

Living in harmony
with nature



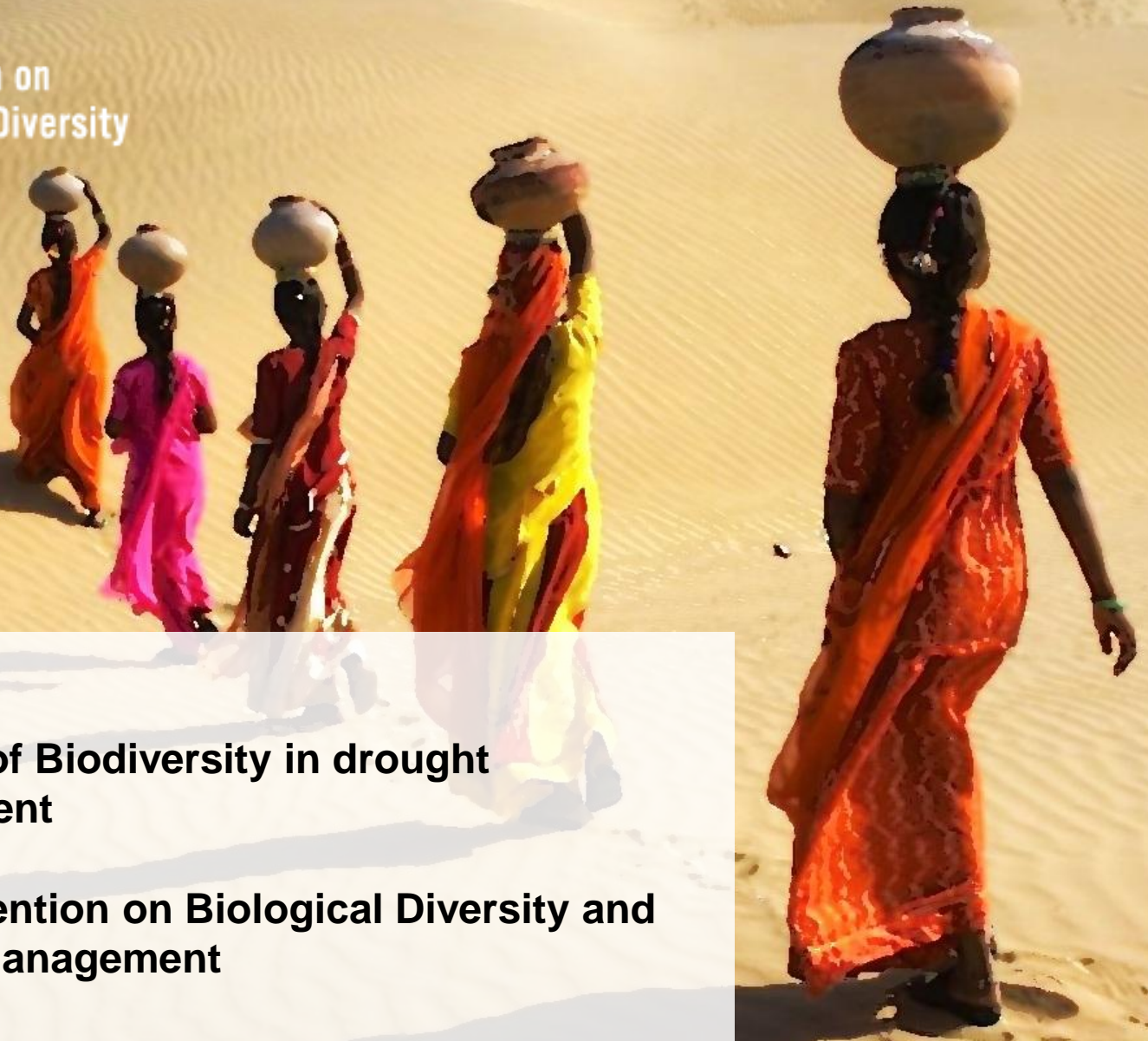
United Nations Decade on Biodiversity



Convention on
Biological Diversity



Convention on
Biological Diversity



- **The Role of Biodiversity in drought management**
- **The Convention on Biological Diversity and drought management**



Conference of the Parties

Decisions

Relevant guidance by the CBD COP - Decision X/35

The COP urges Parties and other Governments, where appropriate, to:

- (a) Develop and implement, or revise existing, **drought-management plans** and early warning systems at all levels, including regional and subregional and basin-level management plans, taking into account the impact of drought and desertification on biodiversity and the role of biodiversity and actions to combat desertification in increasing the resilience of dry and sub-humid lands, seeking:
- (i) The inclusion of risk evaluation, impact assessments and impact management; and
 - (ii) To direct biodiversity management for the prevention of desertification, including through the involvement of all stakeholders, particularly women and pastoralists and other indigenous and local communities and, as appropriate, in accordance with traditional community-based strategies, particularly through customary use systems;



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COP 10 / MOP 5



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Relevant guidance by the CBD COP - Decision X/35

The COP urges Parties and other Governments, where appropriate, to:

(e) Consult with neighbouring countries and other countries in their respective subregions and regions to develop and execute collaborative **drought management strategies and action plans** to reduce the impact of drought and desertification on biodiversity at regional, subregional and/or basin levels;



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Relevant guidance by the CBD COP - Decision X/28

The COP:

42. *Notes* the role of biodiversity and ecosystems in providing services that reduce vulnerability to the impact of some natural disasters, in particular water-related impacts such as flooding and drought, and that current global changes are anticipated to increase disaster vulnerability and risk;

43. *Encourages* Parties and other Governments to recognize the role of healthy ecosystems, and in particular wetlands, in protecting human communities from some natural disasters and to **integrate these considerations into relevant policies**;

44. *Encourages* Parties and other Governments to conserve, sustainably use and, where necessary, restore ecosystems so that freshwater flows and water resources sustain biodiversity and thus contribute to human well-being;



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Relevant guidance by the CBD COP - Decision XII/20

The COP:

5. *Encourages* Parties and *invites* other Governments and relevant organizations to promote and implement ecosystem-based approaches to climate change related activities and disaster risk reduction, in both terrestrial and marine environments, and to integrate these into their policies and programmes, as appropriate, in the context of the Hyogo Framework for Action 2005–2015, endorsed by the United Nations General Assembly in its resolution 60/195, and the revised Framework to be adopted at the Third World Conference on Disaster Risk Reduction;





Developing national drought management plans – background on the role of biodiversity in drought management

Linkages:

- Environmental degradation can lead to droughts
- Environmental degradation can aggravate the impacts of droughts
- Droughts can cause environmental damage
- Environmental degradation can impact livelihoods of people and reduce their resilience to droughts

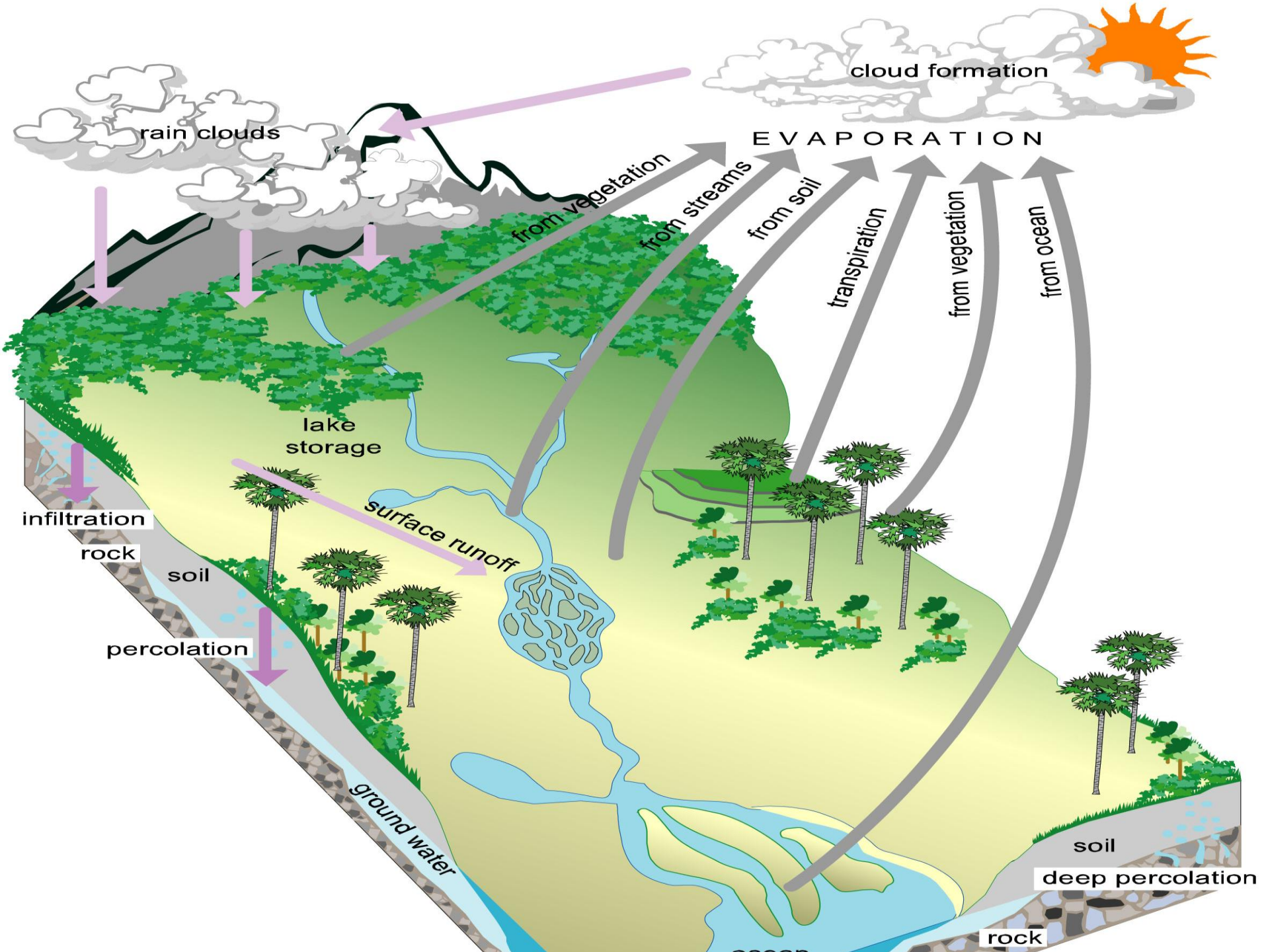
However: Healthy ecosystems

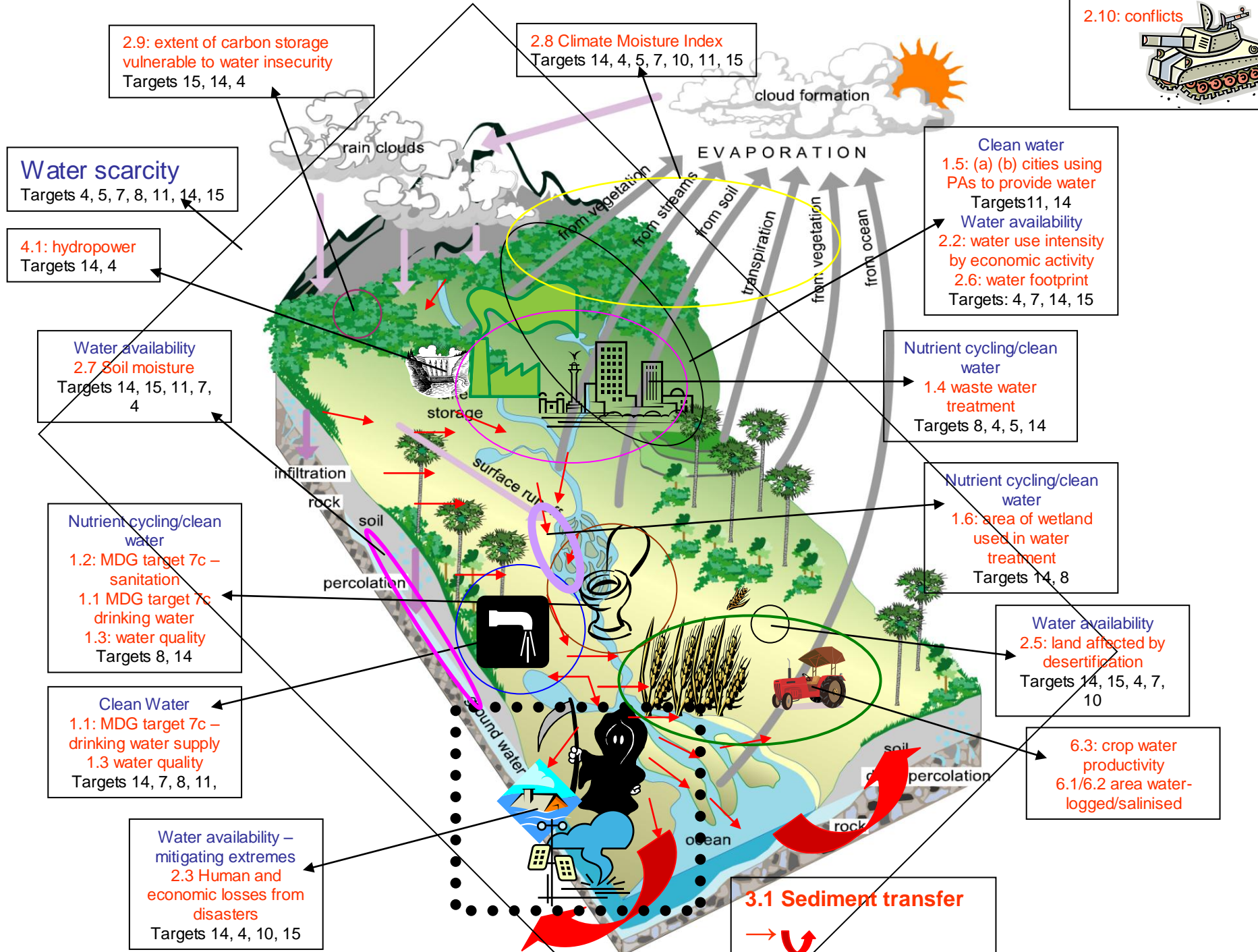
- prevent, mitigate or regulate droughts
- reduce peoples exposure to droughts
- reduce people's vulnerability to droughts impacts through supporting livelihoods and basic needs – before, during and after hazards



Examples: Contribution of biodiversity to the prevention and mitigation of droughts

- Diverse agricultural systems are more likely to be able to cope with the effects of drought
- Farmers have bred drought resistant crops and livestock over decades
- Soils which are rich in organic matter can better retain soil moisture and are therefore able to better cope with periods of water stress.
- Generally more diverse ecosystems tend to be more resilient to change. Ecosystems provide a range of services which directly and indirectly affect human wellbeing. During times of drought these services become particularly important as people, particularly in developing countries, tend to depend on them for their survival.





2.10: conflicts



2.9: extent of carbon storage vulnerable to water insecurity
Targets 15, 14, 4

2.8 Climate Moisture Index
Targets 14, 4, 5, 7, 10, 11, 15

Water scarcity
Targets 4, 5, 7, 8, 11, 14, 15

4.1: hydropower
Targets 14, 4

Clean water
1.5: (a) (b) cities using PAs to provide water
Targets 11, 14
Water availability
2.2: water use intensity by economic activity
2.6: water footprint
Targets: 4, 7, 14, 15

Water availability
2.7 Soil moisture
Targets 14, 15, 11, 7, 4

Nutrient cycling/clean water
1.4 waste water treatment
Targets 8, 4, 5, 14

Nutrient cycling/clean water
1.2: MDG target 7c – sanitation
1.1 MDG target 7c drinking water
1.3: water quality
Targets 8, 14

Nutrient cycling/clean water
1.6: area of wetland used in water treatment
Targets 14, 8

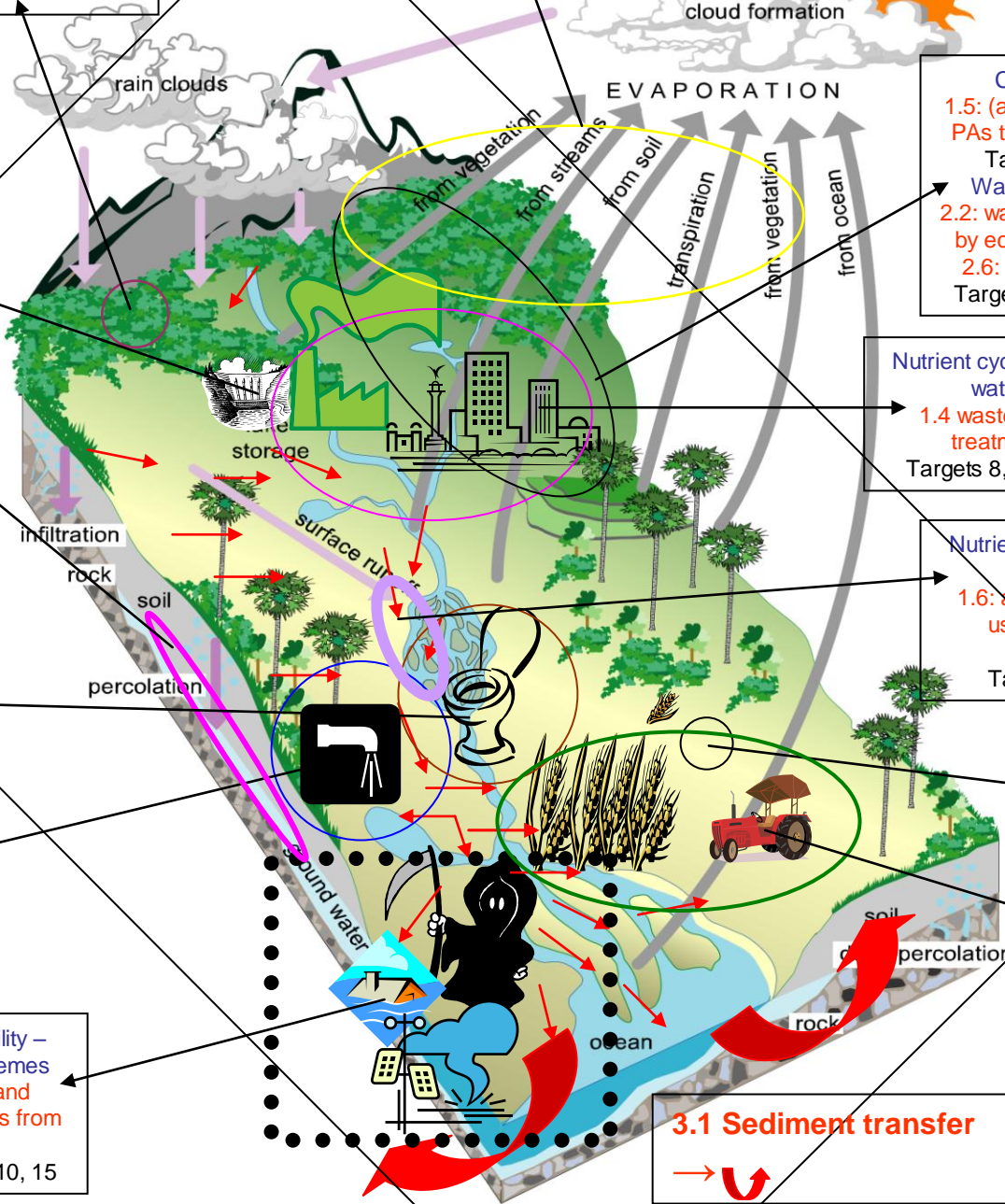
Clean Water
1.1: MDG target 7c – drinking water supply
1.3 water quality
Targets 14, 7, 8, 11,

Water availability
2.5: land affected by desertification
Targets 14, 15, 4, 7, 10

Water availability – mitigating extremes
2.3 Human and economic losses from disasters
Targets 14, 4, 10, 15

6.3: crop water productivity
6.1/6.2 area water-logged/salinised

3.1 Sediment transfer



Elements for national drought management policies

- Conservation and management of natural resources
- Reducing the vulnerability of drylands
- Integrated land and water management
- Conserving and using traditional knowledge, innovations and practices
- Using agricultural biodiversity
- Restoring degraded ecosystems



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Strategic Plan

Aichi Biodiversity Targets

Implementation

UN Decade on Biodiversity

The Convention on Biological Diversity and drought management

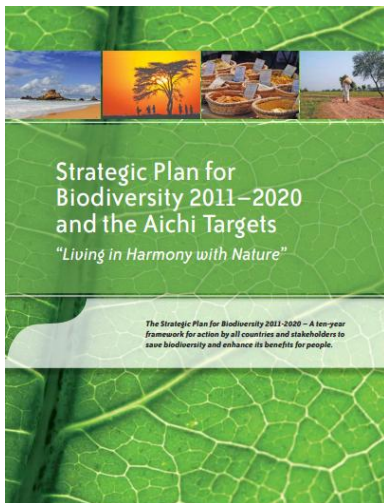
Strategic Plan for Biodiversity 2011-2020

Vision

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

Mission

Take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication





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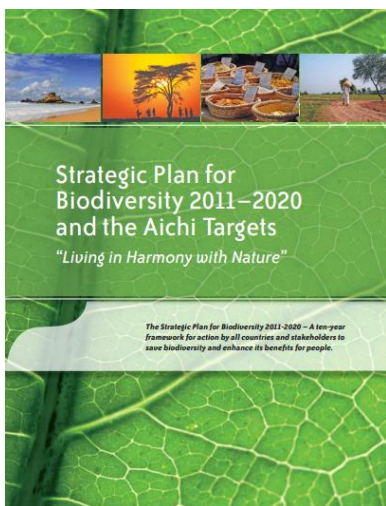
Strategic Plan for Biodiversity 2011-2020

Parties to:

Develop national targets taking into account national circumstances

Review, update and revise National Biodiversity Strategies and Action Plans, in line with the Strategic Plan

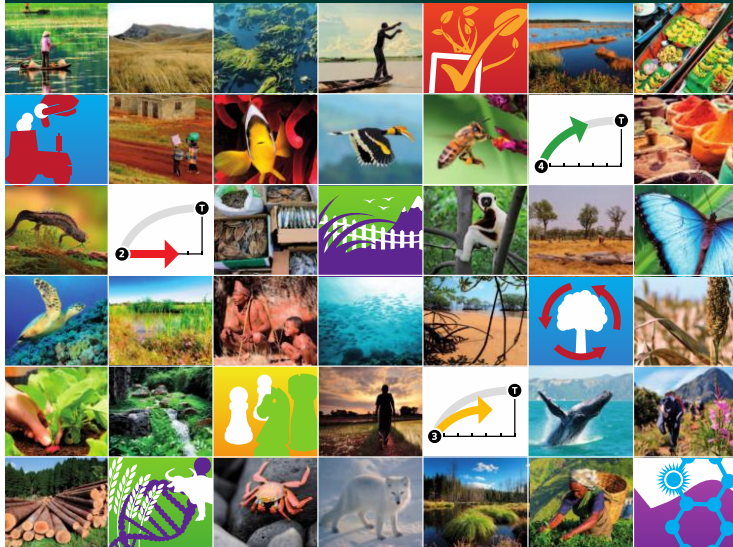
Monitor and review the implementation of their NBSAPS... and report to COP through the fifth (2014) and sixth national reports





التوقعات العالمية للتنوع البيولوجي- الاصدار الرابع

تقييم منتصف المدة للتقدم المحرز نحو تنفيذ
الخطة الاستراتيجية للتنوع البيولوجي 2011-2020



Fourth Edition of the Global Biodiversity (GBO4)

- Launched at CBD COP-12 (October 2014)
- Mid-term review of progress in implementation of the Strategic Plan and progress towards the Aichi Biodiversity Targets

<http://www.cbd.int/gbo4/>



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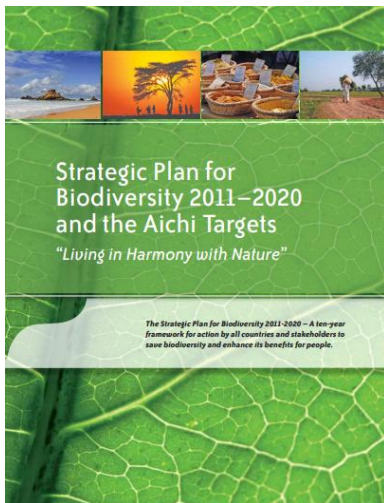
Strategic Plan

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Strategic Plan for Biodiversity 2011-2020 - Aichi Targets on Water and Ecological Restoration: readily available elements for drought management plans





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Aichi Targets relevant to drought management

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





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Aichi Targets relevant to drought management



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



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Aichi Targets relevant to drought management



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



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Aichi Targets relevant to drought management



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



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Biodiversity-related indicators of the Strategic Plan – useful elements for drought early warning and vulnerability assessments?

Agreed Strategic Plan Indicators

Headline indicators:

- Trends in distribution, condition and sustainability of ecosystem services

Operational indicators:

- Trends in components of biodiversity or ecosystem services that communities rely on [e.g. <http://www.bipindicators.net/foodandmedicine>]
- Population trends of forest-dependent species in forests under restoration

Other indicators

- Ecological indicators (e.g. sap flow) and indicator species (sensitive to changes in environment)



National Biodiversity Strategies and Action Plans (NBSAPs) - opportunity for synergies with drought management plans? (I)

- In the development of national targets and actions to support them, countries can be encouraged to integrate elements related to drought

Examples for relevant elements of NBSAPs

Mauritania:

A number of priority areas recognize drought as an important factor contributing to land degradation and biodiversity loss. In particular, the impacts of drought on agrobiodiversity and impact on food security is highlighted.

Some of the actions involve:

- Promote diversification of agriculture and use of crop wild relatives.
- Develop and promote agricultural practices that do not degrade soil.
- Integrated water management in to minimize the effects of drought and desertification.
- Protect wetlands with a green belt to avoid sand encroachment.
- Improving early warning systems.



National Biodiversity Strategies and Action Plans (NBSAPs) - opportunity for synergies with drought management plans? (II)

Oman:

One of the options in the NBSAP is the coordination of biodiversity projects planning with that of the UNCCD NAP.

Related actions include:

- Strengthening services of range management, reforestation and halting of deforestation
- Vegetation survey and assessment of status of desertification
- Sand dune stabilization and revegetation

Actions related to agriculture include the identification of drought resistant species and sustainable agricultural practices to reduce soil erosion.

Some objectives and actions of the NBSAPs related to water resources are echoed in the UNCCD NAP, such as sustainable harvesting of water, the development of drought contingency plans, and improvement of water use efficiency in agriculture.



National Biodiversity Strategies and Action Plans (NBSAPs) - opportunity for synergies with drought management plans? (III)

Yemen:

Under traditional rangeland management system called “Mahjur”, the production of rangelands of rainy seasons is conserved and kept by local communities for their use during drought periods.

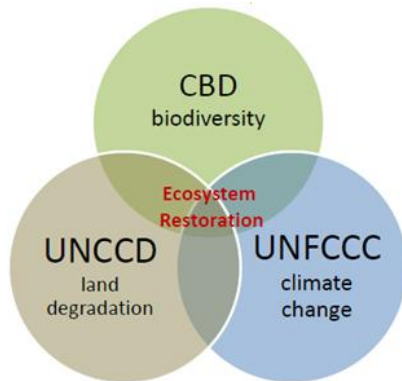
Actions related to agro-biodiversity include:

- research on improvement of drought resistant varieties
- terrace management
- traditional land use and water management systems
- introduction of efficient irrigation systems

Drought management, especially for agriculture, is also promoted as a climate change adaptation option.



The role of biodiversity in drought management – multiple benefits



- Preventing, mitigating or regulating droughts, reducing peoples' exposure to droughts and reducing people's vulnerability to drought impacts
- Reducing the loss of biodiversity and ecosystem services
- Reducing land degradation and fostering ecosystem restoration - thereby contributing to land degradation neutrality
- Climate change mitigation and adaptation



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Available guidance relevant in the context of droughts – Ecosystem Restoration (I)

Decision XI/16: The COP urges Parties, and invites other Governments, organizations and donors in a position to do so,

taking note of extreme weather events,

to support the implementation of ecosystem restoration for the mitigation and management of the impact of extreme weather events and for ecosystem-based adaptation to climate change;

- Report on 'Available Guidance and Guidelines on Ecosystem Restoration' (UNEP/CBD/COP/11/INF/17)
- Available Tools and Technologies on Ecosystem Restoration (UNEP/CBD/COP/INF/18)
- COP 11: Hyderabad Call for a Concerted Effort on Ecosystem Restoration



XIth Conference of Parties
CONVENTION ON BIOLOGICAL DIVERSITY
HYDERABAD INDIA 2012



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Decisions

Available guidance relevant in the context of droughts – Ecosystem Restoration (II)

Decision XII/19:

- Further guidance on ecosystem conservation and restoration
- Cooperation with the Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services on the planned thematic assessment on land degradation and restoration





[About the Secretariat](#)

[Contact us](#)

Contact us



Secretariat of the Convention on Biological Diversity

World Trade Centre

413 St. Jacques street, Suite 800

Montreal, Quebec, Canada H2Y 1N9

Tel. 1 (514) 288 2220

secretariat@cbd.int

www.cbd.int

