



**CONVENTION ON
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AD HOC TECHNICAL EXPERT GROUP ON
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BIODIVERSITY TARGET
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**IDENTIFICATION OF INDICATORS FOR THE SUB-TARGETS ESTABLISHED IN
DECISION VII/30**

Note by the Executive Secretary

INTRODUCTION

1. In decision VI/26 the Conference of the Parties adopted the Strategic Plan for the Convention on Biological Diversity, including the target to achieve, by 2010, a significant reduction of the current rate of biodiversity loss ^{1/} at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth. This target was subsequently endorsed by the World Summit on Sustainable Development.

2. In decision VII/30 the Conference of the Parties adopted a framework to facilitate the assessment of progress towards the 2010 target and the communication of this assessment; to promote coherence among the programmes of work of the Convention, and to provide a flexible framework within which national and regional targets may be set, and indicators identified. The framework consists of seven focal areas:

- (a) Reducing the rate of loss of the components of biodiversity, including: (i) biomes, habitats and ecosystems; (ii) species and populations; and (iii) genetic diversity;
- (b) Promoting sustainable use of biodiversity;
- (c) Addressing the major threats to biodiversity, including those arising from invasive alien species, climate change, pollution, and habitat change;
- (d) Maintaining ecosystem integrity, and the provision of goods and services provided by biodiversity in ecosystems, in support of human well-being;
- (e) Protecting traditional knowledge, innovations and practices;

* UNEP/CBD/AHTEG-2010-Ind/1/1.

^{1/} For the purposes of assessing progress towards the 2010 target, biodiversity loss is defined as the long-term or permanent qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels (decision VII/30, para. 2);

(f) Ensuring the fair and equitable sharing of benefits arising out of the use of genetic resources; and

(g) Mobilizing financial and technical resources, especially for developing countries, in particular least developed countries and small island developing States among them, and countries with economies in transition, for implementing the Convention and the Strategic Plan.

3. For each of the focal areas, the Conference of the Parties identified indicators (annex I of decision VII/30) and goals and sub-targets (annex II of decision VII/30).

4. In para 12 (b) of decision VII/30, the Conference of the Parties requested the Subsidiary Body on Scientific, Technical and Technological Advice inter alia to identify indicators for the sub-targets, where possible, by association with the indicators provided in annex I to the same decision.

5. This document has been prepared to assist the AHTEG to provide guidance to SBSTTA on this point.

PROVISIONAL LIST OF GOALS AND TARGETS, WITH TECHNICAL RATIONALES AND GLOBAL INDICATORS

Explanatory note: This section compiles existing and proposed targets according to the framework set out in annex II of decision VII/30. The elements in bold refer to goals and to targets that are already adopted (i.e. the targets of the Global Strategy for Plant Conservation). The elements in plain text are proposed for adoption (i.e. the proposed targets to be integrated into the programmes of work for inland water biodiversity and marine and coastal biodiversity). The elements in *non-bold italics* are recommended for further consideration and possible development by SBSTTA (i.e. targets to be integrated into other programmes of work). They are indicative only and are listed here only to provide an overview of the entire framework. The indicators are drawn from annex II of decision VII/30, unless otherwise stated.

Protect the components of biodiversity (as described in Annex I to the Convention)

Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats and biomes

Target 1.1: At least 10% of each of the world's ecological regions effectively conserved.

Technical rationale:

About 10 per cent of the land surface is currently covered by protected areas. In general, forests and mountain areas are well represented in protected areas, while natural grasslands (such as prairies) and coastal and estuarine ecosystems, including mangroves, are poorly represented. Less than 1 per cent of marine areas are protected. The target would imply: (i) increasing the representation of different ecological regions in protected areas, and (ii) increasing the effectiveness of protected areas. Since some ecological regions will include protected areas covering more than 10 per cent of their area, the qualifier “at least” is used. In some cases, ecosystems restoration and rehabilitation may be necessary. Effective conservation is understood to mean that the area is managed to achieve a favorable conservation status for species and communities. Various approaches are available for use in the identification of terrestrial ecological regions, based on major vegetation types, and for marine regions.

Application of the target to taxonomic groups and to the thematic programmes of work:

- The target already exists in the Global Strategy for Plant Conservation (target 4), and is proposed to be integrated into the programme of work on protected areas and applied to all thematic programmes, including those on Marine and Coastal Biodiversity and Inland Water Biodiversity.

Primary Global Indicator:

Coverage of protected areas.

Other relevant Global Indicators:

Trends in extent of selected biomes, ecosystems and habitats.

Trends in abundance and distribution of selected species.

Target 1.2: Areas of particular importance to biodiversity protected.

Technical rationale:

The most important areas for biological diversity would be identified according to the criteria including endemism, species richness, and/or uniqueness of habitats, including relict ecosystems, also taking into account the provision of ecosystem services. They would be identified primarily at local and national levels. Protection would be assured through effective conservation measures, including protected areas. This approach has been successfully applied to important bird areas and is now being applied for important plant areas under the Global Strategy for Plant Conservation.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **Protection of 50 per cent of the most important areas for plant diversity assured (GSPC-T5)**
- *Protection of 80 per cent of the most important areas for bird diversity assured*
- *Protection of at least 30 per cent of tropical and cold water coral reefs and seamounts, and other particularly vulnerable marine and coastal ecosystems. (proposed target for Marine and Coastal Biodiversity)*
- *Protection of 50 per cent of the most important areas for biological diversity of inland water ecosystems assured.*

Relevant Global Indicators:

Trends in abundance and distribution of selected species.

Change in status of threatened species.

Coverage of protected areas.

Goal 2. Promote the conservation of species diversity

Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.

Technical rationale:

For a species that are not classified as “threatened”, the size and distribution of its populations provides a good indicator of its status. In turn, the population data of species or groups of species reflects the “health” of the overall ecosystem. Data is available for vertebrate groups.

Application of the target to taxonomic groups and to the thematic programmes of work:

- A single target would be applied to all thematic programmes. Different quantitative targets might be specified for different taxonomic groups.

Primary Global Indicator:

Trends in abundance and distribution of selected species.

Target 2.2: Status of threatened species improved.

Technical rationale:

Conserved *in situ* is here understood to mean that populations of the species are effectively maintained in at least one protected area or through other *in situ* management measures. In some countries this figure has already been met, but it would require additional efforts in many countries. Currently, over 10,000 threatened plant species are maintained in living *ex situ* collections (botanic gardens, seed banks, and tissue culture collections), representing some 30 per cent of known threatened plant species. This could be increased with priority given to critically endangered species. Quantitative targets that are set should be seen as steps towards the effective *in situ* conservation of all threatened species.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **60 per cent of the world’s threatened plant species conserved *in situ*.** (GSPC-7)
- **60 per cent of threatened plant species in accessible *ex situ* collections, preferably in the country of origin, and 10 per cent of them included in recovery and restoration programmes** (GSPC-8)
- *For other species groups, an appropriate quantitative target to be elaborated by SBSTTA prior to the eighth meeting of the Conference of the Parties .*

Primary Global Indicator:

Change in status of threatened species.

Other relevant Global Indicators:

Trends in abundance and distribution of selected species.
Coverage of protected areas.

Goal 3. Promote the conservation of genetic diversity**Target 3.1: Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.***Technical rationale:*

Theory and practice demonstrate that, with an appropriate strategy, 70 per cent of the genetic diversity of a crop can be contained in a relatively small sample (generally, less than one thousand accessions). For any one crop species, therefore, the target is readily attainable. For some 200–300 crops, it is expected that 70 per cent of genetic diversity is already conserved *ex situ* in gene banks. Genetic diversity is also conserved through on farm management. By working with local communities, associated indigenous and local knowledge can also be maintained. Combining *ex situ* and *in situ* approaches, additional crop, forage, and tree species, as well as major socio-economically important species, such as medicinal plants, could be covered by the target, according to national priorities. The target could also be applied to domesticated animal species and a few well-described species of fish, although the quantitative element may need to be adjusted.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **70 per cent of the genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated indigenous and local knowledge maintained (GSPC-9)**
- *Prevent further significant losses of the known genetic diversity of commercially harvested species of fish and other major socio-economically valuable species.*

Primary Global Indicator:

Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance. (indicator under development)

Other relevant Global Indicators:

Biodiversity used in food and medicine. (indicator under development)
Trends in abundance and distribution of selected species.

Promote sustainable use**Goal 4. Promote sustainable use and consumption.****Target 4.1: Biodiversity-based products derived from sources that are sustainably managed, and Production areas managed consistent with the conservation of biodiversity.***Technical rationale (A):*

Biodiversity-based products include food products, timber, paper and other wood-based products, other fibre products, and ornamental, medicinal and other plants and animals for direct use. *Sources that are sustainably managed* are understood to include: (i) natural or semi-natural ecosystems that are sustainably managed (by avoiding over-harvesting of products, or damage to other components of the ecosystem), excepting that commercial extraction of resources from some primary forests and near-pristine ecosystems of important conservation value might be excluded; and (ii) sustainably managed, plantation forests, agricultural lands, and aquaculture areas. In both cases, sustainable management should be understood to integrate social and environmental considerations, such as the fair

and equitable sharing of benefits and the participation of indigenous and local communities. Indicators for progress might include: Direct measures e.g.: products meeting relevant verified standards (such as for organic food, certified timber, certified fish and shellfish products, and intermediate standards that codify good practices for sustainable agriculture and forestry); and Indirect measures e.g.: products from sources considered to be sustainable, or near-sustainable, on the basis of farming system analyses, taking into account the adoption of integrated production methods. Assessment of progress will be assisted by the development of criteria and indicators of sustainable agricultural, aquaculture and forest management. 2010 targets should be seen as a step towards the medium or long term aim of 100 per cent sustainability.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **30 per cent of plant-based products derived from sources that are sustainably managed.** (GSPC-12)
- *At least [80 per cent] of capture fishery products derived from sustainable sources.*
- *A suitable target for use of wild animals (e.g: bushmeat) to be elaborated by SBSTTA prior to the eighth meeting of the Conference of the Parties*

Primary Global Indicator:

Proportion of products derived from sustainable sources. (indicator under development)

Other relevant Global Indicators:

Trends in abundance and distribution of selected species.

Marine trophic index.

Application of the trophic index to freshwater and possibly other ecosystems. (indicator under development)

Technical rationale (B):

For the purpose of the target, *production areas* refer to lands where the primary purpose is agriculture (including horticulture), grazing, wood production, as well as fisheries and areas used for aquaculture. *Consistent with conservation of biological diversity* implies that a number of objectives are integrated into the management of such areas including conservation of biological diversity which is an integral part of the production system itself; protection of other species and habitats in the production area that are unique, threatened, or of particular socio-economic value; and the use of management practices that avoid significant adverse impacts on biological diversity in surrounding ecosystems, for example by avoiding excessive release of nutrients and chemical contaminants and preventing physical ecosystem damage. Increasingly, integrated production methods are being applied in agriculture, including integrated pest management, conservation agriculture, and on-farm management of plant genetic resources. Similarly, sustainable forest management practices are being more broadly applied. 2010 targets should be seen as a step towards the medium or long term aim of 100 per cent sustainability.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **At least 30 per cent of production lands managed consistent with the conservation of plant diversity** (GSPC-6)
- *At least [80 per cent] of aquaculture facilities managed consistent with the conservation of biodiversity*

Primary Global Indicator:

Area of forest, agricultural and aquaculture ecosystems under sustainable management. (indicator under development)

Other relevant Global Indicators:

Nitrogen deposition.

Water quality in aquatic ecosystems.

Target 4.2 Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced

Technical rationale: to be developed.

Target 4.3: No species of wild flora or fauna endangered by international trade

Technical rationale:

Species of wild flora and fauna endangered by international trade include but are not limited to species listed on CITES appendix 1. The target is consistent with the main purpose of the CITES Strategic Plan (to 2005): “No species of wild flora subject to unsustainable exploitation because of international trade”.

Application of the target to taxonomic groups and to the thematic programmes of work:

- Applies to all thematic programmes. The target above incorporates target 11 of the Global Plant Conservation Strategy.

Primary Global Indicator:

Change in status of threatened species

Address threats to biodiversity

Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.

Target 5.1: Rate of loss and degradation of natural habitats decreased

Technical rationale:

The loss of natural habitats is recognized as the main driver of biodiversity loss. According to FAO's Forest Resources Assessment 2000, the global rate of deforestation averaged 9 million hectares per year during the 1990s. Drylands, which make up more than 50 per cent of the world's productive land, are increasingly threatened by desertification. Loss of mangroves and seagrasses leads to coastal erosion and reduction in other components of biodiversity. Many coral reefs are still unprotected and suffer from climate change, siltation and unsustainable fisheries.

Application of the target to taxonomic groups and to the thematic programmes of work:

Specific appropriate quantitative target to be elaborated by SBSTTA prior to the eighth meeting of the Conference of the Parties the following:

- *Reduce the rate of loss and degradation of mangroves and seagrass habitats.*
- *Reduce the rate of loss and degradation of natural inland waters.*
- *Reduce deforestation and forest degradation.*

- *Halt desertification and land degradation.*

Primary Global Indicator:

Trends in extent of selected biomes, ecosystems and habitats.

Other relevant Global Indicators:

Trends in abundance and distribution of selected species.

Marine trophic index.

Application of the trophic index to freshwater and possibly other ecosystems. (indicator under development)

Goal 6. Control threats from invasive alien species

Target 6.1: Pathways for major potential alien invasive species controlled.

Technical rationale:

Invasive alien species are one of the most important drivers of biodiversity loss. Prevention of invasions is the preferred strategy. Specific actions can be taken to address all known pathways for the introduction of potentially invasive alien species. Pathways include trade in goods, transport (including air and shipping), and escapes from aquaculture and horticulture.

Application of the target to taxonomic groups and to the thematic programmes of work:

- The target can be applied to all programmes of work. The predominant pathway may vary among programmes of work.

Primary Global Indicator:

Numbers and cost of alien invasions. (indicator under development)

Target 6.2: Management plans in place for major alien species that threaten ecosystems, habitats or species.

Technical rationale:

There is no agreed reliable estimate of the number of alien species that threaten species, habitats and ecosystems to such an extent that they may be considered as “major”. Major invasive alien species would be selected on the basis of national priorities, also taking into account their significance at regional and global levels. For many alien species, it is expected that different management plans will be required in different countries in which they threaten species, habitats and ecosystems. Under the Global Strategy for Plant Conservation, a target to develop plans for 100 major invasive alien species has been agreed. This may be considered as a first step towards developing management plans for all major alien species that threaten species, habitats and ecosystems.

Application of the target to taxonomic groups and to the thematic programmes of work:

- **Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems (GSPC-10)**

Primary Global Indicator:

Numbers and cost of alien invasions. (indicator under development)

Goal 7. Address challenges to biodiversity from climate change, and pollution

Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change

Target 7.2: Reduce pollution and its impacts on biodiversity

Technical rationale:

Climate change impacts biodiversity through temperature changes, sea-level rise, changed climate patterns and increased frequency of extreme events. Pollution from excessive fertilization and use of pesticides and other toxic chemicals directly impacts biodiversity. Sedimentation in aquatic environments from excessive soil erosion can also have significant negative impacts on ecosystems. Each of these pressures can be addressed through a variety of measures.

Application of the target to taxonomic groups and to the thematic programmes of work:

Specific appropriate quantitative target to be elaborated by SBSTTA prior to COP-8 the following:

- *Land based pollution in marine environment*
- *Eutrophication and sedimentation of inland waters*

Some additional targets are covered by other international agreements eg:

- Reduce greenhouse gas emissions according to targets set within the framework of the UNFCCC:

Primary Global Indicators:

Nitrogen deposition.
Water quality in aquatic ecosystems.

Indicators from other international agreements:

Greenhouse gas emissions.

Maintain goods and services from biodiversity to support human well-being

Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods

Target 8.1: Capacity of ecosystems to deliver goods and services maintained

Technical rationale:

A central objective of work under the Convention is to maintain the capacity of ecosystems to provide goods and services such as food, fibre, and medicines, clean water, watershed protection, and regulating and supporting services such as pollination, pest control and nutrient cycling.

Application of the target to taxonomic groups and to the thematic programmes of work:

Applies to all thematic programmes. Specific appropriate quantitative targets to be elaborated by SBSTTA in the light of the findings of the Millennium Assessment.

Primary Global Indicators:

- Biodiversity used in food and medicine. (indicator under development)
- Water quality in aquatic ecosystems.
- Marine trophic index.
- Application of the trophic index to freshwater and possibly other ecosystems. (indicator under development)

Target 8.2: biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained

Technical rationale:

Biodiversity underpins livelihoods, food security and health care. This target is consistent with one of the widely agreed international development targets, namely to “ensure that current trends in the loss of environmental resources are effectively reversed at both global and national levels by 2015”. It is recommended feasible to halt the decline by 2010 and subsequently to reverse the decline. Relevant resources and methods to address their decline are largely site specific and thus implementation must be locally driven. The scope of the target is understood to encompass plant resources and associated ethnobotanical knowledge. Measures to address the decline in associated indigenous and local knowledge should be implemented consistent with the Convention’s programme of work on Article 8(j) and related provisions.

Application of the target to taxonomic groups and to the thematic programmes of work:

- Applies to all thematic programmes. The target above incorporates Target 13 of the Global Plant Conservation Strategy.

Primary Global Indicator:

- Biodiversity used in food and medicine. (indicator under development)
- Water quality in aquatic ecosystems.

Other relevant Global Indicators:

- Marine trophic index.
- Application of the trophic index to freshwater and possibly other ecosystems. (indicator under development)
- Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance. (indicator under development)
- Area of forest, agricultural and aquaculture ecosystems under sustainable management. (indicator under development)

Protect traditional knowledge, innovations and practices

Goal 9. Maintain socio-cultural diversity of indigenous and local communities

Target 9.1 Protect traditional knowledge, innovations and practices

Target 9.2: Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing

Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources

Goal 10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources

Target 10.1: All transfers of genetic resources are in line with the Convention on Biological Diversity, the International Treaty on Plant Genetic Resources for Food and Agriculture and other applicable agreements.

Target 10.2: Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources

Technical rationale:

The fair and equitable sharing of benefits arising out of the use of genetic resources is one of the three objectives of the convention. Benefits can be monetary and non-monetary. The Bonn Guidelines provides relevant guidance

Application of the target to taxonomic groups and to the thematic programmes of work:

- One target to be applied across all taxonomic groups and thematic programmes.

Global Indicators:

To be developed

Ensure provision of adequate resources

Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention ^{2/}

Target 11.1: New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.

Target 11.2: Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph 4.

^{2/} This corresponds to goal 2 of the Strategic Plan of the Convention on Biological Diversity.