



Convention on
Biological Diversity



Food and Agriculture
Organization of the
United Nations



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BIODIVERSITY AND THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Technical Note

BIODIVERSITY IS ESSENTIAL FOR SUSTAINABLE DEVELOPMENT

The 2030 Agenda for Sustainable Development, agreed by the 193 States Members of the United Nations, sets out an ambitious framework of universal and indivisible goals and targets to address a range of global societal challenges. Biodiversity and ecosystems feature prominently across many of the Sustainable Development Goals (SDGs) and associated targets. They contribute directly to human well-being and development priorities. Biodiversity is at the centre of many economic activities, particularly those related to crop and livestock agriculture, forestry, and fisheries. Globally, nearly half of the human population is directly dependent on natural resources for its livelihood, and many of the most vulnerable people depend directly on biodiversity to fulfil their daily subsistence needs.

IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020 CONTRIBUTES TO THE ACHIEVEMENT OF THE SDGS

The Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets adopted under the Convention on Biological Diversity has been recognized as setting the global framework for priority actions on biodiversity. The 2030 Agenda is consistent with other existing international commitments, including the Strategic Plan for Biodiversity. The SDGs and the Strategic Plan are mutually supportive and reinforcing, and therefore the implementation of one contributes to the achievement of the other.

THE PURPOSE OF THIS TECHNICAL NOTE

The present note is developed as a technical complement to the “Policy Brief on Biodiversity and the 2030 Agenda for Sustainable Development”. It is intended to help decision-makers such as government representatives and development professionals to understand more easily the contributions of biodiversity to achieving the SDGs. It presents a mapping of the linkages between the SDGs, and the Strategic Plan for Biodiversity 2011-2020 and its 20 Aichi Biodiversity Targets.

The table on the following page offers a summary of linkages between SDGs and Aichi Biodiversity Targets. The rest of the publication provides a more detailed description of the linkages between biodiversity and specific SDGs and their associated targets, and also provides a cross-reference to the Aichi Biodiversity Targets.

The publication illustrates the most direct linkages between the targets for the SDGs and biodiversity. However, it should be noted that biodiversity may also indirectly contribute to the achievement of other targets not analysed in this document.

Summary of linkages between SDGs and Aichi Biodiversity Targets

Sustainable Development Goal	Relevant Aichi Biodiversity Target
1. End poverty in all its forms everywhere	2, 6, 7, 14
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture	4, 6, 7, 13, 18
3. Ensure healthy lives and promote well-being for all at all ages	8, 13, 14, 16, 18
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	1, 19
5. Achieve gender equality and empower all women and girls	14, 17, 18
6. Ensure the availability and sustainable management of water and sanitation for all	8, 11, 14, 15
7. Ensure access to affordable, reliable, sustainable and modern energy for all	5, 7, 14, 15, 19
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	2, 4, 6, 7, 14, 16
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	2, 4, 8, 14, 15, 19
10. Reduce inequality within and among countries	8, 15, 18, 20
11. Make cities and human settlements inclusive, safe, resilient and sustainable	2, 4, 8, 11, 14, 15
12. Ensure sustainable consumption and production patterns	1, 4, 6, 7, 8, 19
13. Take urgent action to combat climate change and its impacts	2, 5, 10, 14, 15, 17
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 15, 17, 19
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss	2, 4, 5, 7, 9, 11, 12, 14, 15, 16
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	17
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	2, 17, 19, 20

Overview of Aichi Biodiversity Targets

 1 Awareness of biodiversity increased	 2 Biodiversity values integrated	 3 Incentives reformed	 4 Sustainable production and consumption
 5 Habitat loss halved or reduced	 6 Sustainable management of aquatic living sources	 7 Sustainable agriculture, aquaculture and forestry	 8 Pollution reduced
 9 Invasive alien species prevented and controlled	 10 Ecosystems vulnerable to climate change	 11 Protected Areas	 12 Reducing risk of extinction
 13 Safeguarding genetic diversity	 14 Ecosystem services	 15 Ecosystem restoration and resilience	 16 Access to and sharing benefits from genetic resources
 17 Biodiversity strategies and action plans	 18 Traditional knowledge	 19 Sharing information and knowledge	 20 Mobilizing resources from all sources

1 NO POVERTY



GOAL 1: END POVERTY IN ALL ITS FORMS EVERYWHERE

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	2, 6, 7
1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters Note: SDG Target 15.9 explicitly calls for integration of ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies and accounts by 2020.	2, 6, 7, 14

Contributions of biodiversity to the achievement of Goal 1

Biodiversity and healthy ecosystems provide the essential resources and ecosystem services that directly support a range of economic activities, such as agriculture, forestry, fisheries and tourism. Subsistence and small-scale agriculture and fisheries provide livelihoods for many of the world's rural poor.

Ecosystem services and other non-marketed goods are estimated to make up between 50% and 90% of the total source of livelihoods among poor rural and forest-dwelling households – the so-called 'GDP of the poor'.

The conservation and sustainable use of biodiversity, including through sustainable agriculture based on ecosystem approaches, along with the restoration and safeguarding of ecosystems and the valuable services they provide, can help to prevent men and women from falling into poverty and can help to lift them out of it by increasing their income and reducing their vulnerability to external economic shocks or environmental disasters.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Sustainable management of aquatic living sources



Sustainable agriculture, aquaculture and forestry



Ecosystem services



GOAL 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	6, 7, 13
2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	6, 7, 13
2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	7
2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	4, 7
2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed	13, 18

Contributions of biodiversity to the achievement of Goal 2

Biodiversity is a key factor for the achievement of food security and improved nutrition. All food systems depend on biodiversity and a broad range of ecosystem services that support agricultural productivity, soil fertility, and water quality and supply. Furthermore, at least one-third of the world's agricultural crops depend upon pollinators. Low-input and ecosystem based approaches to agriculture are particularly adapted to supporting the conservation and sustainable use of biodiversity. Genetic diversity in agriculture is one key element of food security. It helps to ensure the evolution of species that can adapt to changing environmental conditions, as well as resistance to particular diseases, pests and parasites. This diversity has been managed or influenced by farmers, livestock keepers and pastoralists, forest dwellers and fisherfolk for hundreds of generations and reflects the diversity of both human activities and natural processes. It can also reduce farmers' vulnerability to climate change. Further, it can provide a diversity of foods with a variety of nutritional benefits.

In addition, many people depend on food gathered from natural ecosystems, such as forests, grasslands, oceans and rivers. Products supplied from nature are an important source of nutrition and thus contribute to household food security. For indigenous communities, wildlife hunting can represent the primary source of animal protein. The use of sustainable approaches for agriculture offers opportunities to meet growing food demands while reducing adverse impacts on the natural resources that underpin its long-term viability.

Traditional knowledge and practices inherited over generations by indigenous and local communities can often provide invaluable and proven measures of conservation and sustainable use of plant species and animal breeds.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Sustainable management of aquatic living sources



Sustainable agriculture, aquaculture and forestry



Safeguarding genetic diversity



Traditional knowledge



GOAL 3: ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	8, 13, 14, 16, 18

Contributions of biodiversity to the achievement of Goal 3

Nearly 1 in 4 of total global deaths is attributed to environmental risk factors. The link between biodiversity and human health is increasingly recognized. Many pests and diseases are consequences of ecosystem disturbance. Healthy ecosystems help to mitigate the spread and impact of pollution by both sequestering and eliminating certain types of air, water and soil pollution. Forests regulate water flow and improve water quality. Further, many medicines have been derived from biological products and a substantial proportion of the world’s population depends on traditional medicines derived from biodiversity for their health care needs.

In addition to these direct links, there are many indirect links between biodiversity and human health. For example, diverse agricultural ecosystems contribute to sustainable production increases and to the reduced use of pesticides and other chemical inputs, all of which can have positive impacts on human health. Minimizing unnecessary disturbance to natural systems can help to avoid or mitigate the potential emergence of new pathogens and reduce the risk and incidence of infectious diseases, including zoonotic and vector-borne diseases.

Relevant Aichi Biodiversity Targets:



8 Pollution reduced



13 Safeguarding genetic diversity



14 Ecosystem services



16 Access to and sharing benefits from genetic resources



18 Traditional knowledge



GOAL 4: ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development	1, 19

Contributions of biodiversity to the achievement of Goal 4

Raising awareness of the importance of biodiversity for sustainable development through education systems will be key to achieving this and other SDGs. Increasing awareness and knowledge of biodiversity and ecosystems is a key element for sustainable development and sustainable lifestyles. Traditional and indigenous knowledge are important to the conservation and sustainable use of biodiversity and these knowledge systems should be harnessed through culturally sensitive educational initiatives, including agricultural extension services.

Relevant Aichi Biodiversity Targets:



Awareness of biodiversity increased



Sharing information and knowledge



GOAL 5: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
5.1 End all forms of discrimination against all women and girls everywhere	14, 17
5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	14, 17, 18

Contributions of biodiversity to the achievement of Goal 5

Women play a vital role in managing biological resources, and are disproportionately affected by the loss of biodiversity and ecosystem services. Biodiversity loss and degraded ecosystems can perpetuate gender inequalities by increasing the time spent by women and children in performing certain tasks, such as collecting valuable resources including fuel, food and water, and reducing time for education and income generating activities.

Ensuring equal rights to land, inheritance and natural resources is an important measure in enabling women to promote sustainable agricultural and land management practices, especially as women become increasingly responsible in agriculture due to male emigration in many cases. Secure tenure rights can provide incentive and capacity to commit to conservation measures. With land title, women can have access to support services that would enhance their capacity to manage the land in a sustainable way that contributes to biodiversity conservation.

Relevant Aichi Biodiversity Targets:



Ecosystem services



Biodiversity strategies and action plans



Traditional knowledge



GOAL 6: ENSURE THE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

Sustainable Development Targets		Relevant Aichi Biodiversity Targets
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	8
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	11, 14, 15
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	11, 14, 15
6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	11, 14, 15

Contributions of biodiversity to the achievement of Goal 6

Healthy ecosystems underpin the delivery of water supplies, water quality, and guard against water-related hazards and disasters. For example, wetlands play an appreciable role in surface, sub-surface and ground water storage, as well as preserving dry season river flows and reducing the risk of flooding in wet seasons. They also serve to retain, process and dilute wastes and other pollutants, helping maintain water quality.

Meanwhile, vegetation such as grasslands and forests offers a critical source of watershed protection in upland areas. They provide land cover which helps to slow the rate of runoff, guards against erosion, even out seasonal peaks and troughs in water flow, and minimise silt and sediment loads carried downstream.

Ecosystem based approaches to agriculture limit nutrient losses to surface water and groundwater, and the subsequent polluting effects of eutrophication, algal blooms, red tides and fish kills, and contamination of drinking water sources. They also promote practices that are efficient in water use, enhance soil water retention, and value locally adapted crops that require less water.

These services typically have extremely high economic value for downstream water users, and help prolong the lifetime and productivity of water infrastructure such as reservoirs, supply facilities, irrigation schemes and hydropower dams. In addition, managing ecosystems to maintain these services is a more cost-effective option than employing artificial technologies or taking remedial measures when these essential functions have been lost or disrupted due to environmental degradation. For example, maintaining wetlands for flood control and mitigation are usually substantially cheaper than rebuilding roads, bridges and buildings that get washed away in flooding events. Conserving an upstream forest typically costs far less than investing in new water filtration and treatment plants downstream, or implementing expensive de-siltation activities in dams and reservoirs.

Relevant Aichi Biodiversity Targets:



8 Pollution reduced



11 Protected Areas



14 Ecosystem services



15 Ecosystem restoration and resilience



GOAL 7: ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	5, 7, 14, 15, 19
7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.	14, 19

Contributions of biodiversity to the achievement of Goal 7

Globally, 3 billion people rely on biological resources including wood, coal, charcoal or animal waste for cooking and heating. Bio-energy produced from renewable biomass such as forestry byproducts and agricultural residues, and other forms of renewable energy generated based on ecosystems such as hydropower systems, can provide major opportunities for supplying cleaner and affordable energy. By optimizing the use of natural, local and renewable resources, ecosystem-based approaches to food production reduce dependency on fossil fuels and external synthetic inputs.

Relevant Aichi Biodiversity Targets:



Habitat loss halved or reduced



Sustainable agriculture, aquaculture and forestry



Ecosystem services



Ecosystem restoration and resilience



Sharing information and knowledge



GOAL 8: PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead	2, 4, 6, 7, 14, 16
8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	2, 4, 14

Contributions of biodiversity to the achievement of Goal 8

Biodiversity supports the provision of ecosystem services which are central to economic activities. Marine and terrestrial ecosystems underpin many national and global economic sectors providing employment such as agriculture, forestry, fisheries, energy, tourism, transport and trade. Biodiversity conservation and restoration, by enhancing ecosystems functions and services, can lead to higher productivity and more efficient resource use.

Almost all provisioning services and some regulating services provide inputs to the economy, and hence contribute to value for productive and consumptive uses. Recent assessments show that ecosystem services deriving from the management of natural resource stocks (soils, water, minerals, forests, wildlife) form the most important component of assets for nearly all countries in Sub-Saharan Africa. For example, it is reported that natural capital accounted for 41% of the total wealth of low-income countries in 1995 and 30% in 2005.

Biodiversity also offers opportunities for business development. For instance, tourism accounts for about 10% of global GDP and generates one in eleven jobs. Major tourism attractions are closely linked to biodiversity and natural landscapes such as protected areas, mountains and beaches, wildlife and native cultures, as well as eco- and agri-tourism. Ecotourism is one of the fastest-growing sectors that can serve as a key engine of development for least developed countries and small island developing states.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Sustainable production and consumption



Sustainable management of aquatic living sources



Sustainable agriculture, aquaculture and forestry



Ecosystem services



Access to and sharing benefits from genetic resources



GOAL 9: BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	2, 4, 14, 15
9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	2, 4, 8, 14, 15, 19

Contributions of biodiversity to the achievement of Goal 9

Biodiversity and healthy ecosystems can provide reliable and cost-effective natural infrastructure. For example, coral reefs and mangrove forests protect coasts against flooding that are expected to increase with climate change. Urban green belts and vegetation can absorb run-off of surface water and support resilience against storms and erosion.

Such natural infrastructure, also called green infrastructure, offers multiple benefits compared to single-purpose grey infrastructure, and are often more effective compared to the latter in terms of cost, longevity and effectiveness.

Relevant Aichi Biodiversity Targets:



2 Biodiversity values integrated



4 Sustainable production and consumption



8 Pollution reduced



14 Ecosystem services



15 Ecosystem restoration and resilience



19 Sharing information and knowledge



GOAL 10: REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average	8, 15, 18, 20
10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	8, 15, 18, 20

Contributions of biodiversity to the achievement of Goal 10

Larger income inequality within countries is known to have correlation with greater biodiversity loss, although further analyses are necessary to identify the causality. Socio-political aspects of inequality, including gender and ethnicity, are also inextricably linked with the conservation and sustainable use of biodiversity. This is because indigenous peoples and local communities and women are important custodians of biodiversity and related traditional knowledge, although they are often marginalized and disadvantaged.

Recognizing rights to sustainable management of natural resources, enhancing values of biodiversity and related knowledge, and building an environment for equitable benefit-sharing has the potential to improve socioeconomic and political inequality among social groups.

Relevant Aichi Biodiversity Targets:



Pollution reduced



Ecosystem restoration and resilience



Traditional knowledge



Mobilizing resources from all sources



GOAL 11: MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE AGES

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	2, 4, 14
11.4 Strengthen efforts to protect and safeguard the world’s cultural and natural heritage	11
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	14, 15
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	8
11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	2, 14

Contributions of biodiversity to the achievement of Goal 11

The global urban population is expected to reach 5 billion by 2030, and over 60% of the land projected to become urban by 2030 is yet to be developed.

Ecosystems and biodiversity underpin the day-to-day functioning of cities and human settlements by delivering the basic services and conditions that enable, support and protect human production, consumption and habitation. Healthy ecosystems can provide protection and resilience from extreme weather events and disasters.

Urban planning that integrates the consideration of biodiversity can not only benefit biodiversity but can also contribute to more sustainable human settlements. For example, strategic placement of trees in urban areas can cool the air between 2°C and 8°C. Furthermore, trees properly placed around buildings can reduce air conditioning needs by 30% and save energy used for heating by 20% to 50%.

Many of the world’s natural heritage sites are biologically diverse, and thus protecting biodiversity supports the preservation of such important areas.

Nature-based solutions to the challenges of urban well-being, such as ecosystem-based approaches to climate change adaptation (EbA) and disaster risk reduction (Eco-DRR), enable safe human settlements.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Sustainable production and consumption



Pollution reduced



Protected Areas



Ecosystem services



Ecosystem restoration and resilience



GOAL 12: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
12.2 By 2030, achieve the sustainable management and efficient use of natural resources	4, 6, 7, 8, 19
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	1, 19

Contributions of biodiversity to the achievement of Goal 12

Consumption and production of all goods and services require the transformation of many natural resources, which in turn impacts biodiversity. Current unsustainable consumption and production patterns can undermine the ability of ecosystems to provide services for industries and communities that rely upon them.

Utilizing cleaner and more resource-efficient approaches that minimize material footprint, waste and pollutants can bring about economic opportunities and better quality of life for consumers and producers alike, and at the same time benefit biodiversity.

Shifting consumption patterns will require active involvement of the public as more countries and population adopt the consumption patterns of economically advanced societies. Raising awareness and access to information on various dimensions of sustainable development including biodiversity and ecosystem are prerequisites for shifting consumption choices and lifestyles.

Relevant Aichi Biodiversity Targets:



Awareness of biodiversity increased



Sustainable production and consumption



Sustainable management of aquatic living sources



Sustainable agriculture, aquaculture and forestry



Pollution reduced



Sharing information and knowledge



GOAL 13: TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	5, 10, 14, 15
13.2 Integrate climate change measures into national policies, strategies and planning	2, 15, 17

Contributions of biodiversity to the achievement of Goal 13

According to the Millennium Ecosystem Assessment, climate change is likely to become one of the most significant drivers of biodiversity loss by the end of the century. Current global warming is already affecting species and ecosystems around the world, particularly the most vulnerable ecosystems such as coral reefs, mountains and polar ecosystems. Furthermore, it has impacts on the ecosystem services on which people's livelihoods depend, such as rainfalls and soil fertility which are essential to agricultural production. Human, animal and plant health are affected through increased transmission of vector-borne diseases.

The efforts to protect and restore habitats not only benefit biodiversity but also offer cost-effective and proven measures to mitigate and to adapt to climate change.

Ecosystems such as forests, rangelands, croplands, peatlands and wetlands represent globally significant carbon stores. Their conservation, restoration and sustainable use is included as a part of many Intended Nationally Determined Contributions, and is therefore a critical element for the fulfilment of the Paris Agreement under the United Nations Framework Convention for Climate Change, a global commitment toward the mitigation of dangerous changes to the Earth's atmospheric temperature and climate system.

Biodiversity and healthy ecosystems are also important resource for increasing resilience and reducing the risks and damages associated with negative impacts of climate change. They can serve as natural buffers against extreme climate and weather events such as changing patterns of rainfalls, droughts, storms, and other disasters. Diversified and integrated production systems offer more options for adapting to a changing climate. Ecosystem based production systems reduce the reliance on synthetic inputs and the associated emissions of greenhouse gases.

Breeding drought, salt and disease resistant plant varieties, livestock breeds and fish will become important to ensure food security in the advance of climate change.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Habitat loss halved or reduced



Ecosystems vulnerable to climate change



Ecosystem services



Ecosystem restoration and resilience



Biodiversity strategies and action plans



GOAL 14: CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	8
14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	6, 11, 15
14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	10, 19
14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	2, 3, 4, 6, 7, 12, 19
14.5 By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information	5, 11
14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation	3, 4
14.7 By 2030, increase the economic benefits to small island developing states and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	2, 4, 6, 7, 14, 17

Contributions of biodiversity to the achievement of Goal 14

The conservation and sustainable use of biodiversity in marine and coastal ecosystems is a key aspect of sustainable development. Biodiversity underpins all fishing and aquaculture activities, as well as other species harvested for foods and medicines. Because breeding in aquaculture is so far limited to few species, wild fish still play an important role for aquaculture stocks.

Conservation and sustainable use of marine and coastal biodiversity, including the use of marine protected areas, is essential to ensure that the world's oceans, seas and marine resources remain vital for current and future generations. The more effective management of fisheries that are used for food, protection of the marine environment from pollution, including from mariculture, and destructive actions are critical actions to be taken.

Effective management of terrestrial ecosystems, particularly agroecosystems, is also critical to minimizing nutrient losses to marine systems and negative impacts on the marine environment and its resources.

Relevant Aichi Biodiversity Targets:



2 Biodiversity values integrated



3 Incentives reformed



4 Sustainable production and consumption



5 Habitat loss halved or reduced



6 Sustainable management of aquatic living sources



7 Sustainable agriculture, aquaculture and forestry



8 Pollution reduced



10 Ecosystems vulnerable to climate change



11 Protected Areas



12 Reducing risk of extinction



14 Ecosystem services



15 Ecosystem restoration and resilience



17 Biodiversity strategies and action plans



19 Sharing information and knowledge



GOAL 15: PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	4, 5, 7, 11, 14, 15
15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	4, 5, 7, 14, 15
15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	4, 5, 15
15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	11, 14, 15
15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	5, 12
15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed	16
15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products	12
15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species	9
15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	2

Contributions of biodiversity to the achievement of Goal 15

The conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems is essential for sustainable development and for achieving SDG15. Target 15.9 of this goal include a call to integrate ecosystem and biodiversity values into national and local development planning, poverty reduction strategies and accounts. Other targets highlight the importance of particular ecosystems, including freshwater, forests, deserts and degraded lands, and mountain ecosystems.

Forests cover around 30% of the Earth's land area, containing 80% of terrestrial biomass and providing habitat for over half of the world's known terrestrial plant and animal species. Although the net annual rate of forest loss has slowed down over the past decades, it is still a matter of concern because the loss is occurring in areas with particularly high ecological value. While there is a marked increase in protected areas over the past century, many key biodiversity areas are not adequately covered by protected area status. Globally there are more than a billion hectares of deforested and degraded forest land that could be restored, a vast area with the potential to enrich biodiversity and improve ecosystem functions.

SDG 15 also addresses biodiversity in the inland water through sustaining ecosystems and ecosystem services such as water flows and water quality, which are critical for many life stages of aquatic and migratory species in particular.

A number of targets contained under this goal relate to other SDGs. For example, Target 15.9 refers to poverty reduction strategies and is therefore relevant to SDG 1, and Target 15.6 relates to Target 2.5 on genetic diversity of seeds, cultivated plants and farmed and domesticated animals.

Ecosystem approaches to farming and grazing that foster biodiversity in soil microorganisms and soil macro- and microfauna promote and maintain the soil's physical and ecological health, thus preventing its erosion, while preserving and rebuilding soil fertility.

Relevant Aichi Biodiversity Targets:



2 Biodiversity values integrated



4 Sustainable production and consumption



5 Habitat loss halved or reduced



7 Sustainable agriculture, aquaculture and forestry



9 Invasive alien species prevented and controlled



11 Protected Areas



12 Reducing risk of extinction



14 Ecosystem services



15 Ecosystem restoration and resilience



16 Access to and sharing benefits from genetic resources



GOAL 16: PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
16.4 By 2030 significantly reduce illicit financial and arms flows, strengthen recovery and return of stolen assets, and combat all forms of organized crime	17
16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	17

Contributions of biodiversity to the achievement of Goal 16

Environmental crime such as wildlife trafficking, illicit fishing and illegal timber trade undermine sustainable development and threaten global security by benefiting organized crimes and non-state armed groups. Natural resources worth USD 91-258 billion annually are estimated to be stolen by criminals, depriving countries of revenues and development opportunities.

Conflicts over natural resources, environmental degradation and contamination can also be one of the factors leading to social insecurity and violence, which often disproportionately affects vulnerable people.

Enhancing the role of law and equity for governance of biodiversity, natural resources and ecosystems can contribute to the fundamental process toward building an inclusive society based on justice and democratic decision-making.

Relevant Aichi Biodiversity Targets:



Biodiversity strategies and action plans



GOAL 17: STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

Sustainable Development Targets	Relevant Aichi Biodiversity Targets
17.3 Mobilize additional financial resources for developing countries from multiple sources	20
17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism when agreed upon	19
17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed	19
17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation	17
17.14 Enhance policy coherence for sustainable development	2, 17
17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	19

Contributions of biodiversity to the achievement of Goal 17

The CBD and its Strategic Plan for Biodiversity 2011-2020 provide a global framework for international cooperation on science, technology and innovation related to the conservation and sustainable use of biodiversity. The Strategy for Resource Mobilization of the Convention strives for increased financial support for implementation of the Strategic Plan.

Under the Convention, Parties work together to disseminate knowledge and technologies for environmental management, enhance South-South cooperation, and strengthen national and local capacities for policy and science. Such capacities and wealth of knowledge are essential for the implementation and monitoring of the 2030 Agenda for Sustainable Development.

At the national level, National Biodiversity Strategies and Action Plans (NBSAPs) are adopted as policy instruments for achieving the Strategic Plan for Biodiversity, and hence are a ready pathway for national implementation of the SDGs.

Efforts to integrate biodiversity and ecosystems into national, subnational and sectoral development policies through NBSAPs and the contribution of NBSAPs into implementation of the SDGs, help enhance policy coherence.

The implementation of UNEP's and FAO's instruments and global partnerships fostering sustainable management of biodiversity and natural resources contribute to SDG 17.

Many UN organizations provide support to countries in data collection and the monitoring of SDG indicators.

Relevant Aichi Biodiversity Targets:



Biodiversity values integrated



Biodiversity strategies and action plans



Sharing information and knowledge



Mobilizing resources from all sources

ANNEX: AICHI BIODIVERSITY TARGETS OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

Strategic goal A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.



Target 1 – By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.



Target 2 – By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.



Target 3 – By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic condition.



Target 4 – By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic goal B. Reduce the direct pressures on biodiversity and promote sustainable use.



Target 5 – By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.



Target 6 – By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures

are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.



Target 7 – By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.



Target 8 – By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity



Target 9 – By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment



Target 10 – By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Strategic goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.



Target 11 – By 2020, at least 17% of terrestrial and inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.



Target 12 – By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.



Target 13 – By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Strategic goal D: Enhance the benefits to all from biodiversity and ecosystem services.



Target 14 – By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.



Target 15 – By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.



Target 16 – By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic goal E. Enhance implementation through participatory planning, knowledge management and capacity-building



Target 17 – By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.



Target 18 – By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.



Target 19 – By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.



Target 20 – By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.





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