricultural role of pollinators, of which more than 100 000 species are known, is worth more than US \$50 billion each year. Species diversity is also important to agriculture: approximately 7000 plant species are cultivated worldwide.

Genetic diversity allows adaptation to climate change, pests and diseases and is therefore important to global food security. Livestock is essential to many aspects of rural livelihood strategies, such as the subsistence consumption of home-produced milk, eggs or meat, the use of manure as fertilizer and the provision of labour for agricultural tasks. Additionally, livestock functions as savings and a risk management asset for many of the world's poor.

FORESTRY:

More than 1.6 billion people rely on forests and forest products for their livelihoods. Communities around the world depend on forests for goods such as food, medicines, firewood and building materials, among other necessities. Forests also maintain important ecosystem services including carbon sequestration, erosion control, watershed protection and nutrient cycling, and provide habitat for approximately 80% of the remaining terrestrial biodiversity. Forest management should ensure that timber is harvested sustainably, so that biodiversity is protected and its goods and services remain available.

FISHING:

More than 3 billion people depend on marine and coastal biodiversity for their livelihoods, including many people in developing countries for whom fishing is a main subsistence and commercial activity. 25% of marine species are found in coral reefs, which provide livelihoods for over 100 million people.

A diversity of aquatic species permits adaptation to change, for example in water salinity and temperature. Diverse and healthy aquatic environments are more productive than over-exploited or degraded ecosystems, and therefore supply more fish, mangrove wood and other resources to their users.



Other development sectors, although not directly dependent on biodiversity, rely on it for their functioning. This is the case for health and water supply, tourism, flood protection and waste management.

HEALTH AND WATER SUPPLY:

Healthy ecosystems, healthy people: determinants of health including clean water and the control of vector-based and other diseases depend on ecosystem processes. Plant species and soils in water-related ecosystems such as forests and wetlands play a crucial role in water retention and purification. Water scarcity and declining access to fresh water is a globally significant and accelerating problem for 1-2 billion people worldwide, leading to reductions in food production, human health, and economic development.

Biodiversity provides medicinal plant species, important for both traditional and modern medicine. Medicinal plants are widely used throughout the developing world, as in Ghana, where 60% of childhood malarial fevers are first treated with traditional, plant-based medicines. Compounds from plant species are also the basis of 50% of modern prescription medicines.

TOURISM:

Hiking through tropical forests, scuba diving, observing wildlife, and many other tourist activities depend on biodiversity. Even when biodiversity is not the main attraction for tourists, they appreciate the wildlife and flora of the regions they visit. Protected areas, when carefully managed, can contribute to sustainable development through the provision of important goods and services to local people, and employment opportunities created by tourism. Sustainable tourism promotes conservation, preserving the biodiversity that attracts tourists, while providing economic benefits to the local and national economies.

Some development sectors and economic activities, although not directly or indirectly dependent on biodiversity, significantly influence the conservation and sustainable use of natural resources. This is notably the case for extractive activities such as mining, oil and gas, or the construction of infrastructure required for economic development, such as roads or highways, ports, dams and factories. Decision-makers and donors have an important responsibility in guiding and monitoring these development sectors.

Therefore, sustainable development cannot be achieved if biodiversity is compromised by development efforts. Since the poor are particularly dependant on the goods and services supplied by biodiversity, development strategies that ignore their protection undermine poverty alleviation and are therefore counterproductive. For this reason, it is crucial for development and poverty alleviation strategies and programs to prioritize biodiversity.



STRENGTHEN THE RIGHTS OF POOR PEOPLE. Over land, resources, ecosystem services and the benefits that arise from their management, as well as traditional knowledge experiences from many parts of the world indicate that this is essential for effective biodiversity conservation and poverty alleviation. An emphasis should be placed on locally based environmental management, ensured access to biodiversity resources, land reform and acknowledgement of customary tenure. Programs aimed at the protection of biodiversity and the alleviation of poverty must address the priorities of the poor.



ENHANCE EDUCATION AND COMMUNICATION. Education, of everyone from children to politicians, increases understanding of the importance of biodiversity to poverty alleviation and development, and therefore plays an important role in biodiversity conservation and sustainable use, both in the present and in the future. Stakeholders already involved in the integration of biodiversity and development should record and disseminate good practices and lessons learned, so that others can learn from their experiences.

PROMOTE ACCESS AND BENEFIT SHARING. Local access to genetic resources (of plants, animals or micro-organisms) and the equitable sharing of the benefits derived from their utilization are important to the sustainable use of biodiversity and to poverty alleviation and development. Benefits derived from the research, transformation or commercialization of genetic resources should be shared equitably with the people who have preserved the resources utilized and the indigenous knowledge of their benefits.

DEVELOP FINANCIAL INCENTIVE MEASURES. Essential services provided by biodiversity, such as carbon sequestration or clean water, are usually not considered in economic decision-making. Recently, initiatives have begun to put a price on ecosystem services, and introduce financial incentives to encourage the conservation and sustainable use of biodiversity. For example, Payment for Ecosystem Services (PES), undertaken in a pro-poor manner, can provide a mechanism for people protecting ecosystem services, including poor communities living in biodiversity-rich regions, to receive payment from those who benefit from the services.



STRENGTHEN PARTNERSHIP AND COLLABORATION. Although organizations, governments and communities around the world increasingly realize the importance of biodiversity, concrete efforts are still needed to incorporate its protection into poverty alleviation and development strategies. These efforts will only be effective when stakeholders at all levels collaborate by voicing their concerns and priorities and working in partnership to integrate biodiversity into sectoral and cross-sectoral policies.

All of these actions are essential to the conservation of biodiversity and simultaneous achievement of poverty alleviation and development, and should be emphasized by governments working to fulfill the international commitments of the 2010 Biodiversity target and the Millennium Development Goals.

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