



## CONVENTION ON BIOLOGICAL DIVERSITY

Distr.  
GENERAL

UNEP/CBD/SBSTTA/7/10  
20 September 2001

ORIGINAL: ENGLISH

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### SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE

Seventh meeting

Montreal, 12-16 November 2001

Item 5.2 of the provisional agenda\*

### PLANT CONSERVATION STRATEGY

#### *A proposal for a global strategy for plant conservation*

*Note by the Executive Secretary*

#### *Executive summary*

In its decision V/10, the Conference of the Parties decided that, at its sixth meeting, it would consider the establishment of a global strategy for plant conservation. The present document contains a proposal for a strategy based on 14 outcome-orientated targets aimed at:

- (a) Understanding and documenting plant diversity;
- (b) Conserving plant diversity;
- (c) Using plant diversity sustainably;
- (d) Promoting education and awareness about plant diversity; and
- (e) Building capacity for the conservation of plant diversity.

A matrix in the annex to the note shows how existing international agreements, programmes, plans and other initiatives contribute to the achievement of the targets and their relationship with the thematic and cross-cutting programmes of work under the Convention on Biological Diversity. Further work required to develop the strategy is outlined.

#### *Suggested recommendations*

SBSTTA may wish to recommend that the Conference of the Parties:

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\* UNEP/CBD/SBSTTA/7/1.

1. *Adopt* a global strategy for plant conservation, developed on the basis of the proposals in section IV of this document, including the targets for 2010;
2. *Invite* Parties, Governments and relevant organizations to adopt these targets, and, as appropriate, to incorporate them into relevant plans, programmes and initiatives, including national biodiversity strategies and action plans, in order to promote a common effort towards halting the loss of plant diversity;
3. *Review*, at its eighth and tenth meetings, the progress made in reaching the targets, and to provide additional guidance in light of those reviews;
4. *Consider* the global strategy for plant conservation as a pilot approach for the use of outcome targets under the Convention within the context of the Strategic Plan and, at its eighth meeting, also consider the wider application of this approach to other areas under the Convention;
5. Request the Subsidiary Body on Scientific, Technical and Technological Advice:
  - (a) In its periodic review of the thematic and cross-cutting programmes of work under the Convention, to:
    - (i) Identify further opportunities for the implementation of thematic and cross-cutting programmes of work to contribute to the achievement of the targets; and
    - (ii) Consider, in light of the targets, the need for the further elaboration of the programmes of work;
  - (b) To develop ways and means of monitoring and assessing progress in the implementation of the global strategy for plant conservation and to report to the Conference of the Parties at its seventh meeting;
6. Welcome the contribution of the “Gran Canaria Group” in developing this strategy, and invite the organizations involved, and other relevant organizations, in collaboration with the Executive Secretary, to contribute to the further development, implementation and monitoring of strategy.

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## I. INTRODUCTION

1. In line with its decision V/10, the Conference of the Parties will consider at its sixth meeting the establishment of a global strategy for plant conservation. Such a strategy would be aimed at halting the current and continuing unacceptable loss of plant diversity. The Conference of the Parties requested the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to make recommendations on the subject to it at its sixth meeting. In order to enable SBSTTA to carry out this task, the Conference of the Parties requested the Executive Secretary to solicit the views of Parties, and to liaise with relevant organizations, in order to gather information regarding plant conservation, including information on existing initiatives.
2. A number of Parties, Governments and organizations have provided views and the Executive Secretary has convened consultations with relevant organizations and other experts (see section B below). The purpose of this document is to provide a basis for consideration of a proposed strategy by SBSTTA, prepared on the basis of these consultations, and the views of Parties, Governments and organizations.
3. The paper explains the background for the proposed strategy (section II), reviews existing initiatives aimed at plant conservation (section III), and proposes a draft global strategy (section IV).

## II. BACKGROUND

### A. *Origin of the proposal*

4. In August 1999, over 5,000 botanists from over 100 countries gathered in St Louis, Missouri, at the XVI<sup>th</sup> International Botanical Congress. In a Congress resolution, they recognized that as many as two-thirds of the world's plant species are in danger of extinction in nature during the course of the twenty-first century, and recognized that this threatens our need for and expectation of using plant diversity to build sustainable, healthy and better lives for the future. The Congress called for plant conservation to be recognized as an outstanding global priority in biodiversity conservation, and for the establishment of a coordinating body under the United Nations, to monitor the status of plants throughout the world, detect those most in danger, and take steps for their conservation.
5. A meeting held in April 2000 in Gran Canaria, Spain, took up the Congress resolutions, and, in the Gran Canaria Declaration, called for the development of a Global Strategy for Plant Conservation, within the framework of the Convention on Biological Diversity. The aim of such a strategic program would be to halt the current and continuing unacceptable loss of plant diversity by supporting and facilitating appropriate plant conservation initiatives at all levels.
6. At its fifth meeting, held in Nairobi in May 2000, the Conference of the Parties to the Convention on Biological Diversity addressed the issue and decided to consider the establishment of a global strategy for plant conservation at the sixth meeting, in April 2002. Noting the importance of plants for humankind, the threats they are facing, and the call for developing a strategy, the Conference of the Parties also recognized, in its decision V/10, that there are ongoing international initiatives that should contribute to developing such a strategy. It requested the Executive Secretary to liaise with these existing initiatives and requested SBSTTA to examine the issue.
7. There has been further support for the development of a global strategy since the fifth meeting of the Conference of the Parties. In June 2000, the World's Botanic Gardens Congress held in Asheville,

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North Carolina, further analysed the issue of plant conservation. This gathering of more than 1,000 delegates from botanic gardens worldwide noted the outcomes of the previous meetings, and adopted a new International Agenda for Botanic Gardens in Conservation, as a contribution to the development and implementation of the proposed strategy. The need for a Global Strategy has also been addressed by other recent meetings, including the IUCN World Conservation Congress, held in Amman in September 2000, where a resolution endorsing the Gran Canaria Declaration was passed. Other resolutions have been adopted by conferences held elsewhere in the world in 2000, including the Brazilian Botanical Congress and the 16<sup>th</sup> Conference of the Association for the Taxonomic Study of the Flora of Tropical Africa.

***B. Consultations on the development of the proposed strategy***

8. In preparation for consideration of the proposed strategy by SBSTTA and in line with decision V/10, the Executive Secretary has solicited the views of Parties and liaised with relevant organizations to gather relevant information.

9. To date, the following Parties and other Governments have provided views on this matter: Belgium, Costa Rica; Guyana, Islamic Republic of Iran; Kiribati; New Zealand; Pakistan, Poland, Republic of Palau; Spain; and Thailand.

10. Resolutions, or other submissions, have also been provided by the World Conservation Congress (resolutions 25 and 68), Planta Europa; the "Gran Canaria Group", and the World Wide Fund for Nature (WWF).

11. The Executive Secretary also convened an informal consultation on the matter with relevant organizations on the margins of the sixth meeting of SBSTTA in March 2001. A second consultation with these organizations and additional experts was organized in collaboration with Botanic Gardens Conservation International (BGCI) on behalf of the Gran Canaria Group in London on 17-18 May 2001. Participants included representatives of the Plants Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Commonwealth Secretariat, BGCI, the Food and Agriculture Organization of the United Nations (FAO), the International Association of Botanic Gardens, the International Institute for Plant Genetic Resources (on behalf of the Consultative Group on International Agricultural Research (CGIAR)), IUCN, Planta Europa, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Conservation Monitoring Centre (WCMC) of the United Nations Environment Programme (UNEP), and WWF, and of botanical or other biodiversity-related institutions from Australia, Brazil, Canada, Colombia, Germany, Kenya, Indonesia, South Africa, Spain, the United Kingdom and the United States of America.

12. Participants at the first consultation agreed that in order to stem the continued unacceptable loss of plant diversity worldwide, there was need for the development of a Global Plant Conservation Strategy, which must be bold, imaginative, innovative, practical and flexible. It would draw upon existing initiatives and not seek to replace or duplicate them. Participants agreed that the proposed strategy should include targets for plant conservation that are measurable, achievable and quantifiable. They would relate to ultimate outcomes of the strategy, such as the level of plant diversity documented and conserved, and thus they would be complementary to the existing targets set under the various work programmes of the Convention. At the second consultation, participants developed draft targets for the strategy, providing the basis for the targets in this document. It was emphasized that the targets should be clearly understood and limited in number. The targets were refined through subsequent consultation between the participants.

13. The type of targets proposed has been increasingly used in recent years to provide a framework for actions by multiple actors. The most well known example is the set of international development goals, which has been adopted by most countries, both donors and developing countries, as well as by relevant international institutions. They are drawn from the goals adopted by a series of United Nations conferences in the 1990s. For each of the seven goals a number of indicators have been developed, to allow progress towards the goals to be monitored. Targets are also being used by many national Governments, and in the European Union's strategy for sustainable development.

14. Further details of the various submissions and resolutions, the reports of the consultations, and the initiatives that make use of targets, are available on the Secretariat's website at: [www.biodiv.org/cross-cutting/plant\\_conservation](http://www.biodiv.org/cross-cutting/plant_conservation).

### III. EXISTING RELEVANT INITIATIVES

15. A number of decisions by the Conference of the Parties established programmes of work and initiatives that could contribute to the proposed strategy, including the major thematic areas of agricultural, forest, dry and sub-humid land, marine and coastal and inland water biological diversity, and several relevant cross-cutting issues, including the Global Taxonomy Initiative, the ecosystem approach, sustainable use, protected areas, and invasive alien species, as well as work on biosafety, access to genetic resources and benefit-sharing, and the implementation of Article 8(j) and related provisions. It is envisaged that the Global Strategy for Plant Conservation would be integrated into programmes of work of the Convention.

16. As indicated in decision V/10, there is also a range of existing international initiatives that address various aspects of plant conservation, including, for example:

(a) For plant genetic resources for food and agriculture, the FAO Global Plan of Action for Plant Genetic Resources for Food and Agriculture, and the International Undertaking on Plant Genetic Resources for Food and Agriculture, currently under revision to bring it into harmony with the Convention;

(b) For plants endangered by international trade, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),

(c) For ecosystem management and scientific research, the UNESCO Man and Biosphere (MAB) programme;

(d) For botanic gardens, the International Agenda for Botanic Gardens in Conservation;

(e) For endangered plants, the IUCN Species Survival Commission's Plant Conservation Programme;

(f) To address the threats posed by invasive alien species, the International Plant Protection Convention (IPPC), and the Global Invasive Species Programme (GISP).

17. Several other international instruments, such as the United Nations Framework Convention on Climate Change, the Convention to Combat Desertification, the Ramsar Convention on Wetlands and others have also established commitments and programmes of work on issues closely linked to plant conservation and can make an invaluable contribution to development, coordination and implementation of

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the proposed strategy. Other relevant international initiatives include the People and Plants Programme of WWF, UNESCO and the Royal Botanic Gardens, Kew.

18. There are also efforts at the regional level. For example, regional strategies for plant conservation are being developed for Europe under the auspices of the Council of Europe and *Planta Europa*, and for Southern Africa by the Southern African Botanical Diversity Network (SABONET).

19. A number of efforts to develop practical actions to safeguard plant diversity and to use it sustainably are also being undertaken by national Governments, public and private institutions and local and indigenous communities. If all these sectors were engaged in a strategic exercise to coordinate their efforts, to prioritize actions, maximize synergies and identify gaps in existing work on plant conservation, greater and more rapid progress could be made.

#### IV. THE PROPOSED STRATEGY

##### A. Objectives

20. The ultimate and long term objective of the strategy is to halt the current and continuing loss of plant diversity.

21. The strategy will provide a framework to facilitate harmony between existing initiatives aimed at plant conservation, to identify gaps where new initiatives are required, and to promote mobilization of the necessary resources.

22. The strategy will also provide a pilot exercise under the Convention for the setting of targets that relate to ultimate objectives of the Convention.

23. Within the ultimate and long term objective, a number of sub-objectives can be identified as follows:

(a) *Understanding and documenting plant diversity:*

- (i) Document the plant diversity of the world, including its use and its distribution in the wild, in protected areas and in *ex situ* collections;
- (ii) Monitor the status and trends in global plant diversity and its conservation, and identify plant species at risk;
- (iii) Develop an integrated, distributed, interactive information system to manage and make accessible information on plant diversity;
- (iv) Promote research on the genetic diversity, ecology and conservation biology of plants, and on social, cultural and economic factors that impact biodiversity, so that plant diversity, both in the wild and in the context of human activities, can be well understood and utilized to support conservation action;

(b) *Conserving plant diversity:* Improve long-term conservation, management and restoration of plant diversity *in situ* (both in more natural and in more managed environments), and *ex situ*,

paying special attention to the conservation of the world's important areas of plant diversity, and to the conservation of plant species of direct importance to human societies;

- (c) Using plant diversity sustainably:
  - (i) Strengthen measures to control unsustainable utilization of plant resources;
  - (ii) Support the development of livelihoods based on sustainable use of plants, and promote the fair and equitable sharing of benefits arising from the use of plant diversity;
- (d) *Promoting education and awareness about plant diversity*: Articulate and emphasize the importance of plant diversity, the goods and services that it provides, and the need for its conservation and sustainable use, in order to mobilize necessary popular and political support for its conservation and sustainable use;
- (e) *Building capacity for the conservation of plant diversity*:
  - (i) Enhance the human resources, physical and technological infrastructure necessary, and necessary financial support for plant conservation.
  - (ii) Link and integrate actors to maximise action and potential synergies in support of plant conservation.

### ***B. Rationale and scope***

24. Plants are universally recognized as a vital part of the world's biological diversity and an essential resource for the planet. In addition to the small number of crop plants used for basic food and fibers, many thousands of wild plants have great economic and cultural importance and potential, providing food, medicine, fuel, clothing and shelter for vast numbers of people throughout the world. Plants play a key role in maintaining the planet's basic environmental balance and ecosystem stability and provide an important component of the habitats for the world's animal life. At present, a complete inventory of the plants of the world has not been assembled, but it is estimated that the total number of vascular plant species may be in the order of 300,000. Of particular concern is the fact that many are in danger of extinction, threatened by habitat transformation, over-exploitation, alien invasive species, pollution and climate change. The disappearance of such vital and large amounts of biodiversity sets one of the greatest challenges for the world community: to halt the destruction of the plant diversity that are so essential to meet the present and future needs of humankind. The global strategy for plant conservation is proposed to address this challenge. While the entry point for the strategy is conservation, aspects of sustainable use and benefit-sharing are also included.

25. The rationale for a strategy focusing on plants has two aspects:

- (a) Plants are primary producers and provide habitat infrastructure for many ecosystems;
- (b) Setting meaningful targets is feasible since scientific understanding of at least higher plants, though incomplete, is better than for most other groups.

26. Thus the proposed strategy addresses the Plant Kingdom with focus on higher plants, and other well known groups such as Bryophytes and Pteridophytes. The setting of measurable targets for this set

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of taxa is more credible than for many lower plant groups. This does not imply that these groups do not have important ecological functions, nor that they are not threatened. However, effective action will be best achieved by focusing, in an initial phase at least, on achievable outcomes for known taxa.

27. The strategy would provide a framework for actions at global, regional, national and local levels. A global dimension to the strategy is important because it can:

- (a) Facilitate the development of a global consensus of key objectives, targets and actions;
- (b) Strengthen possibility of implementing necessary transnational actions (such as some recovery programmes);
- (c) Optimize availability and usefulness of information;
- (d) Be used to focus research on key generic issues (such as conservation methods);
- (e) Allow the identification of appropriate standards for plant conservation;
- (f) Mobilize support for globally significant actions (globally threatened species; “centres of plant diversity” or “hot spots”); and
- (g) Allow for collaboration between national and international entities – hence greater action and realization of economies of scale.

### *C. Targets*

28. Targets for the year 2010\*, are as follows (notes are provided in the annex):

- (a) *Understanding and documenting plant diversity:*
  - 1. A widely accessible working list of known plant species, as a step towards a complete world flora.
  - 2. An assessment of the conservation status of all known plant species.
  - 3. An understanding of basic conservation needs for threatened plant species, with conservation protocols developed for 50 per cent of such species;
- (b) *Conserving plant diversity:*
  - 4. 10 per cent of each of the world’s ecological regions and 50 per cent of the world’s threatened species effectively conserved *in situ*;
  - 5. 90 per cent of threatened plant species in accessible *ex situ* collections, and 20 per cent of them included in recovery programmes;
  - 6. 30 per cent of production lands managed consistent with the conservation of plant diversity;

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\* The date of 2010 has been used to synchronize the strategy with the Convention’s draft Strategic Plan.

7. 70 per cent of the genetic diversity of crops and other major socio-economically valuable plant species conserved;
  8. Threats to plant diversity from invasive alien species tackled;
- (c) *Using plant diversity sustainably:*
9. No species of wild flora subject to unsustainable exploitation because of international trade;
  10. 30 per cent of plant based products derived from sources that are sustainably managed;
  11. The decline of plant resources that support sustainable livelihoods, local food security and health care, reversed;
- (d) *Promoting education and awareness about plant diversity:*
12. Every child aware of the importance of plant diversity and the need for its conservation;
- (e) *Building capacity for the conservation of plant diversity:*
13. The number of trained people working with adequate facilities in plant conservation and related activities doubled;
  14. Networks for plant conservation activities established or strengthened at international, regional, and national levels.

#### ***D. The strategy as a framework***

29. The strategy is not intended to be a ‘programme of work’ analogous to existing thematic and cross-cutting programmes of work under the Convention. It does not, therefore, contain detailed activities, expected outputs etc. Rather, the strategy provides a framework by means of setting outcome-orientated targets (these differ from the “process” targets used so far under the Convention). It is envisaged that the activities necessary to reach those targets could be developed within this framework. In many cases, activities are already under way, or envisaged in existing initiatives (see the annex below). These include:

- (a) Activities aimed at plant conservation within national biodiversity strategies and action plans and relevant sectoral and cross-sectoral plans, programmes and policies;
- (b) Relevant activities under existing relevant initiatives, in particular: CITES; IPPC; the International Undertaking on Plant Genetic Resources of the Food and Agriculture; the FAO Global Plan of Action for Plant Genetic Resources for Food and Agriculture; the UNESCO Man and the Biosphere programme; the GISP Global Strategy on Invasive Alien Species; the plant conservation programme of the IUCN Species Survival Commission; the International Agenda for Botanic Gardens in Conservation; and the WWF-UNESCO people and plant programme; and
- (c) Relevant activities under the programmes of work of the Convention on Biological Diversity, including those relating to forest biological diversity, inland water biological diversity, marine and coastal biological diversity, and dry and sub-humid lands, as well as with cross-cutting issues such as

access and benefit-sharing, sustainable use, indicators, alien species, the Global Taxonomy Initiative, and issues related to Article 8(j).

30. The strategy and its 14 targets are intended to provide a framework for policy makers and public opinion and catalyse the reforms necessary to achieve plant conservation. Clear, stable, long-term targets that are adopted by the international community can help shape expectations and create the conditions in which all actors, whether Governments, the private sector, or civil society, have the confidence to develop solutions to address threats to plant diversity. For the targets to be widely understood, and appealing to public opinion, they need to be kept fairly simple and straightforward. They should be understood in a commonsensical rather than a literal way. In order that the number of targets be kept manageable, they need to focus on a set of activities that are strategic, rather than aiming to be comprehensive.

31. In implementing the strategy, the ecosystem approach adopted under the Convention on Biological Diversity will be applied. The application of this approach implies, *inter alia*, intersectoral cooperation, decentralization of management to the lowest level appropriate, equitable distribution of benefits, and the use of adaptive management policies that can deal with uncertainties and are modified in the light of experience and changing conditions. The implementation process will also build upon the knowledge, innovations and practices of indigenous and local communities and thus complement Article 8(j) of the Convention. A multidisciplinary approach that takes into account scientific, social and economic issues is required.

#### ***E. Further work required to develop and implement the strategy***

32. Measures to implement the strategy will need to be put in place at international, national, and sub-national levels. This will include development of national targets and their incorporation into relevant plans, programmes and initiatives, including national biodiversity strategies and action plans. National targets will vary from country to country according to differences in levels of plant diversity and national priorities. Multilateral and bilateral funding agencies should consider putting in place policies and procedures to ensure that their funding activities are supportive of and do not run counter to the strategy and its targets.

33. For each target, the scope of activities may need to be clarified and sub-targets, or milestones, developed. In order to monitor progress towards achieving the targets, baseline data, and a series of indicators may need to be developed.

34. Regional components of the strategy might be developed, perhaps using a bio-geographical approach.

35. As well as Parties to the Convention, the design, development and implementation of the strategy should involve a range of actors, including:

(a) International initiatives (e.g., intergovernmental organizations, United Nations agencies, multilateral aid agencies, etc);

(b) Conservation and research organizations (including protected-area management boards, botanic gardens, gene banks, universities, research institutes, non-governmental organizations and networks of non-governmental organizations);

- (c) Communities and major groups (including local and indigenous communities, farmers, women, youth);
- (d) Governments (central, regional, local authorities);
- (e) The private sector.

36. In order to promote implementation of the strategy and facilitate cooperation between these initiatives, the Executive Secretary will collaborate with relevant stakeholders. This collaboration will aim to avoid duplication of effort, promote collaboration and synergies among existing initiatives, and facilitate analysis of the status, trends, and effectiveness of different measures on the conservation and sustainable use of plant diversity. Consideration might also be given to the establishment of a flexible coordination mechanism.

Annex

**MATRIX OF RELEVANT ACTIVITIES UNDER EXISTING INTERNATIONAL INITIATIVES AND RELATIONSHIP TO THEMATIC PROPOSALS UNDER THE CONVENTION ON BIOLOGICAL DIVERSITY**

Targets	Scope, Rationale and Notes	Relevant Existing Initiatives
<p><b>UNDERSTANDING AND DOCUMENTING PLANT DIVERSITY:</b></p> <p>Objectives: Document the plant diversity of the world, including its use and its distribution in the wild, in protected areas and in <i>ex situ</i> collections. Monitor the status and trends in global plant diversity and its conservation, and identify plant species at risk. Develop an integrated, distributed, interactive information system to manage and make accessible information on plant diversity. Promote research on the genetic diversity, ecology and conservation biology of plants, and on social, cultural and economic factors that impact biodiversity, so that plant diversity, both in the wild and in the context of human activities, can be well understood and utilised to support conservation action</p>		
<p><b>Target 1: A widely accessible working list of known plant species, as a step towards a complete world flora.</b></p>	<p>A working list of all known plant species is a fundamental requirement to underpin plant conservation actions. Such a list needs to be supported by additional information on plant uses, geographical distributions, folk taxonomy systems and other data on plant diversity and status.</p> <p>This would be a step towards a complete global flora, the preparation of which would require field surveys of plants, especially in developing countries.</p>	<p>Species 2000, Global Biodiversity Information Facility CBD Global Taxonomy initiative IUCN-Species Survival Commission specialist groups International Agenda for Botanic Gardens FAO Global Plan of Action (GPA) activity 1: Surveying and inventorying plant genetic resources for food and agriculture.</p>
<p><b>Target 2: An assessment of the conservation status of all known plant species.</b></p>	<p>An assessment of the conservation status of plant species is required to guide conservation priorities and approaches. The IUCN "Red Lists" and reports of the SSC specialist groups provide baseline data for some taxonomic groups and geographical regions. The assessment should include an inventory of species conserved in protected areas and <i>ex situ</i> (botanic gardens, gene banks).</p>	<p>IUCN "Red Lists" and reports of the SSC specialist groups. International Agenda for Botanic Gardens. MAB programme: inventory of species conserved in biosphere reserves. GPA activity 17: constructing comprehensive information systems for plant genetic resources for food and agriculture GPA activity 18: developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture</p>
<p><b>Target 3: An understanding of basic conservation needs for threatened plant species, with conservation protocols developed for 50 per cent of</b></p>	<p>The biology, demography, genetics and ecology of plants, both in the wild and in the context of human activities, need to be understood to support recovery programmes, other conservation actions and the long-term management of plant diversity.</p>	<p>IUCN-Species Survival Commission action plans International Agenda for Botanic Gardens Research programmes promoted or supported by international societies for conservation biology, conservation genetics,</p>

Targets	Scope, Rationale and Notes	Relevant Existing Initiatives
such species.		habitat restoration and management, etc.
<p><b>CONSERVING PLANT DIVERSITY</b></p> <p>Objectives: Improve long-term conservation, management and restoration of plant diversity <i>in situ</i> (both in more natural and in more managed environments), and <i>ex situ</i>, paying special attention to the conservation of the world's important areas of plant diversity, and to the conservation of plant species of direct importance to human societies.</p>		
<p><b>Target 4: 10 per cent of each of the world's ecological regions and 50 per cent of world's threatened species effectively conserved <i>in situ</i>.</b></p>	<p>In situ conservation is the primary means for conservation action under the Convention. This is a target for <i>in situ</i> conservation of (i) representative ecosystems and (ii) threatened species. Ecological regions could be defined in terms of centres of plant diversity, ecoregions, or biogeographical zones.</p> <p>Geographic data sets maintained by WCMC could contribute to monitoring of progress in reaching this target.</p>	<p>MAB: Biosphere reserves</p> <p>Convention on Wetlands (Ramsar)</p> <p>World Heritage Convention</p> <p>IUCN World Commission on Protected Areas</p> <p>GPA activity 4: Promoting <i>in situ</i> conservation of wild crop relatives and wild plants for food production</p> <p>CBD programmes of work on the biodiversity of forests, inland waters, marine and coastal areas and dry and sub-humid lands.</p> <p>Regional initiatives on the designation and protection of important areas for plant diversity, such as the European Union's Habitats Directive and the Bern Convention.</p>
<p><b>Target 5: 90 per cent threatened plant species conserved in accessible <i>ex situ</i> collections, and 20 per cent of them included in recovery programmes.</b></p>	<p><i>Ex situ</i> conservation complements <i>in situ</i> conservation by providing: (i) a last line of defence against extinction in the wild; (ii) material for recovery programmes; and (iii) material for research, education and to support sustainable use.</p>	<p>GPA activities 5, 6, 7, 8 and 9: <i>Ex situ</i> conservation (for crop plants, wild relatives and wild food plants).</p> <p>International Agenda for Botanic Gardens: Botanic Gardens' collections to be enhanced to include genetically representative samples of rare and endangered species.</p>
<p><b>Target 6: 30 per cent of production lands managed consistent with the conservation of plant diversity.</b></p>	<p>A large proportion of the terrestrial area is dominated by production lands for agriculture or forestry. Much important plant diversity is located in these production lands, as well as in marginal lands and other human-dominated landscapes, such as cities. Protected areas can cover only a small proportion of this area. Thus conservation of plant diversity measures in the wider landscape, including private and community lands, is important as part of a total strategy for plant conservation.</p> <p>Agri-environmental indicators such as those being developed by</p>	<p>MAB: Biosphere reserves</p> <p>GPA activity 2: supporting on-farm management and improvement of plant genetic resources for food and agriculture.</p> <p>GPA activity 11: promoting sustainable agriculture through diversification of crop production and broader diversity in crops.</p> <p>GPA activity 12: promoting development and commercialisation of under-utilised crops and species.</p>

Targets	Scope, Rationale and Notes	Relevant Existing Initiatives
	OECD and by FAO in collaboration with CBD (Programme of work on agricultural biodiversity) could help to monitor progress towards this target.	Certification schemes developed for forest products, organic agriculture etc.  CBD programmes of work on forest and agricultural biodiversity.
<b>Target 7: 70 per cent of the genetic diversity of crops and other major socio-economically valuable plant species conserved.</b>	Genetic erosion of crop plants and other socio-economically valuable plant species is a serious concern. Maintenance of diversity important to adapt to multiple environments and global change, and for continued crop improvement. Research on the genetic basis and diversity of such plants will underpin the achievement of this target.	GPA activities 5, 6, 7, 8 and 9: Ex situ conservation (for crop plants, wild relatives and wild food plants). CGIAR and national genebanks make major contribution in this regard. Core-collections can conserve c/. 70% GD in small samples. Further work required for plants with recalcitrant seeds, minor crops, wild relatives and medicinal plants (and lower targets may be required for such groups). Botanic gardens, and conservation <i>in situ</i> (including in biosphere reserves and protected areas) also contribute, especially for wild plants and lesser used species.
<b>Target 8: Threats from invasive alien species tackled.</b>	Invasive alien species are acknowledged to be the second most important threat to biological diversity.	International Plant Protection Convention  Global Invasive Species Programme  CBD programme of work on invasive alien species
<p><b>USING PLANT DIVERSITY SUSTAINABLY</b></p> <p>Objectives: Strengthen measures to control unsustainable utilization of plant resources. Support the development of livelihoods based on sustainable use of plants, and promote the fair and equitable sharing of benefits arising from the use of plant diversity</p>		
<b>Target 9: No species of wild flora subject to unsustainable exploitation because of international trade.</b>	This target is the main purpose of the CITES strategic plan to 2005.	CITES  CBD programme of work on sustainable use
<b>Target 10: 30 per cent of plant based products derived from sources that are sustainably managed.</b>	Economic incentives can promote sustainable management. Certification schemes can provide information on progress made. Additional definitional work and monitoring efforts are required to determine contribution from non-certified production and to expand data available on sustainable levels of production, particularly of wild plants.	Certification schemes developed for forest products, organic agriculture etc.  GPA activity 12: promoting development and commercialisation of under-utilised crops and species.  GPA activity 14: developing new markets for local varieties and "diversity-rich" products.  CBD programmes of work on sustainable use, agricultural biodiversity and forest biodiversity.

<p><b>Target 11: The decline of plant resources that support sustainable livelihoods, local food security and health care, reversed.</b></p>	<p>Plant diversity often underpins livelihoods, food security and health care. This target is consistent with, and a special case of one of the widely agreed International Development Targets: "...ensure that current trends in the loss of environmental resources are effectively reversed at both global and national levels by 2015".</p> <p>A global index, analogous to the WWF Living Planet Index, could be developed to monitor progress</p>	<p>GPA activities 2, 3, 4, 10, 11, 12, 13 and 14.</p> <p>CBD programmes of work on forest and agricultural biodiversity, and the biodiversity of dry and sub-humid lands.</p>
Targets	Scope, Rationale and Notes	Relevant Existing Initiatives
<p><b><i>RAISING AWARENESS ABOUT THE IMPORTANCE OF PLANT DIVERSITY</i></b></p>		
<p>Objectives: Articulate and emphasize the importance of plant diversity, the goods and services that it provides, and the need for its conservation and sustainable use, in order to mobilize necessary popular and political support for its conservation and sustainable use.</p>		
<p><b>Target 12: Every child aware of the importance of plant diversity and the need for its conservation.</b></p>	<p>Public awareness is the key to mobilizing popular actions and to generating and sustaining necessary political actions in support of plant conservation. Focussing on education for young people would provide a good starting point for raising public understanding of the importance of plant diversity.</p>	<p>UNESCO-CBD initiative on public awareness.</p> <p>GPA activity 20: promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use.</p> <p>International Agenda for Botanic Gardens: network of botanic garden educators and botanic garden public education programmes.</p> <p>Joint IUCN-Dutch initiative on Biodiversity Education Public Awareness (BEPA)</p>
<p><b><i>BUILDING CAPACITY FOR THE CONSERVATION OF PLANT DIVERSITY</i></b></p>		
<p>Objectives: Enhance the human resources, physical and technological infrastructure necessary, and necessary financial support for plant conservation. Link and integrate actors to maximise action and potential synergies in support of plant conservation.</p>		
<p><b>Target 13: The number of trained people working with adequate facilities in plant conservation and related activities doubled.</b></p>	<p>This represents growth at some 10% per year. Geographical and other priorities would need to be determined to address the particularly urgent plant conservation measures needed in some regions.</p>	<p>GPA activity 19: expanding and improving education and training.</p> <p>International Agenda for Botanic Gardens: training and capacity building programmes.</p>
<p><b>Target 14: Networks for plant conservation activities established or strengthened at international, regional, and</b></p>	<p>Existing networks operating at various levels provide valuable models for new initiatives. Strengthening cross-sectoral networking for plant conservation should be a priority.</p>	<p>GPA activity 16: Promoting networks for plant genetic resources for food and agriculture.</p> <p>IUCN-Species Survival Commission's network of plant specialist</p>

<b>international, regional, and national levels.</b>		groups Botanic gardens' networks under International Agenda for Botanic Gardens.
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