Convention on Biological Diversity (CBD)

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CBD Egypt National Focal Point

Africa 21, October 2021

Biodiversity and Ecosystem services: key concepts

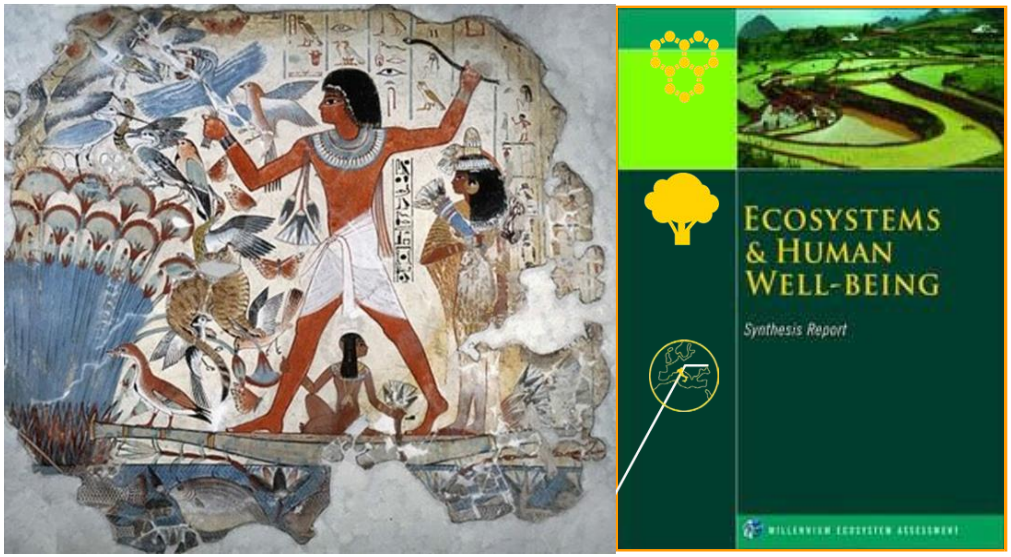
Biodiversity

- The variability among living organisms: within species, between species and of ecosystems
- basis of integrity and effective working of ecosystem and the natural resources they provide
- used as an indicator to evaluate ecosystems status, trends and impacts of human activities

Ecosystem Services

- The benefits that people obtain from healthy, well- functioning ecosystems
- Link between economic development (benefits), social well-being (people) and the natural environment (ecosystems)
- 4 categories of Ecosystem Services

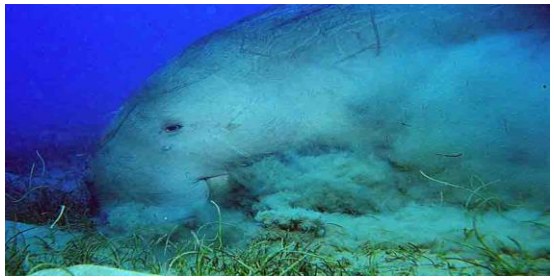
Biodiversity



Introduction

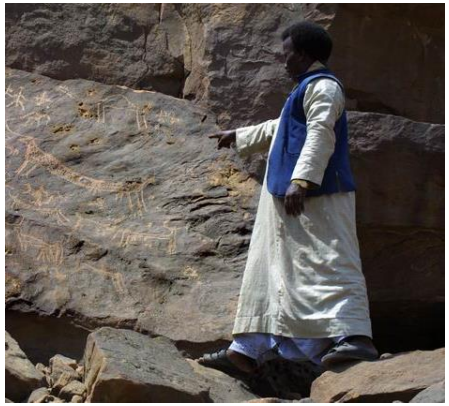
The rich variety of life on earth has always had to deal with a changing climate





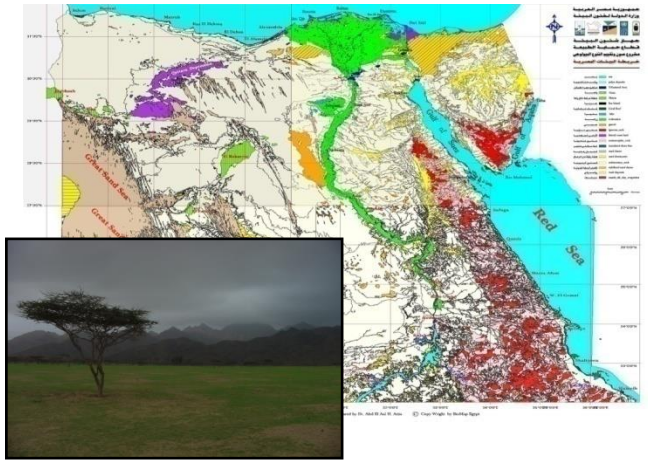






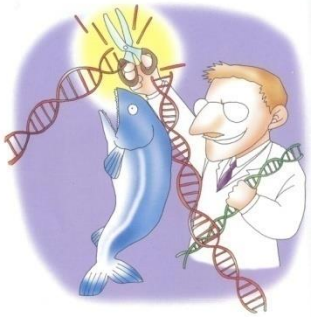
مستويات التنوع البيولوجي

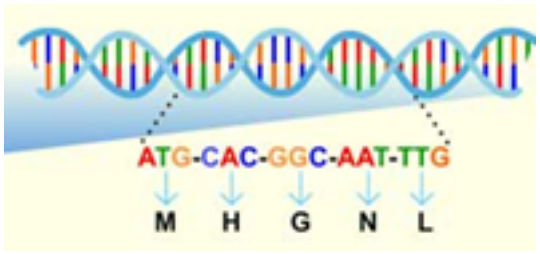
تنوع النظم البيئيةecosystems



تنوع الأجناس Species and genus

تنوع الجيناتGenes





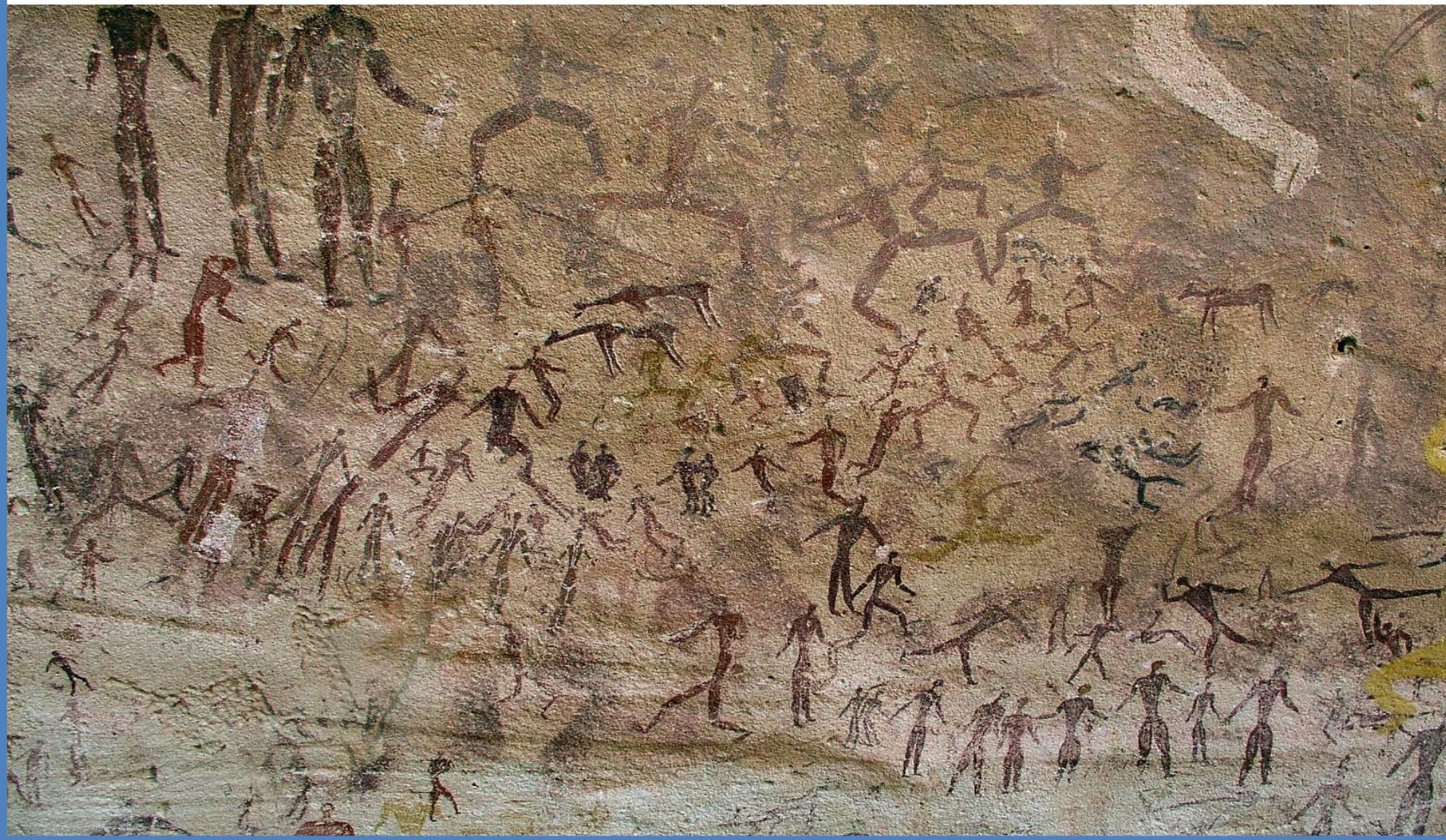
Categories of Ecosystem Services and link with Biodiversity

Biodiversity forms the basis of ecosystems, thereby underpinning all ecosystem services; increased levels of biodiversity tend to support a broader range and greater supply of ecosystem services; biodiversity also enhances the resilience of ecosystem services

الخدمات التموينية أو الإمداد بالسلع ذات الفائد المباشرة لناس والتي كثيراً ما يكون لها قيمة نقدية واضحة مثل الأخشاب من الغابات والنباتات الطبية والأسماك من المحيطات والأنهار والبحيرات.

الخدمات التنظيمية وهي طائفة الخدمات التي تؤديها النظم الإيكولوجية التي يندر أن تكون لها قيمة نقدية في الأسواق التقليدية، وهذه تشمل تنظيم المناخ عن طريق تخزين الكربون والتحكم في هطول الأمطار محلياً وغزالة الملوثات عن طريق ترشيح الهواء والماء والحماية من الكوارث مثل الإنهيارات الأرضية والعواصف الساحلية.

الخدمات الثقافية التي لا توفر فوائد مادية مباشرة، ولكنها تساهم في تلبية الحاجات والرغبات الأوسع للمجتمع وبالتالي في إستعداد الناس لأن يدفعوا ثمن حفظها. وهي تشمل القيمة الروحية أو القيمة الجمالية للمناظر الطبيعية أو التكوينات الساحلية التي تجذب السائحين.



الخدمات الداعمة التي ليست لها فائدة مباشرة ولكنها أساسية لتشغيل النظم الإيكولوجية وبالتالي فهي مسئولة بصورة غير مباشرة عن كل الخدمات الأخرى وأمثلة ذلك في عمليات نمو النباتات.

CBD OBJECTIVES

1. Conserve biological diversity
2. Sustainable use of its components
3. Fair and equitable sharing of benefits arising out of genetic resources (ABS)

196 countries ratified the convention

CBD Protocols

Biosafety
ABS

Main Articles of the Convention

Cooperation among countries, conservation measures, sustainable use, biodiversity monitoring and assessments, in situ and ex situ conservation, research, capacity development, public awareness, EIAs, access to genetic resources, technology transfer, scientific and technical cooperation, biotechnology, ABS, invasive species, reporting

Thematic Implementation

- Agricultural biodiversity
- Inland biodiversity
- Humid and subHumid
- Coastal and marine biodiversity
- Forestry biodiversity
- Mountain biodiversity
- Islands biodiversity

Cross-cutting implementation

Protected areas, biodiversity assessment and reporting, strategic impact assessment, ecosystem services and products, invasive species, ecotourism, socio-economics, community development, accounting, compensation, biodiversity offset, BCH, scientific and technological cooperation, reporting

EXAMPLES OF CBD COPs DECISIONS

- Nature- Based Solutions
- Spatial planning
- Technological advancements (geoengeneering, synthetic biology)

BIOSAFETY (GMOs)

- **Objectives**
- Protection, safe transfer, handling and use of GMOs that may have adverse effects on biodiversity conservation, human health, and transboundary movements
- **Main issues**
- Risk assessment, handling, transport, packings, and identification, information sharing, capacity building, public awareness and participation, socioeconomic considerations, liability and redress

ABS (NAGOYA PROTOCOL)

- **Objective**
- Access, fair and equitable sharing of the benefits arising from the utilization of genetic resources.
- **Main Issues**
- Traditional knowledge associated with GR, compliance, monitoring utilization, PIC, MAT, code of conduct, awareness, capacity building, technology transfer, collaboration and cooperation

Drivers of biodiversity loss

- Habitat fragmentation
- Pollution of all resources
- Overharvesting and overfishing
- Invasive species
- Climate changes

- Demographic and urbanization

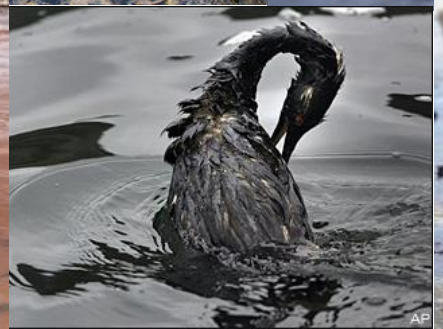


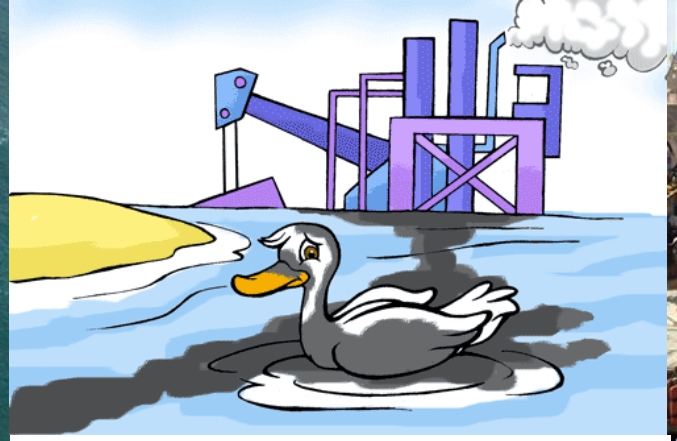






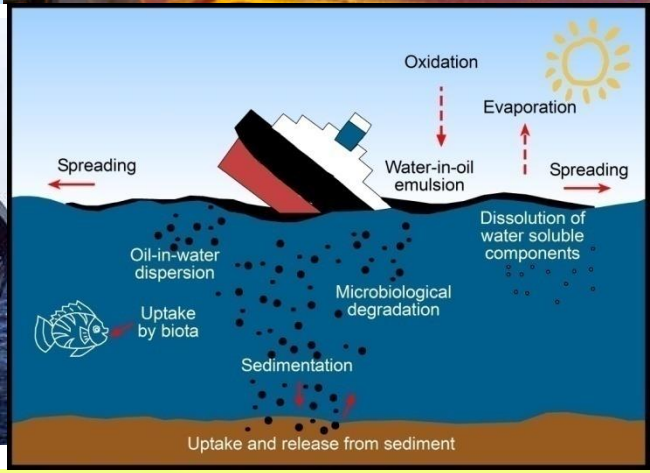


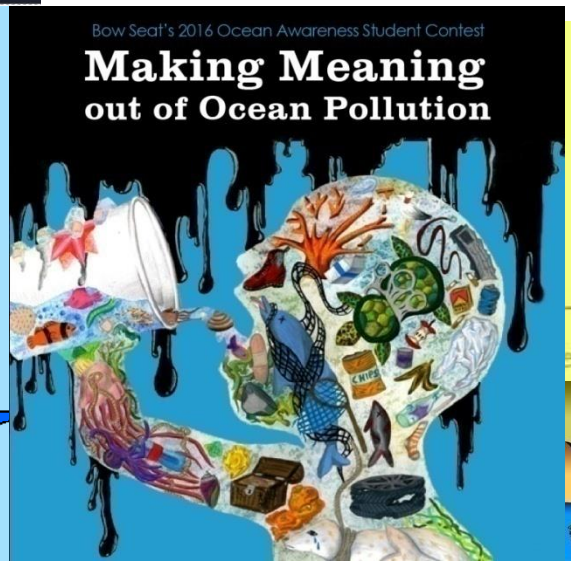



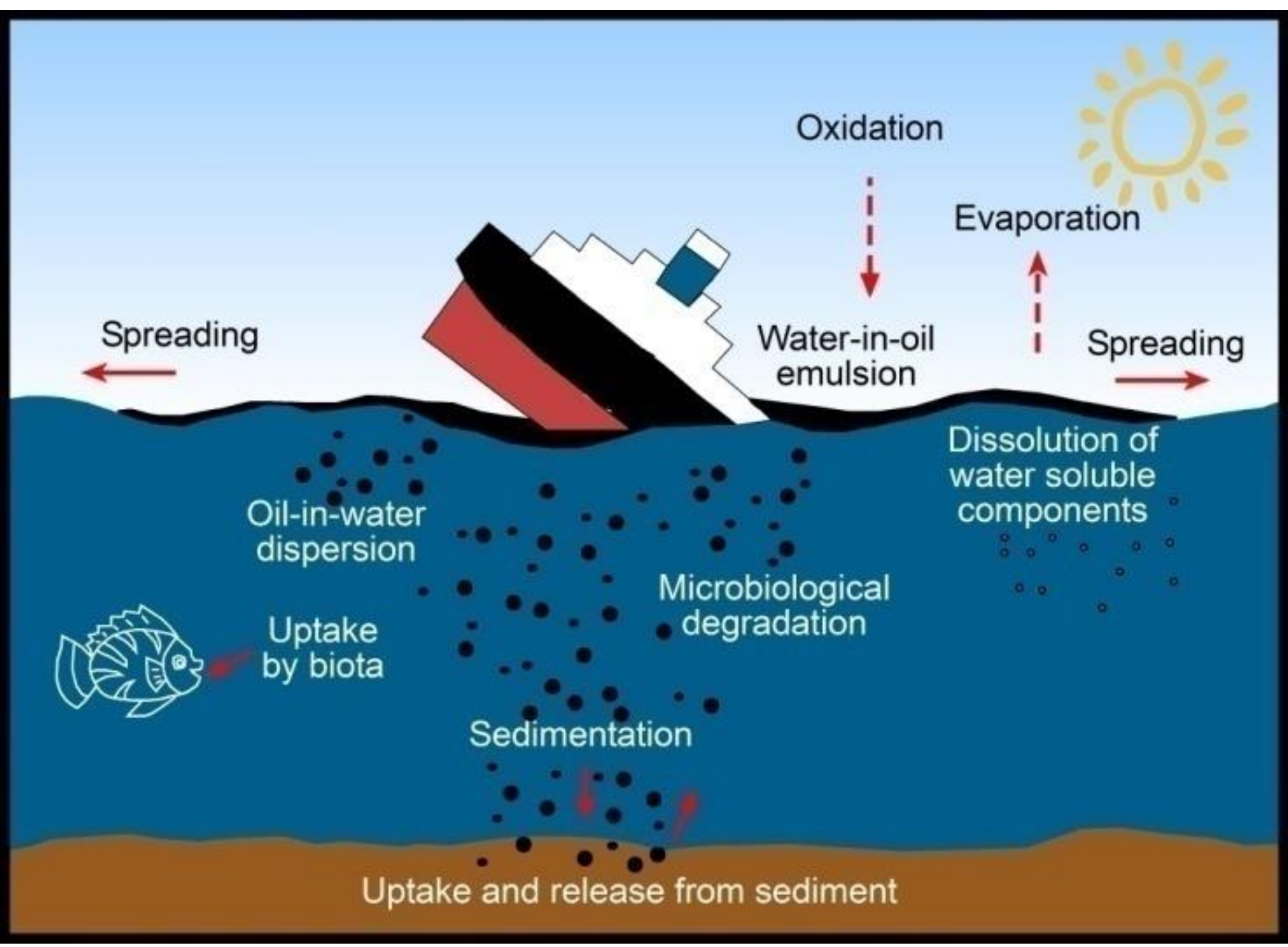

UBC BOSTON


PRESTIGE


Oxidation
Evaporation
Spreading
Water-in-oil emulsion
Spreading
Dissolution of water soluble components
Oil-in-water dispersion
Microbiological degradation
Uptake by biota
Sedimentation
Uptake and release from sediment


Bow Seat's 2016 Ocean Awareness Student Contest
Making Meaning
out of Ocean Pollution


eschooltoday.com


Oxidation
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Water-in-oil emulsion
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Dissolution of water soluble components
Oil-in-water dispersion
Microbiological degradation
Uptake by biota
Sedimentation
Uptake and release from sediment


أكثر من 12.7 مليون طن من النفايات
البلاستيكية تنتهي في المحيطات!
GREENPEACE غرينبيس

Protected Areas (PAs)

- Definition
- Why establish PAs
  - Protection
  - Rehabilitation and restoration
  - Scientific research
  - Understanding ecosystem functions
  - Enjoyment of natural and cultural heritage

Criteria for establishing PAs

- Biogeographic importance
- Environmental importance
- Naturalness
- Economic/social importance
- National/ international importance
- Scientific importance
- Access and infrastructure of PAs

Activities implemented the protected areas

- Law enforcement, community development, scientific research, public awareness, visitor management, investment projects, rehabilitation and restoration, green economy, ex-situ and in-situ conservation, environmental impact assessment (EIAs),and mainstreaming of biodiversity into development sectors

National Biodiversity Strategy and Action Plan (NBSAP)

- Vision
- Mission
- Objectives
- Targets
- Indicators
- Programs and projects
- Funding
- Capacity Development
- Assessment
- Reporting

Main Pillars of Biodiversity Strategy

1. Conservation of biodiversity (protected area, rehabilitation and restoration, invasive species, climate change, reduce biodiversity)
2. Integration of biodiversity conservation in all development sectors (institutional reform, reduce pressure on biodiversity, governance, investments in biodiversity, sustainable production and consumption, knowledge sharing, biosafety, ABS)

Main Pillars of Biodiversity Strategy

3. Improve biodiversity knowledge (national research programs and projects on biodiversity and ecosystems, national network for biodiversity data, update IUCN Red List, case studies)
4. Enhance communication, education, and public awareness (CEPA)
5. Improve partnerships at all levels

Sustainability of Natural Resources

- Financial
- Institutional
- Social
- Environmental

Biodiversity and Ecosystems

- Definition of Natural Assets
- Latest estimate is 143 trillion US$ compared to 95 trillion US$ of Global GDP
- Uses
- Benefits

Mainstreaming of Biodiversity

- Comprise a wide variety of industries and activities and all are closely interrelated.
- Some depend on biodiversity and ecosystem services; all have impacts (directly / indirectly) through a range of drivers.
- Key aim of mainstreaming is to avoid, reduce, or mitigate –ve impacts, while maximizing potential benefits to biodiversity.
- These sectors are expected to grow in the future, with potential impacts on biodiversity.

Invasive Species

- Historical Aspects since 1996
- Definition of invasive species
- Efforts made by Biodiversity Related Conventions
- CBD Strategic Plan (2011-2020) Target 9. Invasive alien species are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment.
- Post2020 Global Biodiversity Framework (GBF). Target 6. Manage pathways for the introduction, preventing, or reducing their rate of introduction and establishment by at least 50 per cent, and control or eradicate invasive alien species to eliminate or reduce their impacts, focusing on priority species and priority sites.

Sustainable Development goals

UN environment programme

Mediterranean Action Plan
Barcelona Convention

SPA/RAC

الهدف ٢

الهدف ١٢

الاستهلاك و الإنتا

الهدف ١٥

حماية النظم الإيكولوجية البرية وترميمها وتعزيز استخدامها على نحو مستدام، وإدارة الغابات على نحو مستدام، ومكافحة التصحر، ووقف تدهور الأراضي وعكس مساره، ووقف فقدان التنوع البيولوجي

المجاعات، وتحقيق
ين التغذية،
امة

الهدف ١٣

اتخاذ إجراءات عاجلة للتصدي لتغير المناخ وآثاره

١٢ الاستهلاك والإنتاج المسؤولان

٩ الصناعة والابتكار والهياكل الأساسية

٨ العمل اللائق ونمو الاقتصاد

٧ طاقة نظيفة وبأسعار معقولة

الهدف ٦

ضمان توافر المياه وخدمات الصرف الصحي للجميع وإدارتها إدارة مستدامة

الهدف ١١

إقامة مدن ومستوطنات بشرية مستدامة شاملة وآمنة ومرنة

الهدف ١٤

حفظ المحيطات والبحار والموارد البحرية واستخدامها على نحو مستدام لتحقيق التنمية المستدامة

IMPACTS OF CLIMATE CHANGE

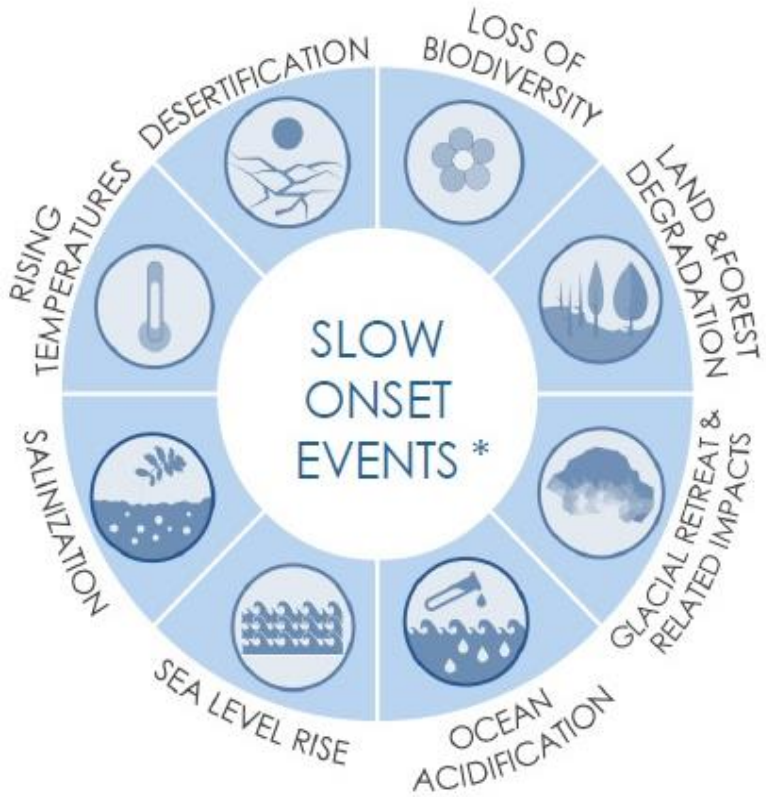
Climate change now poses one of the principal threats to the biological diversity of the planet and is projected to become an increasingly important driver of change in the coming decades.

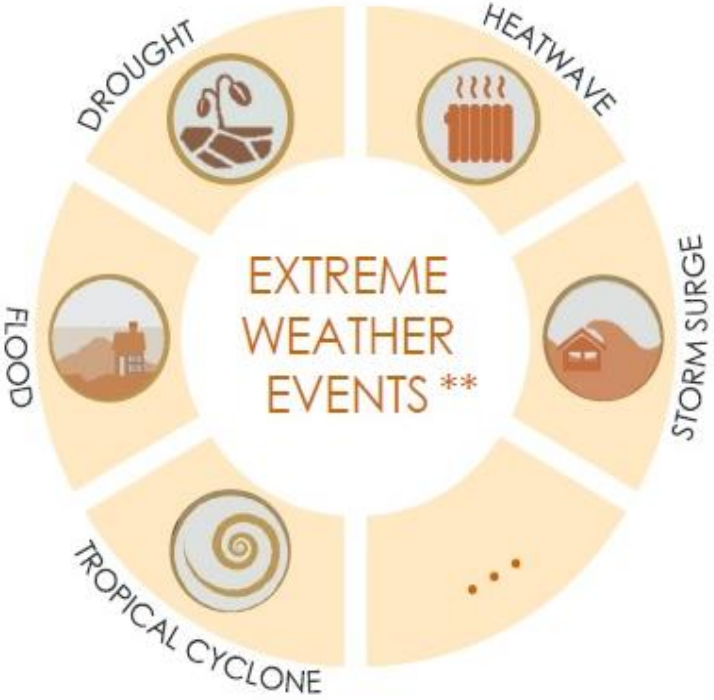
The Impacts of Climate Change on Biodiversity and Ecosystems include: **Migratory animals** (breeding range shift (extend breeding range), wintering range shift**, Sea level rise** (flooding), **Change in rainfall, Population impacts** (survival/ productivity)**, Future impacts** (species and population sensitivity)**,** and **Change in habitats such as mangroves, Coral Reefs (coral bleaching), Wetlands, Mountains (plant communities shifts), Arid land, and Water systems**.

The loss of ecosystem services and biodiversity has a devastating impact for the poor, who have no other options at their disposal. Policymakers from around the world seek ways to help the poorest to adapt to climate change priority, and must be given to the role of biodiversity, an element often neglected from current adaptation strategies.

IMPACTS OF CLIMATE CHANGE

Impacts of climate change include slow onset events* and extreme weather events which may both result in loss and damage.

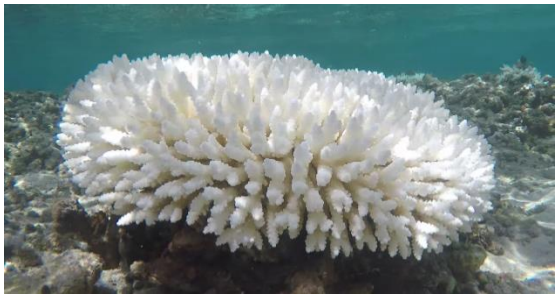




* As referred to in Decision 1/CP.16

** Those presented are examples

IMPACTS OF CLIMATE CHANGE
Coral Bleaching






Impact of climate change on biodiversity at the level of species, habitats, and ecosystems (IPCC assessment reports & GBOs)

The 5th IPCC assessment report (Nov. 2014) confirmed that it is extremely likely that human influence has been the dominant course of the observed warming of the atmosphere and the ocean since the mid-20th century. The report documented both observed impacts of climate change on biodiversity and human well-being, as well as the projected impacts according to a number of scenarios. It also set options for mitigation actions.

Impact of climate change on biodiversity at the level of species, habitats, and ecosystems (IPCC assessment reports & GBOs)

However, the fourth Global Biodiversity Outlook (GBO4) (October 2014) shows that it is possible to limit climate change, protect biodiversity, and attain food security. This will require political coherence: a clear policy and legal framework, incentives, monitoring and public support. These are extremely relevant to Africa and MENA countries to draw strategies for adaptation to climate change, and to the conservation and sustainable use of biodiversity.

Adaptation measures and solutions

Biodiversity to reduce the impacts of climate change

The resilience of ecosystems can be enhanced and the risk of damage to human and natural ecosystems reduced through the adoption of biodiversity-based adaptive and imitative strategies. Mitigation is described as a human intervention to reduce greenhouse gas sources or enhance carbon sequestration, while adaptation to climate change refers to adjustments in natural or human systems in response to climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Examples of activities that promote mitigation of or adaptation to climate change include:

1. maintaining and restoring native ecosystems,
2. protecting and enhancing ecosystem services,
3. sustainable and efficient management of natural resources,
4. managing habitats for endangered species,
5. creating refuges and buffer zones,
6. practicing low-intensity forestry,
7. in situ and ex situ conservation,
8. avoiding habitat fragmentation,
9. preventing conversion to plantations, and
10. Establishing networks of terrestrial, freshwater, and marine protected areas that take into account projected changes in climate.

What are EbA and Eco-DRR?

Ecosystem-based adaptation (EbA): is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change. EbA aims to maintain and increase the resilience and reduce the vulnerability of ecosystems and people in the face of the adverse effects of climate change." (SCBD 2009)

Ecosystem-based disaster risk reduction (Eco-DRR): is "sustainable management, conservation and restoration of ecosystems to reduce disaster risk, with the aim of achieving sustainable and resilient development." (Estrella and Saalismaa 2013)

What are EbA and Eco-DRR?

- EbA and-DRR aim to generate additional environmental, economic and social benefits beyond adaption and disaster risks (e.g. mangroves).

- They are cost-effective solutions for adaptation and DDR (high return investment).

Ecosystem-based adaptation (EbA) in the context of an overall adaptation strategy

Ecosystem-based options

e.g. mangrove rehabilitation

EbA hybrid options

e.g. mangrove rehabilitation & bamboo fences

Infrastructure-based options

e.g. construction of dykes, dams, shore protection

Political and social options

e.g. development planning, early warning systems, land use planning

Overall Adaptation Strategy

What is Ecosystem-Based Adaptation (EbA)

Building coastal resilience by using biodiversity and ecosystems as part of a strategy to help people to adapt to the negative impacts of climate change.

BENEFITS

- SUPPORT JOB CREATION
- PROTECT COAST FROM FLOODS, EROSION & SEA LEVEL RISE
- IMPROVE WATER & SOIL QUALITY
- PROTECT BIODIVERSITY
- SUPPLY FOOD, WATER AND BUILDING MATERIALS
- PRESERVE CULTURAL HERITAGE
- REDUCE COST OF DISASTER RESPONSE
- REDUCE CARBON IN ATMOSPHERE

CORAL REEFS

Their structure reduces the size and force of waves, thereby reducing flooding and erosion. Reefs also provide shelter for fish and support fishing and ecotourism jobs.

A healthy coral reef can reduce wave energy reaching the shore by 97%!

MANGROVES

Their complex root system protects the shore from strong waves and wind, provides a nursery for fish and supports fishing and ecotourism jobs.

Let them grow! Globally, mangroves are being cut down faster than rainforests!

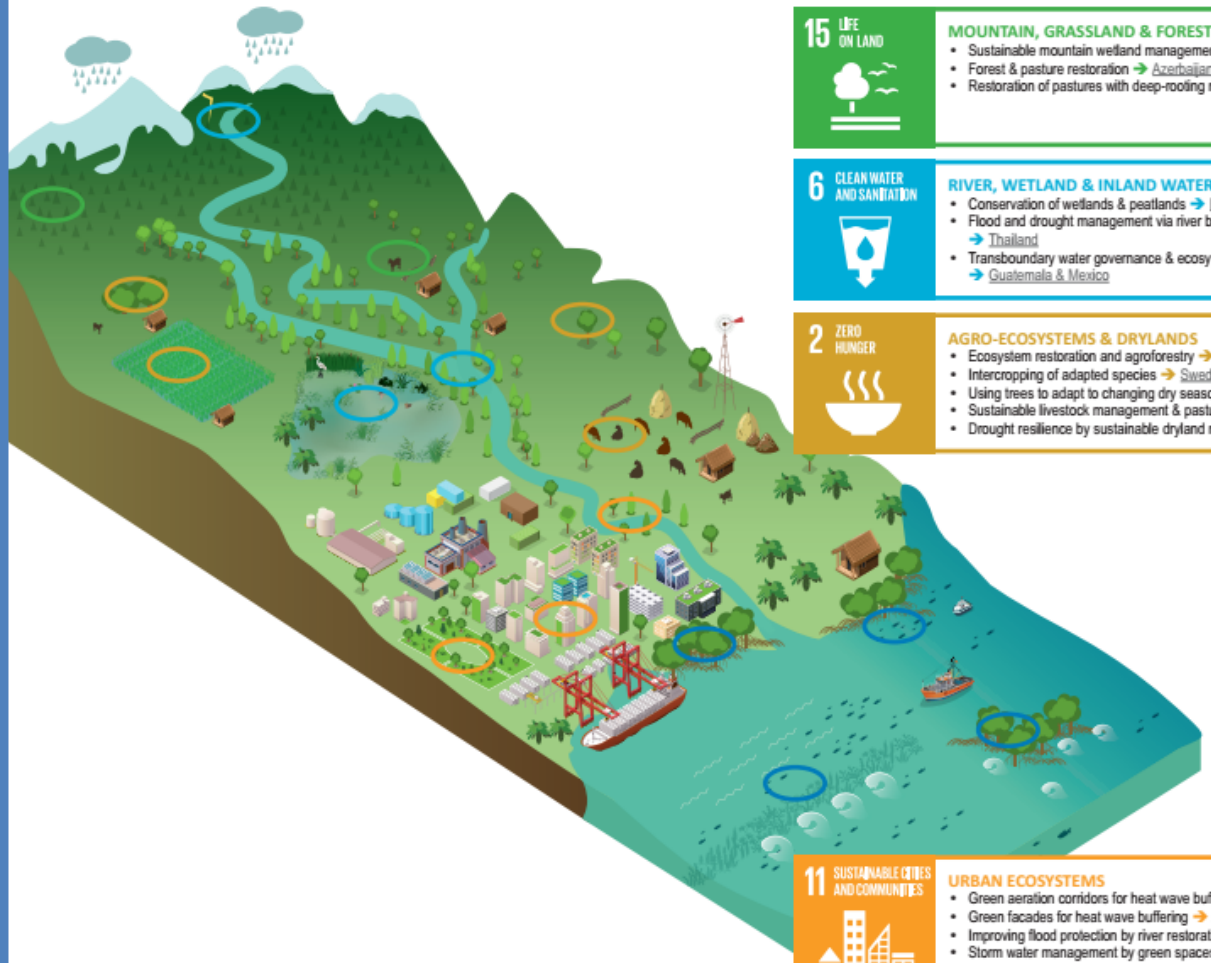
Resilient Islands
coastalresilience.org/resilient-islands

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
based on a decision of the German Bundestag

International Federation of Red Cross and Red Crescent Societies

The Nature Conservancy
Protecting nature. Preserving life

Ecosystem-based Adaptation & Disaster Risk Reduction Solutions addressing the Sustainable Development Goals and CBD Aichi targets in a Land- and Seascape



15 LIFE ON LAND

MOUNTAIN, GRASSLAND & FOREST ECOSYSTEMS

- Sustainable mountain wetland management → Peru
- Forest & pasture restoration → Azerbaijan
- Restoration of pastures with deep-rooting native species → Peru

6 CLEAN WATER AND SANITATION

RIVER, WETLAND & INLAND WATER ECOSYSTEMS

- Conservation of wetlands & peatlands → Ecuador → UK
- Flood and drought management via river basin restoration → Thailand
- Transboundary water governance & ecosystem restoration → Guatemala & Mexico

2 ZERO HUNGER

AGRO-ECOSYSTEMS & DRYLANDS

- Ecosystem restoration and agroforestry → India → Burundi
- Intercropping of adapted species → Sweden
- Using trees to adapt to changing dry seasons → Pakistan
- Sustainable livestock management & pasture restoration → S. Africa
- Drought resilience by sustainable dryland management → Sudan

11 SUSTAINABLE CITIES AND COMMUNITIES

URBAN ECOSYSTEMS

- Green aeration corridors for heat wave buffering → Germany
- Green facades for heat wave buffering → Austria
- Improving flood protection by river restoration → Germany
- Storm water management by green spaces → Sweden

14 LIFE BELOW WATER

MARINE AND COASTAL ECOSYSTEMS

- Mangrove restoration and coastal protection → Indonesia → Grenada → Ecuador → Colombia
- Coastal realignment → UK
- Sustainable Fishing & mangrove rehabilitation → Mexico
- Coral reef restoration → Vanuatu

→ Linked examples

Aichi 5: Halve rate of natural habitats loss

Aichi 8: Reduce pollution

Aichi 6: Sustainable fisheries

Aichi 10: Minimize reef loss

Aichi 4: Sustainable production

Aichi 7: Sustainable management

Aichi 11: Protection & conservation

13 CLIMATE ACTION

Aichi 13: Maintain genetic diversity

Aichi 14: Restore ecosystems

Aichi 15: Enhance resilience

Health-Biodiversity linkages

- Water supply and sanitation
- Agricultural production
- Food and nutrition
- Human settlements
- Ecosystem management and infectious diseases
- Mental health and well-being
- Traditional medicines
- Biomedical discovery
- Impacts of pharmaceutical products
- Species and habitat conservation
- Ecosystem restoration
- Climate change and disaster risk reduction

Purpose of Guidance

To assist in the process of developing policies, plans, programs and research aligned with One Health Approach, with more balanced consideration of biodiversity and ecosystem dynamics and management.

Main achievement since COP14

- Global assessment of biodiversity 2019
- COVID 19
- Global Biodiversity Outlook 2020
- Post 2020 Global Biodiversity Framework (GBF)
- Mainstreaming of Biodiversity in all development sectors
- UN Biodiversity Summit 2020
- COP15.1

Key Messages:

A- Nature and its vital contributions to people are deteriorating worldwide

- **B- Direct and indirect drivers of change have accelerated during the past 50 years**

- **C- Goals for Conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and 2030 Agenda for SD and beyond may only be achieved through transformative changes.**

- **D- Nature can be conserved, restored and used sustainably while simultaneously meeting other global societal goals through urgent and concerted efforts fostering transformative change.**

Key Statistics and Facts from the Global Assessment report on Biodiversity

IPBES 2018

General

*75%: terrestrial environment “severely altered” to date by human actions (marine environments 66%)

*47%: reduction in global of ecosystem extent and condition against their estimated natural baseline, with many continuing to decline by at least 4% per decade.

28%: global land area held and / or managed by Indigenous Peoples, including

>40% of formally protected areas 37% of all remaining terrestrial areas with very low human intervention.

Continued

*+/-6- billion: tons of renewable and non-renewable resources extracted globally each year, up nearly 100% since 1980

*15%: increase in global per capita consumption of materials since 1980

>85%: of wetlands present in 1700 had been lost by 2000 – loss of wetlands is currently three times faster, in percentage terms, than forest loss?

Species, Populations and Varieties of Plants and Animals

*8 million: total estimated number of animal and plant species on Earth (including 5.5 million insect species)

*Tens to hundreds of times: the extent to which the current rate of global species extinction is higher compared to average over the last 10 million years, and the rate is accelerating

*Up to 1 million: species threatened with extinction, many within decades

* > 500,000 (+/-9%): share of the world's estimated 5.9 million terrestrial species with insufficient habitat for long term survival without habitat restoration

Continued

*>40%: amphibian species threatened with extinction

*Almost 33%: reef forming corals, sharks and shark relatives, and > 33% marine mammals threatened with extinction

*25% average proportion of species threatened with extinction across terrestrial, freshwater and marine vertebrate, invertebrate and plant groups that have been studied in sufficient detail

*At least 680: vertebrate species driven to extinction by human actions since the 16th century

Continued

*+/-10%: tentative estimate of proportion of insect species threatened with extinction

*20%: decline in average abundance of native species in most major terrestrial biomes, mostly since 1900?+/-560 (+/-10%): domesticated breeds of mammals were extinct by 2016, with at least 1,000 more threatened

*3.5%: domesticated breed of birds extinct by 2016

*70%: increase since 1970 in numbers of invasive alien species across 21 countries with detailed records

Continued

*30%: reduction in global terrestrial habitat integrity caused by habitat loss and deterioration

*47%: proportion of terrestrial flightless mammals and 23% of threatened birds whose distributions may have been negatively impacted by climate change already

*>6: species of ungulate (hoofed mammals) would likely be extinct or surviving only in captivity today without conservation measures.

Food and Agriculture

*300%: increase in food crop production since 1970

*23%: land areas that have seen a reduction in productivity due to land degradation

*>75%: global food crop types that rely on animal pollination

*US$235 to US$ 577 billion: annual value of global crop output at risk due to pollinator loss

*5.6 gigatons: annual CO2 emissions sequestered in marine and terrestrial ecosystems – equivalent to 60% of global fossil fuel emission

Food and Agriculture

*+/-11%: world population that is undernourished

*100 million: hectares of agricultural expansion in the tropics from 1980 to 2000, mainly cattle ranching in Latin America (+/-42 million ha), and plantations in Southeast Asia (+/-7.5 million ha, of which 80% is oil palm, half of it at the expense of intact forests

*3%: increase in land transformation to agriculture between 1992 and 2015, mostly at the expense of forests

Food and Agriculture

*>33%: world's land surface (and +/-75% of freshwater resources) devoted to crop or livestock production

*12%: world's ice-free land used for crop production

*25%: world's ice-free land used for grazing (+/-70% of dry lands)

*+/-25%: greenhouse gas emissions caused by land clearing, crop production and fertilization, with animal-based food contributing 75% to that figure

Food and Agriculture

*+/-30%: global crop production and global food supply provided by small land holdings (<2ha), using +/-25% of agriculture land, usually maintaining rich agro-biodiversity

*$100 billion: estimated level of financial support in OECD countries (2015) to agriculture that is potentially harmful to the environment?

Oceans and Fishing

*33%: marine fish stocks in 2015 being harvested at unsustainable levels; 60% are maximally sustainably fished; 7% are under-fished

*>55%: ocean area covered by industrial fishing

*3-10%: projected decrease in ocean net primary production due to climate change alone by the end of the century

Oceans and Fishing

*3-25%: projected decrease in fish biomass by the end of the century in low and high climate warming scenarios, respectively

*>90%: proportion of the global commercial fishers accounted for by small scale fisheries (over 30 million people) – representing nearly 50% of global fish catch

*Up to 33%: estimated share in 2011 of world's reported fish catch that is illegal, unreported or unregulated

Oceans and Fishing

*>10%: decrease per decade in the extent of sea grass meadows from 1970-2000

*+/-50%: decrease per decade in the extent of sea grass meadows from 1970-2000

*100-300 million: people in coastal areas at increased risk due to loss of coastal habitat protection

*400: low oxygen (hypoxic) coastal ecosystem “dead zones” caused by fertilizers, affecting > 245,000 km^2

Extinction and Threatened Species

*29%: average reduction in the extinction risk for mammals and birds in 109 countries thanks to conservation investments from 1996 to 2008; the extinction risk of birds, mammals and amphibians would have been at least 20% greater without conservation action in recent decade

*>107: highly threatened birds, mammals and reptiles estimated to have benefitted from the eradication of invasive mammals on islands?

Mining and Energy

*<1%: total land used for mining, but the industry has significant negative impacts on biodiversity, emissions, water quality and human health

*+/-17,000: large-scale mining sites (in 171 countries), mostly managed by 616 international corporations

*+/-6,500: offshore oil and gas ocean mining installations (in 53 countries)

*US $345 billion: global subsidies for fossil fuels resulting in US $ 5 trillion in overall costs, including nature deterioration externalities; coal accounts for 52% of post-tax subsidies, petroleum for +/-33% and natural gas for +/-10%?

Urbanization, Development and Socioeconomic Issues

>100%: growth of urban areas since 1992

*25 million km: length of new paved roads foreseen by 2050, with 90% of construction in least developed and developing countries

*+/-50,000: number of large dams (>15m height); +/-17 million reservoirs (>0.01 ha)

*105%: increase in global human population (from 3.7 to 7.6 billion) since 1970 unevenly across countries and regions

Urbanization, Development and Socioeconomic Issues

*50 times higher: per capita GDP in developed vs. least developed countries

*>2,500: conflicts over fossil fuels, water, food and land currently occurring worldwide

* >1,000: environmental activists and journalists killed between 2002 and 2013?

Health

*70%: proportion of cancer drugs that are natural or synthetic products inspired by nature

*+/-4 billion: people who rely primarily on natural medicines

*17%: infectious diseases spread by animal vectors, causing >700,000 annual deaths

*+/-821 million: people face food insecurity in Asia and Africa

40%: of the global population lacks access to clean and safe drinking water

Health

* >80%: global wastewater discharged untreated into the environment

*300-400 million tons: heavy metals, solvents, toxic sludge, and other wastes from industrial facilities dumped annually into the world's waters

*10 times: increase in plastic pollution since 1980?

Climate Change

*1 degree Celsius: average global temperature difference in 2017 compared to pre-industrial levels, rising +/-0.2 (+/0.1) degrees Celsius per decade

* >3 mm: annual average global sea level rise over the past two decades

*16-21 cm: rise in global average sea level since 1900

*100 % increase since 1980 in greenhouse gas emissions, raising average global temperature by at least 0.7 degree

Climate Change

*40%: rise in carbon footprint of tourism (to 4.5 Gt of carbon dioxide) from 2009 to 2013

*8%: of total greenhouse gas emissions are from transport and food consumption related to tourism

*5%: estimated fraction of species at risk of extinction from 2ºdegrees, the majority of terrestrial species ranges are projected to shrink profoundly.

Global Goals

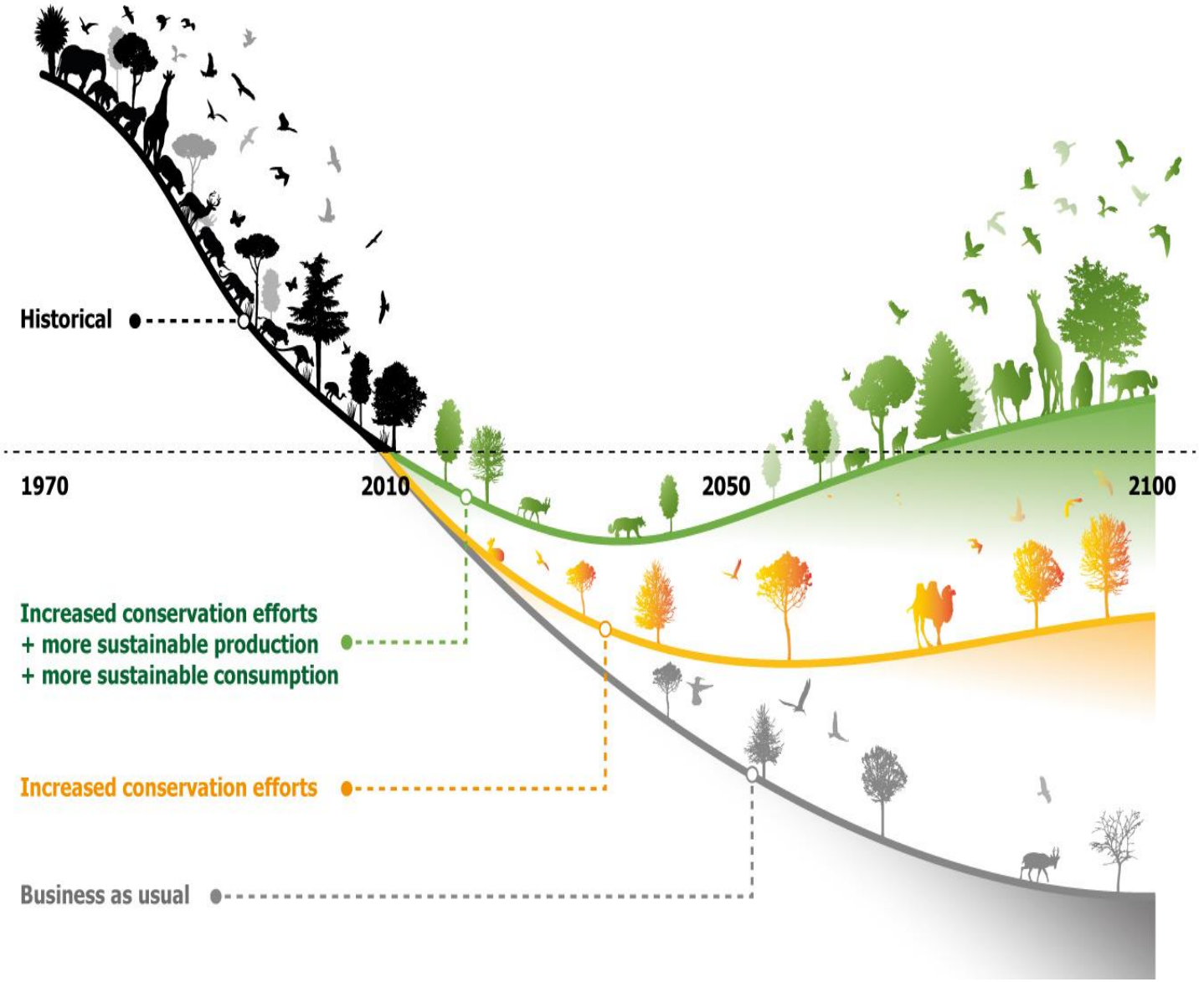
*Most: Aichi Biodiversity Targets for 2020 likely to be missed

*22 of 44: assessed targets under the Sustainable Development Goals related to poverty, hunger, health water, cities, climate, ocean and land are being undermined by substantial negative trends in nature and its contributions to people

*72%: of local indicators in nature developed and used by Indigenous Peoples and Local Communities that show negative trends

Global Goals

*4: number of Aichi Targets where good progress has been made on certain components, with moderate progress on some components of another 7 targets, poor progress on all components of 6 targets, and insufficient information to assess progress on some or all components of the remaining 3 targets.



Bending the curve of biodiversity loss. Graphic from the Living Planet 2020 report.

Draft Post 2020 Biodiversity Global framework (GBF)

The vision of the framework is a world **of living in harmony with nature:** "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people"

2030 Milestones

Goal A

A.1 Connectivity and integrity of natural systems increased by at least [5%].

A.2 The number of threatened species that are is reduced by [X%] and the abundance of species has increased on average by [X%].

Goal B

B.1 Nature contributes to the sustainable diets and food security, access to safe drinking water and resilience to natural disasters for at least [X%] million people.

B.2 Nature is valued through green investments, ecosystem service valuation in national accounts, and public and private sector financial disclosures.

Goal C

C.1 Access and benefit-sharing mechanisms are established in all countries.

C.2 Benefits shared increased by [X%].

Goal D

D.1 By 2022, means to implement the framework for the period 2020 to 2030 are identified and committed.

D.2 By 2030, means to implement the framework for the period 2030 to 2040 are

Draft Post 2020 Biodiversity Global framework (GBF)

A) Reducing threats to biodiversity

Target 1. By 2030, **[50%] of land and sea areas globally are under spatial planning**

Target 2. By 2030, **protect and conserve at least 30 per cent of the planet**

Target 3. By 2030, **ensure active management actions** to enable wild species of fauna and flora recovery and conservation**, and reduce human-wildlife conflict by [X%].**

Target 4. By 2030, **the harvesting, trade and use of wild species is legal, at sustainable levels and safe.**

Target 5. By 2030**, manage**, and where possible control, **pathways for the introduction of invasive alien species, achieving [50%] reduction** in the rate of new introductions, and **control or eradicate** invasive alien species **to eliminate or reduce their impacts**, including in at least [50%] of priority sites.

Target 6. By 2030**, reduce pollution from all sources**, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health.

Target 7. By 2030, **increase contributions to climate change** mitigation adaption and

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B) Meeting people's needs through sustainable use and benefit-sharing

Target 8. By 2030, **ensure benefits, including nutrition, food security, livelihoods, health and well-being**,

Target 9. By 2030**, support the productivity, sustainability and resilience of biodiversity in agricultural and other managed ecosystems**

Target 10. By 2030, ensure that**, nature based solutions and ecosystem approach** contribute to regulation of air quality, hazards and extreme events and quality and quantity of water for at least [XXX million] people.

Target 11. By 2030**, increase benefits from biodiversity and green/blue spaces for human health** and well-being, including the proportion of people with access to such spaces by at least [100%], especially for urban dwellers.

Target 12. By 2030, **increase by [X] benefits shared for the conservation and sustainable use of biodiversity** through ensuring access to and the fair and equitable sharing of benefits arising from utilization of genetic resources and associated traditional knowledge.

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C) Tools and solutions for implementation and mainstreaming

Target 13. By 2030**, integrate biodiversity values into policies, regulations, planning, development processes**

Target 14. By 2030, **achieve reduction of at least [50%] in negative impacts on biodiversity**

Target 15. By 2030**, eliminate unsustainable consumption patterns**

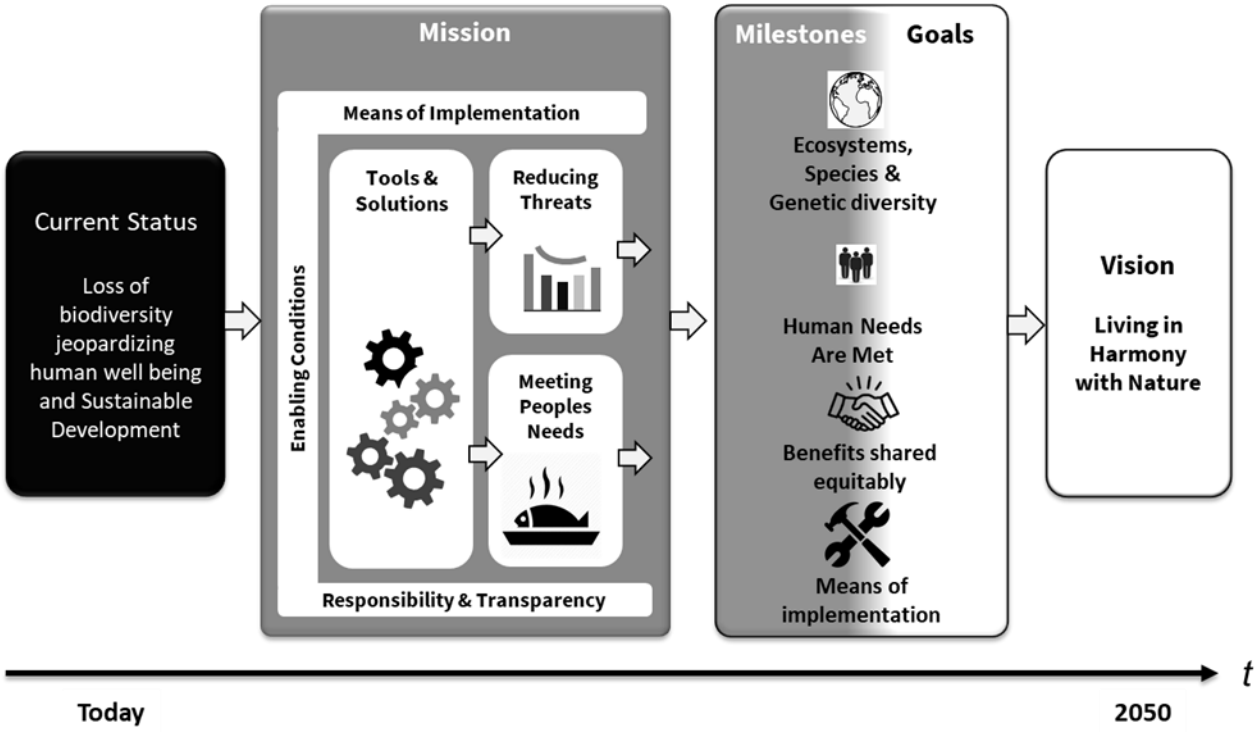
Target16. By 2030, **establish and implement measures to prevent, manage or control potential adverse impacts of biotechnology on biodiversity and human health reducing these impacts by [X].**

Target 17. By 2030**, redirect, repurpose, reform or eliminate incentives harmful for biodiversity**

Target 18. By 2030**, increase by [X%] financial resources from all international and domestic sources**

Target 19: By 2030**, ensure that quality information, including traditional knowledge**.

Theory of change of the framework



Transformative Pathways

- Do not leave anyone behind
- SD as top priorities
- Economy for job creation
- Work for peace and institutional accountability
- Seek global partnerships

Recommendations

- Information system
- Monitoring, evaluation, and implementation of NBSAP/ need to revise NBSAP
- Engage stakeholders including civil society, women and youth
- Institutional reform
- Mainstreaming of biodiversity
- Business Plans for Biodiversity
- Protected areas
- Paradigm shift in scientific research
- Ecosystems restoration
- Technological advancement
- Financial and technical resources
- Nature-based solutions
- Transformative changes
- Post2020 for GBF
- One Health Approach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Investing in biodiversity for people and planet
COP 14 - CP/MOP9 - NP/MOP3
Sharm El Sheikh, Egypt, 2018

Thank you