



United Nations
Educational, Scientific and
Cultural Organization



UNESCO'S COMMITMENT to **BIODIVERSITY**

Connecting
people and
nature for
an inspiring
future



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Edited and organized by: Meriem Bouamrane with contributions from Peter Bates, Mouna Chambon, Nigel Crawhall, Ward Appeltans, Bernard Combes, Isabelle Brugnon, Mary Cardenas, Juliana Chavez Chaparro, Miguel Clüsener-Godt, John Crowley, Guy Debonnet, Bandiougou Diawara, Peter Dogse, Khalissa Ikhlef, Susanna Kari, Aude Labbe-Videau, Douglas Nakashima, Iulia Nechifor, Marie Prchalova, Noeline Raondry, Jennifer Rubis, Natalia Tolochko, Zina Skandrani, Carl Vannetelbosch and Vincent Van Ryssegem.

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For more information, please contact: m.bouamrane@unesco.org

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COMMITMENT
to BIODIVERSITY**

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nature for an inspiring future**

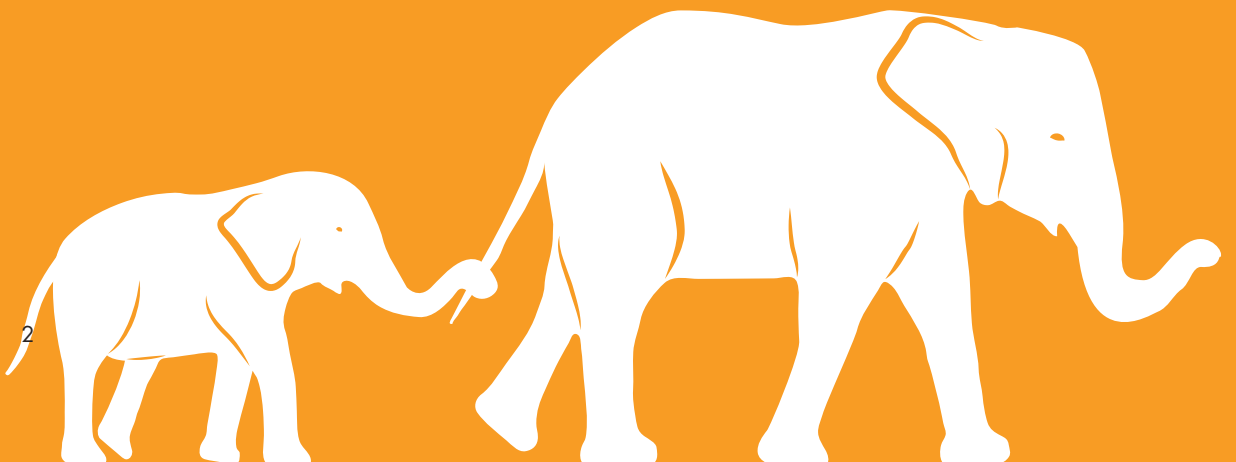
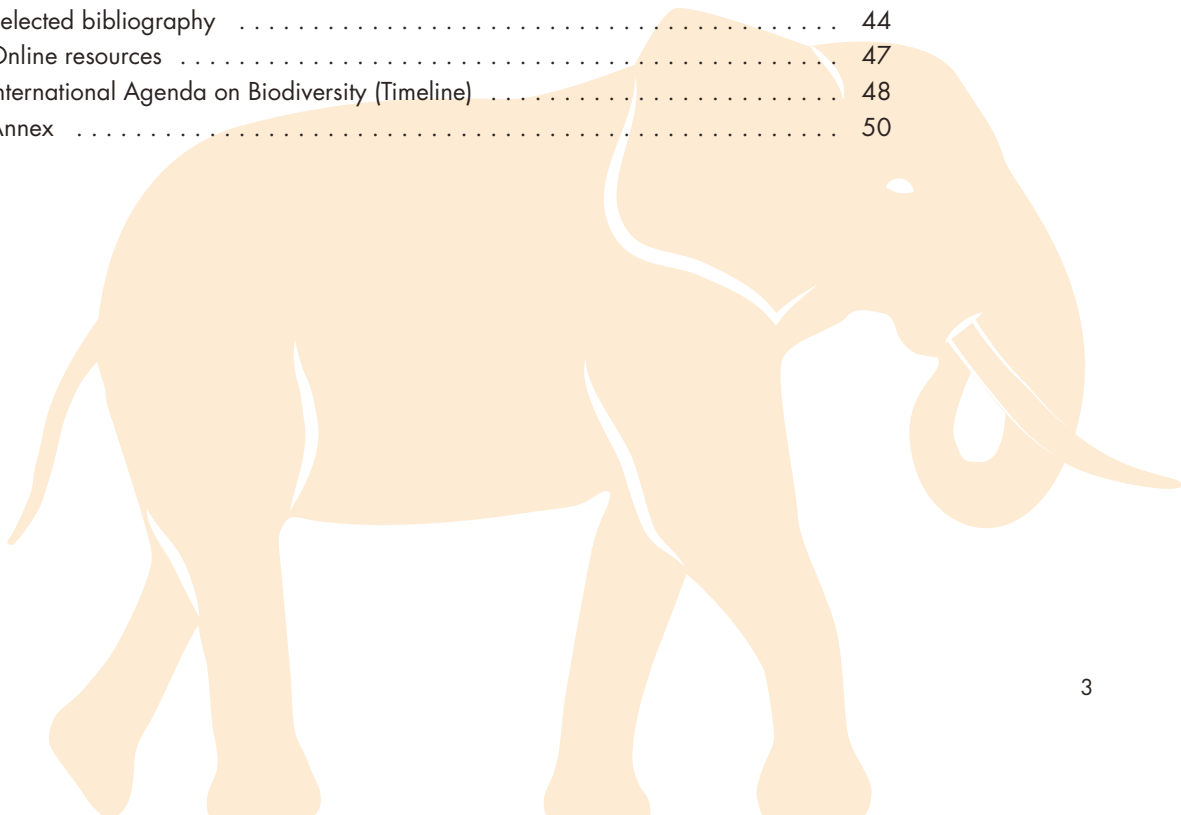


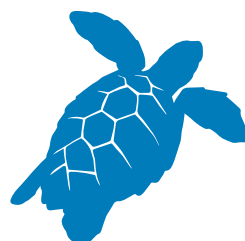
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ACRONYMS

AABR	African Arab Biosphere Reserves Initiative
ASPnet	UNESCO Associated Schools Network
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CO₂	Carbon dioxide
DNA	Deoxyribonucleic acid
EOVs	Essential Ocean Variables
ESD	Education for Sustainable Development
FAO	Food and Agriculture Organization of the United Nations
GIS	Geographic Information system
GOOS	Global Ocean Observing System
ICTs	Information and Communication Technologies
IGGP	International Geoscience and Geoparks Programme
IHP	International Hydrological Programme
ILK	Indigenous and Local Knowledge
IOC	Intergovernmental Oceanographic Commission
IODE	International Oceanographic Data and Information Exchange
IPBES	Science-Policy Platform on Biodiversity and Ecosystem Services
IPPC	International Plant Protection Convention
IWC	International Whaling Commission
LINKS	Local and Indigenous Knowledge Systems
MAB	Man and the Biosphere (MAB) Programme
MEA	Multilateral Environmental Agreement
MOST	Management of Social Transformations Programme
NBSAP	National Biodiversity Strategies and Action Plans
OBIS	Ocean Biogeographic Information System
ODIS	Ocean Data and Information System
OTGA	Ocean Teacher Global Academy
PGRFA	(International Treaty) on Plant Genetic Resources for Food and Agriculture
RTCs	Regional training centres
SCBD	Secretariat of the Convention on Biological Diversity
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SOC	State of Conservation Information System
WHC	World Heritage Centre
WNBR	World Network of Biosphere Reserves
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization



INTRODUCTION

Biodiversity is the living fabric of our planet. It underpins human wellbeing in the present and in the future, and its rapid decline threatens nature and people alike. According to reports released in 2018 by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the main global drivers of biodiversity loss are climate change, invasive species, over-exploitation of natural resources, pollution and urbanization.

Biodiversity loss implies the reduction and disappearance of species and genetic diversity and the degradation of ecosystems. It jeopardizes nature's vital contributions to humanity, endangering economies, livelihoods, food security, cultural diversity and quality of life, and constitutes a major threat to global peace and security. Biodiversity loss also disproportionately affects the most vulnerable exacerbating inequality.

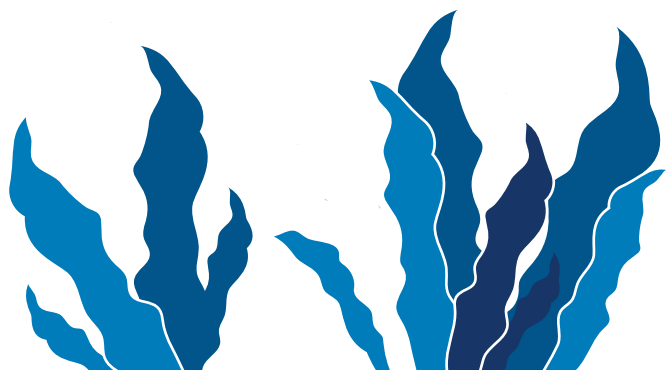
To halt or reverse this decline it is vital to transform people's roles, actions and relationships with biodiversity. This transformation has already begun with the commitment of the international community to the 17 Sustainable Development Goals (SDGs) of Agenda 2030. This global and holistic framework highlights the complex interconnections and interdependencies between society, biodiversity and sustainable development. It recognizes that human behaviour, values and choices shape people's interactions with biodiversity, all of which have a direct impact on our collective future on the planet.

Awareness and appreciation of the diverse values of biodiversity need to be further amplified and mainstreamed within this global framework in order to transform human behaviour in favour of biodiversity conservation and its sustainable use.

Many solutions exist for stopping and reversing the decline in biodiversity. UNESCO's diverse networks, programmes and partners have observed positive and inspiring seeds of change around the world. UNESCO also accompanies Member States and their people in their efforts to halt biodiversity loss by understanding, appreciating, safeguarding and using biodiversity sustainably.

This publication highlights some of UNESCO's biodiversity-related actions and solutions, based on the Organization's unique mandate and its diverse normative instruments, networks, programmes and partners. These actions have reduced biodiversity loss and improved the lives of many people around the planet. For each thematic challenge, the publication highlights current actions and solutions that have been successfully implemented, as well as suggestions for improvement and innovation.

This publication is an invitation to positive action and to trust in our collective capacity and creativity to transform our relationship with biodiversity, by sharing values, solutions and knowledge for our common future.



UNESCO AND BIODIVERSITY

UNESCO's unique contribution to the conservation and sustainable and equitable use of biodiversity supports and complements the work of other organizations and UN agencies working at the international and local level. Its role is founded on a number of key strengths:

- **UNESCO supports the study and observation of biodiversity** in oceans, arid zones, mountains, wetlands and agricultural systems, in addition to remote sensing in support of World Heritage sites, biosphere reserves and UNESCO Global Geoparks, and work in the area of biotechnology and related capacity building.
- **UNESCO's convening power and role** as an honest broker with a holistic perspective combines expertise in the natural and social sciences, culture, education and communication.
- **UNESCO's normative instruments** safeguard the planet's most exceptional biodiversity areas and recognize the intrinsic relationship between people, culture and nature, including intergovernmental conventions intended to safeguard and nurture tangible and intangible heritage.
- **UNESCO has a multidisciplinary mandate** encompassing education and public awareness of biodiversity and sustainable development. It emphasizes links between cultural diversity and biodiversity, and societal aspects and ethical issues.
- **UNESCO has an important track record** in advancing the science of biodiversity through pioneering work in the ecological sciences on ecosystems, biosphere reserves, biodiversity-related projects, capacity building, scientific assessments and policy briefs to assist decision-makers.
- **UNESCO supports gender-responsive and gender-transformative approaches** to biodiversity conservation and sustainable development and the promotion of knowledge held by women in biodiversity conservation.
- **UNESCO develops information and communication tools** and works with broadcast media to support biodiversity education.

What is biodiversity?

Biological diversity or '**biodiversity**' is the living fabric of our planet. From the micro to the macro level, it consists of **genetic diversity** in the make-up of individual species, the **diversity of species** within given ecosystems, and the **diversity of ecosystems**, which refers to systems of interactions between species in a given environment. All of these levels interact with each other and share a common feature: DNA.

Biodiversity and ecosystem services are perceived and valued in starkly different ways. Such **cultural diversity** derives from different worldviews about the relationships between society and nature. It is essential to consider these cultural services and the influence of human factors on biodiversity and ecosystem services. Instrumental values related to biodiversity include food, medicine and water, while relational values include spiritual well-being and community cohesion.



Gender and biodiversity

Gendered division of labour can result in women and men possessing distinct forms of knowledge related to biodiversity. In many societies, women embody specific knowledge of biodiversity and apply this in a sustainable manner. However, their role in biodiversity management and the decision-making process may not be properly recognized or capitalized upon. Supporting and promoting the contribution of women as agents of change is essential. With this in mind, UNESCO designated gender equality as one of two global priorities for its Medium-Term Strategy 2014-2021. While the link between gender equality and the state of biodiversity is not always obvious, it is omnipresent and needs to be addressed in order to achieve the SDGs. UNESCO promotes the incorporation of gender-responsive and gender-transformative approaches into biodiversity conservation and sustainable development in all its interventions, as outlined in its Gender Equality Action Plan for 2014-2021. Efforts in this respect also include highlighting and showcasing the value of knowledge held by women in biodiversity conservation.

Local and Indigenous Knowledge Systems (LINKS) programme

Established in 2002, the LINKS programme mobilizes the knowledge, know-how and practices of local communities and indigenous peoples to support their inclusion in environmental decision-making, particularly with regard to biodiversity and climate change. LINKS aims to build dialogue among indigenous knowledge holders, natural and social scientists, resource managers and decision-makers to secure an active and equitable role for local communities in resource governance. The LINKS programme strengthens knowledge transmission between elders and youth, and explores pathways to balance community-based knowledge with global knowledge in formal and non-formal education.

Among other roles, the LINKS programme currently hosts the Indigenous and Local Knowledge Technical Support Unit of IPBES (the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems Services). In this role, LINKS provides support and expert advice to help IPBES with its mandate to include indigenous and local knowledge in all areas of its work, and particularly in its assessments of biodiversity and ecosystems services.

What is local and indigenous knowledge?

Broadly speaking, the terms 'traditional' and 'indigenous and local knowledge' refer to the complex bodies and systems of knowledge, know-how, practices and representations that are maintained and developed by communities in their innumerable interactions with their surrounding environment. Accumulated across generations and renewed by each new generation, indigenous knowledge is integral to a cultural complex that also encompasses language, systems of classification, resource use practices, social interactions, ritual and spirituality. These unique ways of knowing are important facets of the world's cultural diversity and provide a foundation for locally appropriate sustainable development.



INTERNATIONAL GOVERNANCE MECHANISMS FOR BIODIVERSITY AND UNESCO'S ROLE



Biodiversity-related conventions

Several international conventions focus on biodiversity conservation. Together, these form the main global governance mechanism on biodiversity. UNESCO hosts the secretariat of one of the eight major biodiversity-related conventions: the World Heritage Convention. Among international site-based instruments, the World Heritage Convention sets the highest standards for inscription in terms of the required biodiversity values and the integrity, protection and management requirements of sites. Among biodiversity-related conventions it is unique in its efforts to protect cultural and natural heritage of outstanding universal value, recognizing the close linkages between cultural and biological diversity.

The other biodiversity-related conventions are: the Convention on Biological Diversity (CBD), the Ramsar Convention on Wetlands, the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the International Plant Protection Convention (IPPC), the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA), and the International Whaling Commission (IWC). The heads of the secretariats of the biodiversity-related conventions meet regularly through a formal liaison group,¹ in order to enhance coherence and cooperation in implementation.

The governing bodies of the biodiversity-related conventions have committed to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, adopted by the Conference of Parties to the CBD. The post-2020 global biodiversity framework is expected to be adopted in 2020.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)



IPBES is an independent intergovernmental body established in 2012.

As of 2018, IPBES has 130 member States. IPBES is a global science-policy platform tasked with providing the best-available evidence to inform better decisions affecting biodiversity and ecosystems services. UNESCO is one of the platform's main institutional partners, along with FAO, UNDP and UNEP, and has provided support and engagement from the very early stages. In particular, UNESCO has played a key role in implementing the first work programme of IPBES (2014-2018) by co-organizing and hosting several key workshops such as for the conceptual framework of IPBES, which integrates indigenous and local knowledge with science.

In March 2018, in Medellin, Colombia, representatives of 127 governments approved five landmark assessment reports describing the state of knowledge about biodiversity, ecosystems and nature's contributions to people. Four of the assessments cover different world regions, and the fifth examines land degradation and restoration, both regionally and globally.

These regional assessment reports are critical to understanding the role of human activities in biodiversity loss and its conservation, and our capacity to collectively implement solutions to address the challenges ahead. The findings of these five 2018 IPBES reports provide information detailed throughout this brochure. They also provide key inputs to a new comprehensive IPBES global assessment report on biodiversity and ecosystem services, due for release in 2019. This will be the first such evaluation since the authoritative 2005 Millennium Ecosystem Assessment.

Main functions of IPBES

- **Assessment:** IPBES performs regular and timely assessments of knowledge on biodiversity and ecosystem services and their interlinkages.
- **Policy support:** IPBES supports policy formulation and implementation by identifying policy-relevant tools and methodologies.
- **Building capacity and knowledge:** IPBES prioritizes key capacity-building needs to improve the science-policy interface, and identifies key scientific information needed for policy-makers and to generate new knowledge.
- **Communications and outreach:** IPBES ensures the widest reach and impact of its work and findings.



WHY BIODIVERSITY IS VITAL

Halting biodiversity loss is a Sustainable Development Goal (SDG 15), one that is strongly linked to all other SDGs.

Keeping ecosystems resilient and safeguarding our planet's biodiversity is fundamental to poverty eradication, human health and wellbeing. Biodiversity is essential not only to the proper functioning of Earth systems, it is also key to the delivery of ecosystem services that are crucial to human dignity and wellbeing.

These biodiversity-dependant ecosystem services include the provision of potable water, food and fibres, soil fertility, maintenance of the genetic databank of biodiversity, climate regulation, and recreational and aesthetic values among others. Biodiversity and cultural diversity are intricately linked.

A diverse world gives us the flexibility to adapt to change, including climate change. Biodiversity therefore underpins most SDGs and its loss constitutes a threat to both security and peace.







CULTURE AND VALUES



KEY CHALLENGES

The way people value and perceive biodiversity influences behaviour at the level of the individual, institutions and whole societies.¹ More work is needed to understand the diversity of values that people hold for biodiversity, especially among non-Western societies and marginalized groups. The different ways of perceiving and valuing biodiversity depend on culture, gender, education, occupation, context (e.g. urban/rural) and/or a multitude of other influences. There is growing recognition of the need to understand this issue.²

Biodiversity may be valued for the extrinsic 'ecosystem services' it provides to humanity (e.g. the provision of pollinators for food production, mangroves for preventing coastal erosion or plants as potential sources of new pharmaceuticals). It can also be regarded as having intrinsic value; for example, highly biodiverse areas such as rainforests or coral reefs, or charismatic animals such as tigers or whales, are often perceived to have value regardless of their contributions to people. Biodiversity and nature also have profound cultural and spiritual dimensions. However, these may conflict with systems that place an economic value on biodiversity.



KEY MESSAGES

- Understanding diverse values is essential to comprehending how humans interact with biodiversity.
- Understanding different values is also essential for gaining the consensus and cooperation needed to conserve biodiversity, which can only be achieved when multiple actors agree on common goals.

¹ See IPBES/4/INF/13.

² For example, the IPBES conceptual framework explicitly recognizes the importance of including different value systems within its assessments.

UNESCO'S ROLE IN UNDERSTANDING THE DIVERSE VALUES OF BIODIVERSITY

UNESCO's interdisciplinary mandate which includes the natural and social sciences and culture makes it uniquely able to explore the diverse values of nature. Biodiversity is central to many cultures and culture itself plays a crucial role in how biodiversity is perceived. UNESCO is the only UN agency with a mandate in the field of culture. UNESCO's Culture Sector, through its culture conventions and programmes, plays a unique role in promoting human creativity and safeguarding culture and heritage worldwide. UNESCO's mandate for the social sciences enables exploration of the ethical considerations of nature's intrinsic value, while UNESCO's work on gender provides a space to examine how biodiversity is experienced and utilized differently by women and men. Finally, the work of UNESCO in culture and communication and information demonstrates that language is key to how we understand and perceive the world, and shows how the concepts of 'biodiversity' and 'nature' are expressed in many different ways in different languages.

Indigenous and local communities

Indigenous peoples and local communities deserve special attention when considering the diverse values of nature. Many indigenous and local communities are reliant on biodiversity and have a particular relationship with their landscapes and seascapes. They do not necessarily see a distinction between humans and nature, and often accord deeply spiritual importance to animals and plants. Within this cultural context, efforts to put an economic value on biodiversity or even to actively manage biodiversity for conservation

can be deemed highly offensive. Moreover, much of Western conservation philosophy perceives a clear separation between humans and nature, with human impacts on biodiversity automatically seen as detrimental. For indigenous peoples, however, human interaction with nature is crucial for both the natural and social worlds. Conservation actions that aim to limit human interactions with biodiversity may therefore risk severing indigenous connections to nature. Such diverse values need to be explored and mutually understood if conservation activities are to be acceptable and equitable for all.



© Carl Peterloff
Floating market in Marais Audomarois Biosphere Reserve (France).

Women's knowledge: traditional medicine and nature, Mauritius, Reunion and Rodrigues

UNESCO's Local and Indigenous Knowledge Systems (LINKS) programme has worked on a project to document women's knowledge of medicinal plants on islands in the Indian Ocean. These islands were populated from the end of the seventeenth century by peoples originating from Europe, Madagascar, Africa, India, China, and even Polynesia and Australia. The project shows how gender, a close connection to nature, cultural diversity and isolation on a series of small islands has led to an intimate understanding of the value of plants including both medicinal and spiritual aspects.

UNESCO normative instruments

Several UNESCO normative instruments in the field of culture relate to biodiversity. For example, cultural landscapes inscribed on the World Heritage List under the World Heritage Convention safeguard important biodiversity values by upholding interlinkages between cultural and biological diversity.³ The majority of the World Heritage cultural landscapes have agricultural or agro-pastoral components, with traditional forms of land use that help maintain biodiversity including agro-biodiversity.

³ <https://whc.unesco.org/en/culturallandscape>.

The UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage contributes to the understanding of traditional knowledge, values and practices accumulated and renewed across generations as part of intangible cultural heritage. This includes the ways in which such intangible cultural heritage guided human societies in their interactions with the surrounding natural environment for millennia. Today, the contribution of intangible cultural heritage to environmental sustainability is recognized in many fields such as biodiversity conservation, sustainable natural resource management, climate change, and natural disaster preparedness and response.

UNESCO-SCBD Joint Programme on the Links between Biological and Cultural Diversity

In recognition of the importance of the links between biological and cultural diversity, the Secretariat of CBD and UNESCO established a Joint Programme on the Links between Biological and Cultural Diversity in 2010. The main objective of the Programme is to identify and enhance synergies between interlinked provisions of conventions and programmes dealing with biological and cultural diversity at relevant scales. LINKS and MAB programmes and the WHC contribute to the Joint Programme.



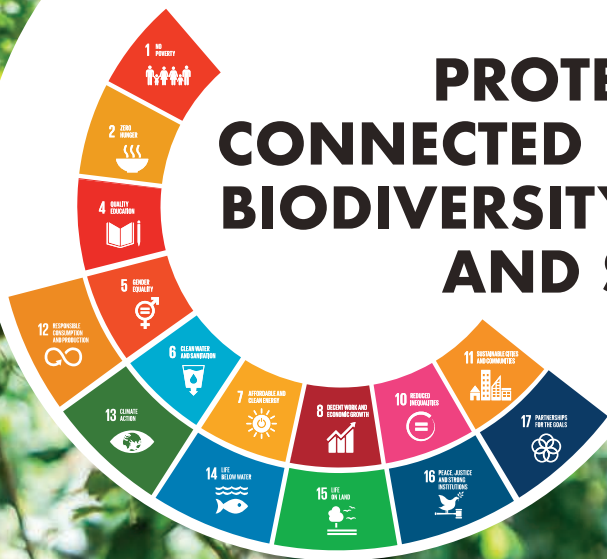
SUGGESTED AREAS FOR FUTURE ACTION

- + An increasing focus on the ethics of biodiversity conservation, drawing on the approaches used in UNESCO's work on the ethics of climate change;
- + Further exploration of the gender dimensions of biodiversity and its degradation, with a focus on the extent to which women and men depend on biodiversity in different ways;
- + Exploration of the indigenous values of nature and how these can complement and be harmed by certain conservation activities;
- + Contribute to the upcoming IPBES methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits.



© Shutterstock/Ammit Jack
Indigenous man on typical wooden canoe navigating waters of Ecuadorian Amazonian forest.

PROTECTED AREAS AND CONNECTED LANDSCAPES FOR BIODIVERSITY CONSERVATION AND SUSTAINABLE USE



KEY CHALLENGES

Biodiversity is currently being lost at up to 1,000 times the natural rate.¹ Some scientists are now referring to the crisis as the 'Earth's sixth mass extinction', comparable to the last great extinction crisis 65 million years ago. These extinctions are irreversible and pose a serious threat to our health and wellbeing. Designation and management of protected areas is the cornerstone of biodiversity conservation. However, despite an increase in the total number of protected areas in the world, biodiversity continues to decline.²

An integrated landscape approach to conservation planning plays a key role in ensuring suitable habitats for species. However, many protected areas are not functioning as effectively as originally intended, due in part to limited resources to maintain these areas and/or enforce relevant legal frameworks. In addition, current protected area networks may need to be re-aligned to account for climate change. Efforts to preserve biodiversity must take into account not only the physical environment, but also social and economic systems that are well connected to biodiversity and ecosystem services. For protected areas to contribute effectively to a secure future for biodiversity, there is a need for measures to enhance the representativeness of networks, and to improve management effectiveness.³



KEY MESSAGES

- Growth in protected areas in many countries is helping to maintain options for the future, but sustainable use and management of territory outside protected areas remains a priority.
- Measures to improve environmental status within conservation areas, combined with landscape-scale approaches, are urgently needed if their efficiency is to be improved.

1 According to experts, this 'natural extinction rate' is calculated on the basis of a null human impact on ecosystems.
2 In the Asia-Pacific region, for example, marine protected areas increased by almost 14% and terrestrial protected areas by 0.3% over the past 25 years (Karki et al., 2018).
3 Fischer et al. (2018).

UNESCO'S ROLE IN CONSERVING BIODIVERSITY AND PROMOTING SUSTAINABLE USE: SITES, CONNECTED LANDSCAPES AND NETWORKS

UNESCO works on the conservation of biodiversity and the sustainable use of its components through **UNESCO designated sites**, including **biosphere reserves**, **World Heritage sites** and **UNESCO Global Geoparks**. In 2018, UNESCO designated sites protected over 10 million km², an area equivalent to the size of China. These conservation instruments have adopted policies and strategies that aim to conserve these sites, while supporting the broader objectives of sustainable development. One such example is the policy on the integration of a sustainable development perspective into the processes of the World Heritage Convention.⁴

4 <https://whc.unesco.org/en/sustainabledevelopment>



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Map of UNESCO designated sites in 2018.

The MAB Programme and the World Network of Biosphere Reserves: connecting landscapes and reconciling conservation with development.

Biosphere reserves are designated under UNESCO's Man and the Biosphere (MAB) Programme and promote solutions reconciling the conservation of biodiversity with its sustainable use at local and regional scales. As of April 2018, the World Network of Biosphere Reserves (WNBR) consisted of 669 biosphere reserves in 120 countries, including 20 transboundary sites. This dynamic and interactive network of sites works to foster the harmonious integration of people and nature for sustainable development through participatory dialogue, knowledge sharing, poverty reduction, human wellbeing improvements, respect

for cultural values and efforts to improve society's ability to cope with climate change.

Progress has been achieved in connecting landscapes and protected areas through biosphere reserves, however further efforts are needed.



© UNESCO/ICF
San Marcos de Colón Biosphere Reserve (Honduras).

SUGGESTED AREAS FOR FUTURE ACTION

- + Mobilization of sufficient financial resources to properly manage and protect existing sites, including through innovative partnerships with the private sector to scale-up funding;
- + Establishment of new protected areas and the protection of cultural landscapes through the UNESCO World Heritage Convention and biosphere reserves, where various forms of knowledge are integrated into management;
- + Enhance capacity-building and multi-stakeholder dialogue to support participatory decision-making including through community-based approaches in transboundary sites, taking into consideration the need for multiple sources of knowledge and sharing of good practices;
- + Further development of indicators to monitor and assess overall management performance and effectiveness of biodiversity conservation and sustainable use.



© Carl Peterloff
Floating market in Marais Audoumariois Biosphere Reserve (France).

KNOWLEDGE GAPS



KEY CHALLENGES

Mobilizing existing natural and social science, new technologies, and indigenous and local knowledge can inform us about the drivers of biodiversity loss and effective approaches to recovery, resilience and behavioural change. However, despite the availability of sufficient knowledge to halt biodiversity erosion, there are still gaps in knowledge and data regarding the trends and drivers for many ecosystems and species. Efforts to gather accurate data to develop scenarios and models are hindered by many obstacles, especially capacity gaps. These include unequal national science capacity, lack of availability of skilled experts and funding, gender bias, lack of interdisciplinary collaboration, lack of understanding of which information to collect to facilitate appropriate decision-making, and weaknesses in data sharing between institutions and countries.



KEY MESSAGES

- Interdisciplinary research and data sharing is needed to enhance understanding of biodiversity decline, and to identify policy responses that take into account science, sociology, economic paradigms and cultural norms.
- Monitoring data are generally missing for most marine habitats and species. In addition, there is a lack of understanding of how biodiversity contributes to ecosystem services, especially in marine systems.
- Science capacity is not equally developed around the globe. This significantly impacts the ability of decision-makers to obtain accurate data and guidance on biodiversity risks and opportunities.
- A best available knowledge approach can help compensate for knowledge gaps by drawing on complementary knowledge systems, including citizen science, new technology tools, and the mobilization of indigenous and local knowledge.

UNESCO'S ROLE TO ADDRESS KNOWLEDGE GAPS

IOC and ocean biodiversity

The world's oceans remain one of the least understood and most important ecosystems on earth. In 1961, the Intergovernmental Oceanic Commission (IOC) of UNESCO created the International Oceanographic Data and Information Exchange (IODE) programme 'to enhance marine research, exploitation and development, by facilitating the exchange of oceanographic data and information'¹. IODE draws on biodiversity data from the Ocean Biogeographic Information System (OBIS). With over 50 million species observations provided by over 600 institutions worldwide, OBIS has become the world's most comprehensive database on the diversity, distribution and abundance of life in the ocean, and supports various international processes such as the identification of ecologically or biologically significant marine areas under the Convention on Biological Diversity.

Working with indigenous and local knowledge

Indigenous and local peoples are often well positioned to observe and understand local ecosystems. Accordingly, indigenous, traditional and local knowledge systems constitute one of the largest bodies of human knowledge about biodiversity and ecosystems. However, these knowledge systems are rarely recognized as resources for understanding, monitoring and managing biodiversity. The LINKS programme works to enhance the recognition and use of indigenous knowledge within biodiversity assessments. This includes work on a series of reports on indigenous and local knowledge which are designed to address knowledge gaps in the IPBES regional assessments and pollinators assessment.

Participatory science: Sandwatch

For over 18 years, UNESCO's Small Islands and Indigenous Knowledge Section has worked with national governments, non-governmental organizations, schools and regional offices to establish the Sandwatch coastal monitoring system in Small Island Developing States (SIDS) and other coastal countries. Given that many countries have a limited number of scientific researchers or constrained scientific capacity, Sandwatch is instrumental in bridging these gaps by promoting additional and complementary knowledge systems, including citizen observation, data capture, participatory use of GIS and citizen science instruments.

World Heritage State of Conservation Information System (SOC)

The World Heritage State of Conservation Information System (SOC) is one of the most comprehensive monitoring data systems of any international convention. Since 1979, the Convention's Reactive monitoring process has produced 3,627 conservation reports on 566 World Heritage properties in 144 States Parties. This online tool enables the assessment of the state of conservation of World Heritage and the conducting of comprehensive analyses of threats to identify potential trends over time.²

¹ See www.iode.org

² The online tool is publicly available at whc.unesco.org/en/soc

SUGGESTED AREAS FOR FUTURE ACTION

- + Elaborate a strategy for knowledge generation designed to fill gaps impeding effective decision-making;
- + Enhance the use of UNESCO designated sites for innovative interdisciplinary monitoring of biodiversity conservation and local sustainable development strategies;
- + Increase the implementation of best practices, develop new technologies, and strengthen data sharing, open access (World Heritage sites and biosphere reserves) and interoperability through data and metadata systems such as OBIS and the IOC Ocean Data and Information System (ODIS);
- + Investigate methodological issues concerning the use of indigenous and local knowledge to assess and monitor biodiversity and identify resilience solutions;
- + Help develop national policy approaches to indigenous and local knowledge in relation to biodiversity and ecosystems, for example in national pollinators policy;
- + Grow capacity in the role of citizen science as a complementary knowledge stream, particularly in relation to Small Island Developing States.



© UNESCO/Nelson De Lamare
World Heritage Youth project on Marine Biodiversity and Climate Change (Panama).



©World Bank
The Sujat Nagar urban slum school in Dhaka, Bangladesh. This country was the origin of International Mother Language Day, observed annually on February 21 in recognition of the Bengali Language Movement of 1952.

EDUCATION



KEY CHALLENGES

Education is essential for the sustainable and equitable use of biodiversity and its conservation. It is also crucial for mainstreaming biodiversity. The erosion of indigenous and local knowledge and the associated decline in sustainable traditional land use threatens biodiversity and ecosystems services, as well as communities' contributions to accomplishing SDG 4 (inclusive and quality education). It is therefore vital to integrate biodiversity into education and learning programmes.



KEY MESSAGES

- Education is essential for the sustainable and equitable use of biodiversity and its conservation.
- The future of biodiversity will depend on the global collective action of an educated society, including efforts to promote local and indigenous knowledge of biodiversity.

UNESCO'S ROLE IN EDUCATION

UNESCO leads the global Education for Sustainable Development (ESD) agenda and actively supports education on biodiversity.¹ The Organization has initiated activities to strengthen biodiversity education and learning, notably in the area of teacher training and the development of learning materials in the context of biosphere reserves, World Heritage sites and UNESCO Global Geoparks, with the involvement of the UNESCO Associated Schools Network (ASPnet) and UNESCO Chairs.

UNESCO actively contributes to communication, education and public awareness of CBD Plan of Action 10 (strengthening formal and informal education on biodiversity), implementation of Aichi Biodiversity Target 1 and the UN Decade of Biodiversity.

The Global Ocean Science Report offers advice for strategic investments in ocean science capacity including for women and African and SIDS scientists studying ocean biodiversity and ecosystem services. The Ocean Teacher Global Academy

and its regional training centres provide a learning environment for ocean scientists worldwide.

UNESCO coordinates the implementation of the Global Action Programme on ESD.² Its activities also contribute to addressing the place of biodiversity in sustainable consumption and production and to education for sustainable lifestyles in the framework of the 10YFP³ Programme on Sustainable Lifestyles and Education and the Partnership for Education and Research about Responsible Living (PERL)/UNITWIN programme.⁴

Pirque Agro-ecological School: promoting culturally acceptable, socially just and ecologically sound education (Chile)

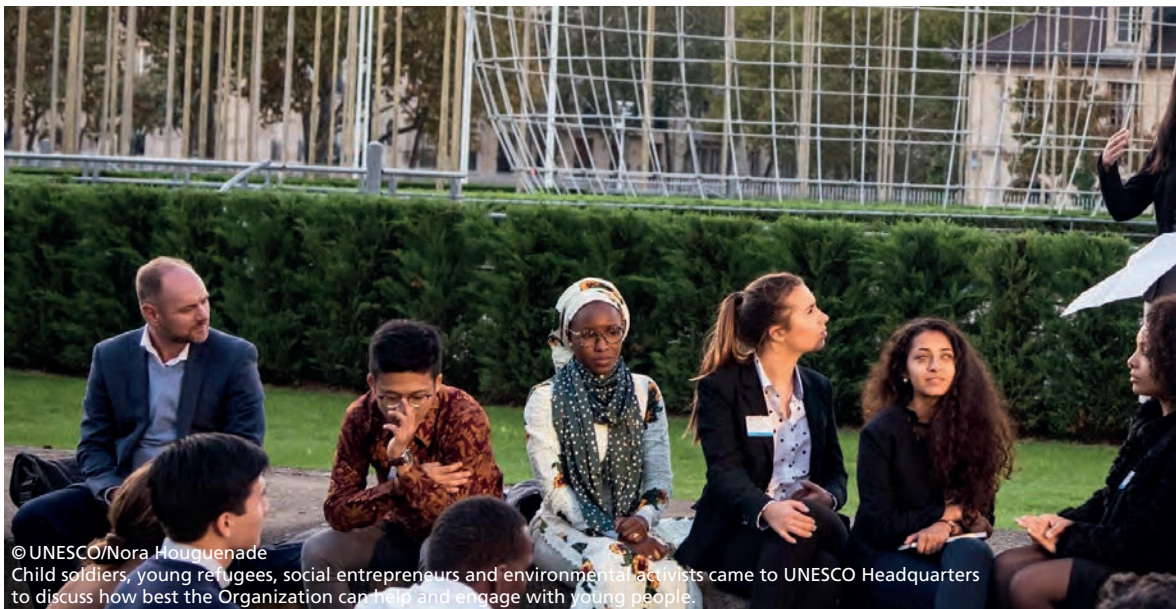
The Pirque Agro-ecological School is the first educational institution in Chile to implement an innovative form of teaching based on student-teacher trust to apply this relationship to the environment in its educational programme. The school prioritizes students who have not been accepted into other schools and those willing to opt for training in the agricultural field. Since the school was established in 2005 more than

1 According to UNESCO survey data, 59% of countries have implemented action on biodiversity education (UNESCO, 2012).

2 See <http://unesdoc.unesco.org/images/0023/002305/230514e.pdf>

3 The 10 Year Framework of Programmes on Sustainable Consumption and Production.

4 See: www.livingresponsibly.org



© UNESCO/Nora Houguenade
Child soldiers, young refugees, social entrepreneurs and environmental activists came to UNESCO Headquarters to discuss how best the Organization can help and engage with young people.

2,000 students have attended, 100% of whom have graduated, and 75% of whom have graduated with a technical diploma in agriculture and livestock, finding job opportunities immediately after completing their studies.⁵

Indigenous knowledge transmission of the Mayangna in Nicaragua

UNESCO's Local and indigenous Knowledge Systems (LINKS) programme has worked with the Mayangna people of the BOSAWAS Biosphere Reserve in Nicaragua to document their indigenous knowledge, specifically of turtles and fish, and to develop educational materials that can be used in schools. The aim is to provide materials that bring Mayangna knowledge into the classroom, encouraging both students and teachers to engage more widely with the knowledge of their elders and other community members. Another aim is to improve respect for Mayangna knowledge among non-Mayangna children and the general public, who may not be aware of the knowledge held by the Mayangna people or their role in managing the BOSAWAS biosphere reserve. Materials developed include books in Mayangna and Spanish, teacher's manuals and posters.

⁵ See <http://fundacionorigen.cl/eng/agroecological-school-pirque/>

SUGGESTED AREAS FOR FUTURE ACTION

- + Design flexible frameworks in educational resources that allow for two-way learning in line with the principles of social learning and reflexive learning methodologies;
- + Move beyond traditional approaches to teaching Education for Sustainable Development (ESD) and biodiversity education, which are often restricted to CEPA (Communication, Education, Promotion and Awareness raising) activities, by embracing the broader concept of sustainable development and human wellbeing;
- + Strengthen institutional capacities by mobilizing sufficient financial resources (e.g. increased funding from both public and private sources together with innovative financing mechanisms such as ecological fiscal transfers);
- + Combine different knowledge systems with technological innovation (e.g. transition movements);
- + Improve planning and reporting by building biodiversity education into the National Biodiversity Strategies and Action Plans (NBSAPs) of the CBD. Better guidance on indicators to capture biodiversity education needs to be developed, beyond mere awareness raising, within the reporting mechanisms for the CBD and other relevant multilateral agreements.





MAKAMAL OSEANOGRAFI & INFORMATIK MARIN	
NO. PERALATAN	TARIKH PINJAMAN
Spektrum Digital	
Printer Spectral	
Eight Mouse	14/10/2015
Keyboard 4	
LOKAL 333	
Demokel Pro 2014	
Demokel 2014	
Printer Act	
Demokel 2014	
Printer	
Mouse Tactik	
Printer Black	

© IOC/OceanTeacher Global Academy
Teacher assisting a course participant during
a course at a Regional Training Centre in Malaysia.

CAPACITY BUILDING



KEY CHALLENGES

Capacity building is needed to provide adequate support to Member States to attain the international biodiversity goals and the SDGs. In some countries, technical, managerial and institutional capacity to define guidelines for the conservation and sustainable use of biodiversity is inadequate. Additionally, existing institutional and technical capacity is often fragmented and uncoordinated. As new ways of interacting with biodiversity emerge, it is essential that stakeholders are trained and have sufficient capacity to implement new and varied approaches. Further efforts will be needed therefore to facilitate capacity building by fostering learning and leadership skills.



KEY MESSAGES

- Lack of adequate technical and financial resources and capacity can limit the upscaling of innovative solutions, demonstrating further the need for regional and subregional co-operation.
- Capacity building is a key factor in the successful avoidance and reduction of land degradation and informed restoration.
- Capacity development needs should be addressed at three levels: national, provincial and local.
- There is a need for capacity building to enable sources outside government to inform relevant departments and policies on biodiversity (e.g. through consultancies, academia and think tanks).

UNESCO'S ROLE IN CAPACITY BUILDING

UNESCO is mandated to assist Member States in the design and implementation of national policies on education, culture, science, technology and innovation including biodiversity.

The BioPALT project: integrated management of ecosystems

More than 30 million people live in the Lake Chad Basin. The site is highly significant in terms of biodiversity and natural and cultural heritage. The cross-border dimension of the basin also presents opportunities for sub-regional integration. The project focuses on poverty reduction and peace promotion, and aims to strengthen the capacities of the Lake Chad Basin Commission member states to safeguard and manage sustainably the water resources, socio-ecosystems and cultural resources of the region.

IOC and capacity development

Capacity development is present in all areas of IOC's work, at the global programme level as well as within each of its three sub-commissions and the IOCINDIO regional committee. In 2015, IOC adopted its Capacity Development Strategy. IOC is the custodian agency for SDG 14A.¹

In collaboration with the International Oceanographic Data and Information Exchange (IODE), IOC has implemented a network of Regional Training Centres under the OceanTeacher Global Academy (OTGA) project, which has seven such centres around the

world (Belgium, Colombia, India, Kenya, Malaysia, Mozambique and Senegal). Through its network of centres, OTGA provides a programme of training courses related to IOC programmes, which contribute to the sustainable management of oceans and coastal areas worldwide. OTGA has developed an e-Learning Platform that hosts all training resources for the training courses and makes them freely available to any interested parties. Since 2012, 270 scientists from 69 countries have been trained to manage marine biodiversity data, publish data through the Ocean Biogeographic Information System (OBIS), and perform scientific data analysis for reporting and assessment.

Since 1990, IOC West Pacific Regional Training and Research Centres have trained more than 1,000 people in a variety of topics including: monitoring the ecological impacts of ocean acidification on coral reef ecosystems, harmful algal blooms, traditional and molecular taxonomy, reef health monitoring, and seagrass and mangrove ecology and management. Most courses take place in a face-to-face classroom environment, however training can also be conducted online using ICTs and the OceanTeacher e-Learning Platform, thereby increasing the number of people reached.

SUGGESTED AREAS FOR FUTURE ACTION

- + Develop rights-based instruments to facilitate capacity building for indigenous peoples and local communities;
- + Mobilize sufficient financial resources to strengthen institutional capacities, in order to support training and capacity-building activities, especially in Africa;
- + Implement the IOC capacity development strategy for ocean observations with relevant partners and organize training in biodiversity observing technologies, data management and scientific analysis including modelling and forecasting;
- + Increase the implementation of best practices, develop new technologies, and strengthen data sharing and interoperability through data and metadata systems such as OBIS and the IOC Ocean Data and Information System (ODIS).

1 SDG 14A: 'Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.'





© GIZ
Realization of a community radio program to raise awareness about the process of designing a biosphere reserve in Benin. Mono transboundary Biosphere Reserve (Benin/Togo).

AWARENESS AND COMMUNICATION

5

GENDER
EQUALITY



16

PEACE, JUSTICE
AND STRONG
INSTITUTIONS



17

PARTNERSHIPS
FOR THE GOALS



KEY CHALLENGES

Attempts to raise awareness of the biodiversity concept and communicate the complex issues involved are often given a relatively low political priority. Lack of awareness of biodiversity and its importance is common, with biodiversity sometimes perceived as a resource to be exploited, for example through unsustainable logging or poaching of wild animals. Communication on biodiversity is a crucial issue that must be addressed to achieve the objectives of the SDGs and the CBD. A key challenge is to draw attention to the importance and urgency of biodiversity mainstreaming in the context of Agenda 2030, in order to achieve the high-level support necessary across governments, the UN system and civil society to inform the negotiations of a post-2020 global biodiversity framework. Another challenge is to elaborate a common powerful narrative to communicate biodiversity in political settings and to civil society. This narrative must be able to engage key stakeholders including youth, business and private sector in the process, and inspire them to become actors in this transformation towards resilient societies.



KEY MESSAGES

- Conserving biodiversity requires an inclusive approach that speaks to and involves everyone.
- Advocacy on biodiversity should seek to communicate in language and methods suitable to a variety of age groups and communities.

UNESCO'S ROLE IN AWARENESS AND COMMUNICATION

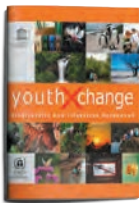
UNESCO's communication and branding projects address the values of biodiversity and engagement with stakeholders through the co-design of toolkits and the sharing of concrete examples of successful biodiversity and sustainable development. Clarifying common values about biodiversity enables UNESCO to communicate key messages at both local and international levels and to support Member States in the implementation of their respective communication strategies through educational materials, workshops and UNESCO Chairs.



apeAPP

The apeAPP tool created by the Great Apes Survival Partnership (GRASP) engages the general public in the battle to conserve our closest cousins. The application is free and available for download from the App Store and Google Play.

UNESCO/UNEP YouthXchange Guidebook on Biodiversity and Lifestyles



Developed by UNEP and UNESCO in close collaboration with the Secretariat of the CBD,

this guidebook helps young people aged between 15 and 24 to learn about the different dimensions of biological and cultural diversity and to develop essential skills to take action for its conservation. The guidebook highlights the interactions between biodiversity and the lifestyle choices of young people, and untangles the connections between food, consumption, culture and biodiversity conservation. The goal is to promote learning to preserve biodiversity through responsible lifestyle choices, by providing starting points for action for young people.

<http://unesdoc.unesco.org/images/0023/002338/233877e.pdf>

UNESCO/CBD Biodiversity Learning Kit



The UNESCO/CBD Biodiversity Learning Kit was piloted by secondary schools of the UNESCO Associated Schools Project Network (ASPnet). Consisting of

two volumes, its content is a contribution to the United Nations Decade on Biodiversity (2011-2020) and supports the implementation of the Global Action Programme on Education for Sustainable Development, coordinated by UNESCO.

<http://unesdoc.unesco.org/images/0024/002459/245981E.pdf> (vol 1)

<http://unesdoc.unesco.org/images/0024/002459/245982E.pdf> (vol 2)

MAB global communication strategy

The MAB programme has developed a tool kit for engaging stakeholders and a global communication strategy and action plan, co-designed by the MAB diverse and unique community, with concrete examples provided by participative biosphere reserves of the WBNR. Target audiences include local business, youth and children, community leaders and local residents.

<http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/related-info/publications/mab-brand-story/toolkit/>

World Heritage Education Programme



The UNESCO World Heritage Education Programme,¹ initiated as a special

project in 1994, gives young people a chance to voice their concerns and become involved in the protection of our common cultural and natural heritage. It seeks to encourage and enable tomorrow's decision-makers to participate in heritage conservation and to respond to the continuing threats facing our World Heritage. The programme is led by the UNESCO World Heritage Centre in coordination with the UNESCO Associated Schools Network (ASPnet) and in close cooperation with UNESCO Field Offices, National Commissions for UNESCO and other partner stakeholders.

¹ See <https://whc.unesco.org/en/wheducation>

SUGGESTED AREAS FOR FUTURE ACTION

- + Develop simple, powerful, relevant and consistent ways to tell inspiring and positive stories about biodiversity and interactions between people (e.g. restoration of ecosystems and biosphere reserves campaigns);
- + Develop material for different audiences, including through the use of social media (i.e. #ProudToShare);
- + Empower people across networks, including youth (i.e. MAB Youth forum), to engage with audiences locally and effectively and to co-create the necessary tools with them;
- + Design biodiversity communication strategies that seek to communicate messages and information in language and methods suitable to a variety of age groups and communities.



© UNESCO/Nelson De Lamare
World Heritage Youth project on Marine Biodiversity and Climate Change, held in Panama in 2016.



© Wolcott Henry/ Marine Photo Library
The Pacific is one of the most vulnerable regions in the world to the adverse impacts of climate change (Solomon Islands).

CLIMATE CHANGE



KEY CHALLENGES

Climate change is a major driver of biodiversity erosion. Changes in the temperature of the atmosphere and precipitation, ocean acidification, sea level rise and the nature of some extreme events adversely impact biodiversity and ecosystem services. In addition, climate change amplifies the impacts of other drivers such as habitat degradation, pollution, invasive species, over-exploitation, population displacement and migration. Loss of biodiversity also accelerates climate change processes, as the capacity of degraded ecosystems to assimilate and store CO₂ tends to decrease, reducing the available adaptation options. Humanity therefore has a global responsibility to address these two challenges and the interactions between them.



KEY MESSAGES

- Biodiversity erosion is a reality and needs to be tackled urgently. Climate change is a key driver and acts synergistically with land degradation and population growth to accelerate loss of biodiversity.
- Biodiversity conservation will contribute to achieving the targets set by the 2015 Paris Agreement.
- Stopping biodiversity loss is essential for climate change mitigation and achieving transformative sustainable development.
- Current and future environmental migration depends to a large extent upon the implementation of adaptation strategies in vulnerable regions in conjunction with efforts to mitigate environmental degradation and climate change.

UNESCO'S ROLE IN BIODIVERSITY AND CLIMATE CHANGE

In line with its Strategy for Action on Climate Change (2018-2022), UNESCO provides data and climate information services on water security, Earth sciences, biodiversity and the ocean through the International Hydrological Programme (IHP), the International Geoscience and Geoparks Programme (IGGP), the Man and the Biosphere (MAB) Programme, the Intergovernmental Oceanographic Commission (IOC), the Management of Social Transformations (MOST) Programme, the Local and Indigenous Knowledge Systems (LINKS) Programme and the World Heritage Convention. The combined output of these programmes ensures the strengthening of the interdisciplinary climate change knowledge base.

UNESCO also recognizes and promotes the importance of cultural knowledge and diversity as crucial drivers for the societal transformation and resilience needed to respond to climate change.

The Global Ocean Observing System (GOOS)

The Global Ocean Observing System is a key UNESCO IOC programme that monitors how climate change and humanity's increasing use of the oceans are affecting marine biodiversity, resources and ecosystem habitats. Increased understanding of how ocean biodiversity is changing and the consequences of those changes is crucial to maintaining a healthy ocean and sustaining the benefits it provides for society and generations to come. GOOS has identified key biological ocean variables of importance to society that can be measured at a global scale.

Indigenous knowledge of climate change among pastoralists in Africa

Africa is one of the most vulnerable continents to climate variability and change, with negative impacts affecting food and water security, human health and ecosystems. UNESCO's Local and Indigenous Knowledge Systems (LINKS) Programme facilitates transdisciplinary research that bridges indigenous and scientific knowledge on climate change in Africa. The work focuses on pastoralists in semi-arid areas, groups that are already adapting to variable and unpredictable weather patterns exacerbated by climate change.

Biosphere reserves as climate change and sustainable development laboratories in the Arab and African region (AABRI)

The AABRI¹ initiative was launched at UNFCCC COP23 in Bonn, in 2017, to promote the use of biosphere reserves in the Arab and African region as climate change and sustainable development laboratories. The objective of the initiative is to improve understanding of climate change and its impacts on biodiversity and natural resources, in particular water, with a view to establishing mitigation, adaptation and resilience-enhancing solutions that contribute to sustainable development.

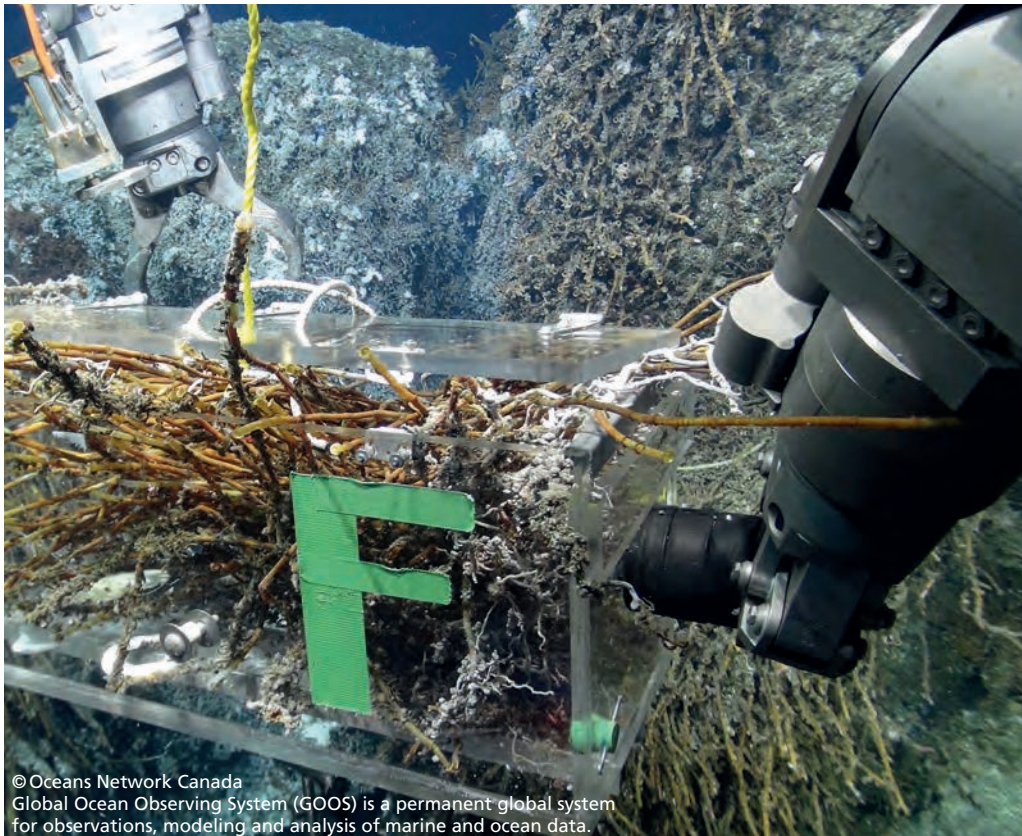
World Heritage sites responding to climate change

As the common heritage of humanity, World Heritage sites are important instruments in raising awareness of the impact of climate change on the global community. World Heritage sites provide climate change mitigation and adaptation options for society through the ecosystem benefits they provide (e.g. water and climate regulation) and the carbon stored in World Heritage forest sites.

SUGGESTED AREAS FOR FUTURE ACTION

- + Continue UNESCO's focus on gender equality as a global priority (e.g. the Arganeraie Biosphere Reserve, and the role of women's cooperatives in Morocco to cope with climate change through the protection of the endemic Argan trees that help mitigate desertification and produce valuable Argan oil);
- + Induce human behavioural change, starting with consumptions pathways.² According to the consumption change scenario, developed by the Global Biodiversity Outlook 4, a healthy diet is a major contribution to climate mitigation goals, biodiversity goals and human development goals;
- + Decouple economic growth from environmental reliance and reduce vulnerability to climate and environmental change, by reinforcing socio-economic structures and building the capacities of women and youth;
- + Support sites subject to influxes of climate refugees by facilitating humanitarian relief while maintaining biodiversity and social cohesion;
- + Develop strategies in line with UNESCO's 'Declaration of Ethical Principles in relation to Climate Change' (2017). Measures to address climate change should be equitable and promote sustainable development and environmental sustainability.

² 18% of global total greenhouse gas emissions are produced by the livestock sector, against 14% produced by the transport sector (e.g. road vehicles, trains, ships and airplanes). The consumption change scenario involves a shift towards more plant-based, climate and environmentally friendly consumption behaviours.



© Oceans Network Canada
Global Ocean Observing System (GOOS) is a permanent global system for observations, modeling and analysis of marine and ocean data.



GOVERNANCE AND CONNECTING THE SCALES



KEY CHALLENGES

Governance systems in many countries function as indirect drivers of changes to ecosystems and biodiversity. At present, most policies that address biodiversity are fragmented and target specific. Additionally, the current design of governance, institutions and policies rarely takes into account the diverse values of biodiversity. There are also substantial challenges to the design and implementation of effective transboundary and regional initiatives to halt biodiversity loss, ecosystem degradation, climate change and unsustainable development. Another key challenge to successful policy-making is adequate mobilization of financial resources. Increased funding from both public and private sources, together with innovative financing mechanisms such as ecological fiscal transfers, would help to strengthen institutional capacities.



KEY MESSAGES

- Governance options that harness synergies are the best option for achieving the SDGs.
- There is a need to develop engagement and actions with diverse stakeholders in governance through regional cooperation and partnerships with the private sector.
- Mainstreaming biodiversity into development policies, plans and programmes can improve efforts to achieve both the Aichi Targets and the SDGs.

UNESCO'S ROLE IN GOVERNANCE AND CONNECTING THE SCALES

UNESCO works to engage with new governance schemes at all levels through the LINKS Programme, the MAB Programme, the UNESCO-CBD Joint Programme and integrated management of ecosystems linking local to regional scales.

UNESCO supports the integrated management of ecosystems linking local to regional scales, especially through transboundary biosphere reserves, World Heritage sites and UNESCO Global Geoparks. The governance and management of a biosphere reserve places special emphasis on the crucial role that combined knowledge, learning and capacity building play in creating and sustaining a dynamic and mutually beneficial interactions between the conservation and development objectives at local and regional scales.

A transboundary biosphere reserve is defined by the following elements: a shared ecosystem; a common culture and shared traditions, exchanges and cooperation at local level; the will to manage jointly the territory along the biosphere reserve values and principles; a political commitment resulting in an official agreement between governmental authorities of the countries concerned. The transboundary biosphere reserve establishes a coordinating structure representative of various administrations and scientific boards, the authorities in charge of the different areas included the protected areas, the representatives of local communities, private sector, and NGOs. A permanent secretariat and a budget are devoted to its functioning. Focal points for co-operation are designated in each country participating.



© Nawaf Jabr Al Naemi
Grazing goat and sheep in Al Reem Biosphere Reserve (Qatar).

Transboundary conservation and cooperation

The Trifinio Transboundary Biosphere Reserve is located between El Salvador, Guatemala and Honduras. It is the first transboundary biosphere reserve in Central America and represents a major contribution to the implementation of the Mesoamerican Corridor. It includes key biodiversity areas, such as Montecristo National Park and a variety of forest ecosystems.

SUGGESTED AREAS FOR FUTURE ACTION

- + Share case studies of efficient collaborative, participatory and decentralized governance;
- + Use more participative scenarios for decision-making processes;
- + Devise approaches to encourage greater participation by local communities and youth and other stakeholder groups in decision-making processes and actions related to biodiversity;
- + Promote good governance structures incorporating differing values, world views and indigenous peoples and local communities, as these can stimulate successful strategies and may reduce the negative impacts of conflicting interests;
- + Work to increase funding from both public and private sources, combined with innovative financing mechanisms such as ecological fiscal transfers, in order to strengthen institutional capacities.



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ONLINE RESOURCES

UNESCO Biodiversity Learning Kit

<http://unesdoc.unesco.org/images/0024/002459/245981E.pdf>, vol. 1 (English)

<http://unesdoc.unesco.org/images/0024/002459/245982E.pdf>, vol. 2 (English)

<http://unesdoc.unesco.org/images/0024/002449/244968F.pdf>, vol. 1 (French)

<http://unesdoc.unesco.org/images/0024/002449/244969F.pdf>, vol. 2 (French)

Convention on Biological Diversity

www.cbd.int

Education for Sustainable Development

<https://en.unesco.org/themes/education-sustainable-development>

Intergovernmental Oceanic Commission

www.unesco.org/new/en/natural-sciences/ioc-oceans

IPBES

www.ipbes.net

Man and the Biosphere (MAB) Programme

www.unesco.org/mab

World Heritage Convention

<http://whc.unesco.org>

<http://whc.unesco.org/en/synergies>

<http://whc.unesco.org/en/biodiversity>

<https://whc.unesco.org/en/soc>

Global Biodiversity Outlook 2, 3 and 4

www.cbd.int/gbo2

www.cbd.int/gbo3

www.cbd.int/gbo4

Learning about Biodiversity (video)

A video showing how to use Education for Sustainable Development to address biodiversity by mobilizing teachers, students, researchers and decision-makers to reflect on biodiversity issues and their linkages with global sustainable development issues. www.youtube.com/watch?v=kHhspf5lfdE (available in English, French and Spanish).

ESD Rio+20 video clip (multilingual)

Restore the Rainforest by Protecting Biodiversity (Brazil)

www.unesco.org/archives/multimedia/index.php?s=films_details&id_page=33&id_film=2585

ESD Shanghai Expo video clips (multilingual)

The urban gardens of Havana (Cuba):

www.youtube.com/watch?v=Qcvy2b9zcEE

When urban waste becomes an agricultural resource (Bangladesh):

www.youtube.com/watch?v=Y032NkKEVgI

apeAPP

This application was created by the Great Apes Survival Partnership (GRASP) to engage the general public in the battle to conserve humanity's closest cousins (available for free download at the App Store and Google Play).

INTERNATIONAL AGENDA ON BIODIVERSITY TIMELINE

2012-2017

UNESCO IPBES WORKSHOPS

UNESCO has played a key role in the implementation of the first IPBES work programme for 2014-2018, both in conceptual terms and by co-organizing and hosting several key expert workshops on the IPBES framework integrating indigenous and local knowledge with science, the multiple values of biodiversity, and on scenario building and engagement with stakeholders through FIT projects funded by Japan.

27-29 October 2012

Informal expert workshop on main issues relating to the development of a conceptual framework for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, UNESCO HQ, Paris, France

15-17 June 2015

UNESCO-UNU Expert Workshop on Participatory Scenarios, Tokyo, Japan

5-7 April 2016

UNESCO-IPBES expert workshop on how to reconcile the design of models and scenarios at UNESCO HQ, Paris, France

30 May – 2 June 2016

UNESCO-IPBES expert workshop on values and valuation of biodiversity and ecosystem services, with a focus on relational values, San Sebastian, Spain

22 July 2017

UNESCO-MOEJ Capacity building workshop on the use of IPBES assessments for local and national policy development for Asia Pacific officials, Tokyo, Japan

11-13 November 2017

UNESCO-IPBES workshop on bio-cultural diversity and values and workshop on ecosystems valuation in practice organized by the IPBES Technical Support Unit on Values, Oaxaca, Mexico

2018

13-16 May

The 4th World Conference on Marine Biodiversity, Montreal, Canada

5-6 June

ECOSOC 3rd Annual STI Forum NYC, United States

24 June – 4 July

The 42nd session of the World Heritage Committee, Manama, Bahrain

9-18 July

ECOSOC High-level Political Forum on Sustainable Development, NYC, United States

23-27 July

30th session of the MAB International Co-ordinating Council, Palembang, Indonesia

September (exact dates tbc)

Biodiversity Liaison Group for the 7 MEAS, convened by WHC, UNESCO HQ, Paris, France

4-17 September 2018

UN-BBNJ First session of the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, UN HQ, NYC (<http://un.org/bbnj>)

21-28 October

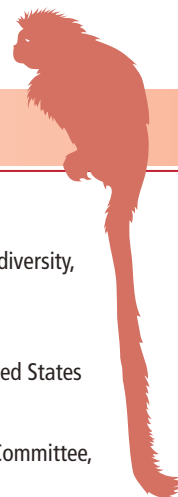
Ramsar COP13, Dubai, UAE

17-29 November

CBD COP14, Sharm El-Sheikh, Egypt

3-14 December

UNFCCC COP24, Katowice, Poland



2019

March (exact dates tbc)

Conference on Indigenous Knowledge,
Biodiversity and Climate Change,
Paris, France

11-15 March

The 4th UN Environment Assembly (UNEA-4),
Nairobi, Kenya

26 April – 2 May

IPBES-7 plenary, Paris, France

23 May – 3 June

CITES COP18 Colombo, Sri Lanka

16-20 September 2019

OceanObs'19 Conference,
Hawaii, United States
(www.oceanobs19.net)

October (exact dates tbc)

The 14th meeting of the Conference
of the Parties to the UN Convention
to Combat Desertification (UNCCD COP14),
Bonn, Germany

October (exact date tbc)

Release of the Global Sustainable Development
Report (GSDR)

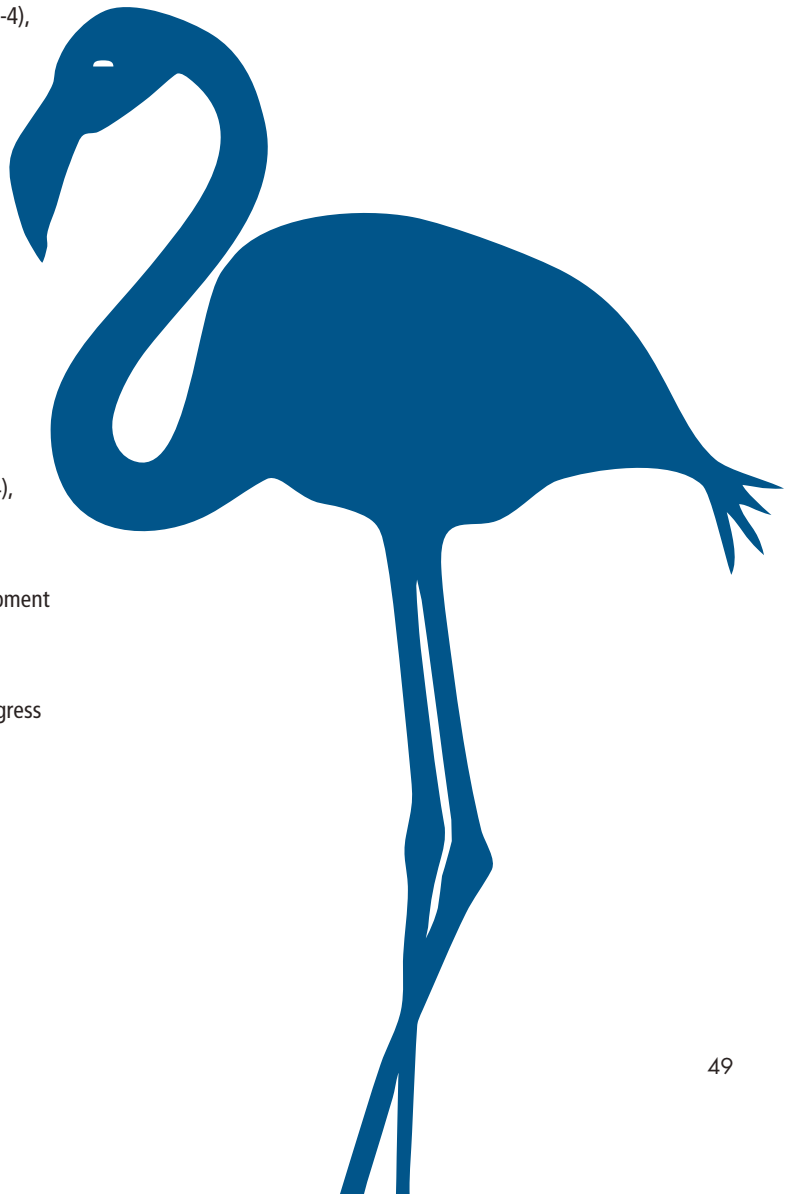
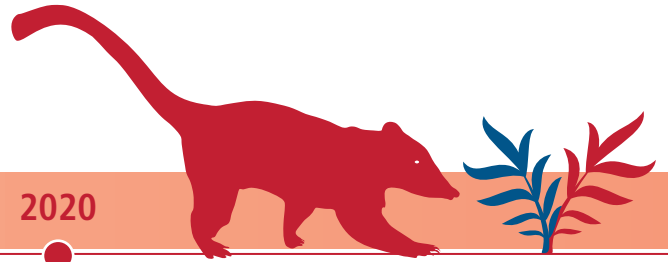
3-7 November 2019

10th World Environmental Education Congress
(WEEC) – Local Global Connectivity,
Bangkok, Thailand

2020

Exact date tbc

Launch of the Post-2020 Biodiversity Framework CBD,
COP15, China



ANNEX**CBD STRATEGIC GOALS AND AICHI BIODIVERSITY TARGETS**

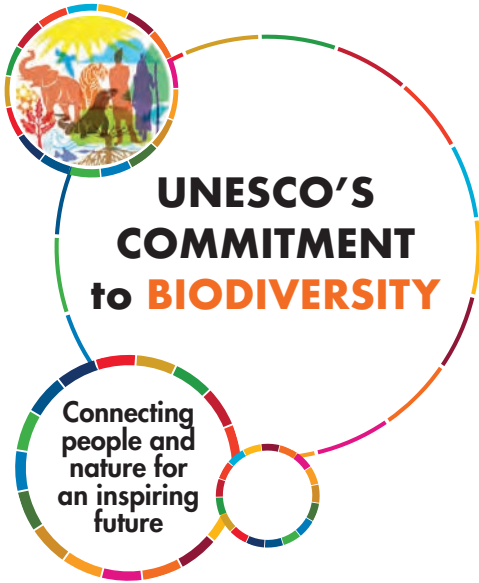
Themes/Challenges	Page	CBD Strategic Goals
CULTURE AND VALUES	12	D E
PROTECTED AREAS AND CONNECTED LANDSCAPES FOR CONSERVATION OF BIODIVERSITY	16	B C D
KNOWLEDGE GAPS	20	E
EDUCATION	24	A
CAPACITY BUILDING	28	A
AWARENESS RAISING AND COMMUNICATION	32	E
CLIMATE CHANGE	36	B D
GOVERNANCE AND CONNECTING THE SCALES	40	A E

TS

Aichi Biodiversity Targets

SDGs





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**Ministry of the Environment
Government of Japan**