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IN-DEPTH REVIEW OF THE IMPLEMENTATION OF THE GLOBAL STRATEGY FOR PLANT CONSERVATION

Note by the Executive Secretary

EXECUTIVE SUMMARY

1. The Global Strategy for Plant Conservation was adopted in 2002 (annex to decision VI/9) with the ultimate goal to halt the current and continuing loss of plant diversity. It includes 16 outcome targets to be met by 2010. In line with the multi-year programme of work of the Conference of the Parties up to 2010, adopted through decision VII/31, an in-depth review of the Global Strategy has been carried out, based on (i) information compiled from the third national reports, additional information submitted by Parties and other stakeholders and partners; (ii) input from the meeting of a liaison group convened by the Executive Secretary in collaboration with the Global Partnership for Plant Conservation, in Glasnevin, Dublin, from 23 to 25 October 2006; and (iii) comments received on an earlier version of this note.

2. In general, the review indicates that, in line with its objectives, the Global Strategy has provided a useful framework to harmonize and bring together various initiatives and programmes in plant conservation at both the national and regional levels. The Global Strategy has been notably successful in stimulating the engagement of the botanical and plant conservation communities in the work of the Convention, through *inter alia* the establishment of national, regional and global networks, including in particular the Global Partnership for Plant Conservation, launched at the seventh meeting of the Conference of Parties to the Convention. The Global Strategy has also stimulated the development of new projects and initiatives and the mobilization of resources for the implementation of its targets.

3. The findings of the Millennium Ecosystem Assessment provide a further rationale for implementing the Strategy, including at the national level, with a view to securing plant resources and their provisioning services and allowing communities to continue to derive benefits from plant diversity, especially for food, medicines, fuel, fibre, wood and other uses. In addition, the context of national implementation of the Global Strategy provides opportunities for addressing the Millennium Development Goals especially poverty reduction (Goal 1), the health crisis (Goal 6) and environmental sustainability (Goal 7).

* UNEP/CBD/SBSTTA/12/1.

4. Efforts are being made to facilitate national implementation of the Global Strategy including through the development of national strategies and targets, and/or the integration of the Global Strategy targets into national plans, programmes and strategies including the national biodiversity strategies and action plans in response to decision VI/9, paragraphs 3 and 4. Currently, only less than 10 per cent of the Parties have developed national strategies and/or targets, or incorporated these into their national biodiversity strategies and action plans.

5. Although the time since the adoption of Global Strategy Plant Conservation in 2002 is not sufficiently long to allow significant achievement of the targets, there has been notable progress in achieving targets 1 (A widely accessible working list of known plant species, as a step towards a complete world flora), 5 (Protection of 50 per cent of the most important areas for plant diversity assured;), 8 (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), 9 (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), 11 (No species of wild flora endangered by international trade), 14 (The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes), 15 (The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy), and 16 (Networks for plant conservation activities established or strengthened at national, regional and international levels).

6. However, limited progress was made with respect to the targets 2 (A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels), 4 (At least 10 per cent of each of the world's ecological regions effectively conserved), 6 (At least 30 per cent of production lands managed consistent with the conservation of plant diversity), 10 (Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems), and 12 (30 per cent of plant-based products derived from sources that are sustainably managed).

7. There are some gaps in achieving target 3 (Development of models with protocols for plant conservation and sustainable use, based on research and practical experience) especially in relation to development of tools and protocols for the targets of the Strategy whose progress is limited. Efforts to achieve target 7 (60 per cent of the world's threatened species conserved *in situ*) have been constrained by limited progress in achieving target 2, as target 7 is dependant on the base line data generated under target 2.

8. Constraints to the national implementation of the Global Strategy include limited institutional integration, lack of mainstreaming, and inadequate policies and legal frameworks at the planning stage; and at the operational level, lack of data, tools and technologies, limited sectoral collaboration and coordination, limited financial and human resources. The review indicates also that further development of the Global Strategy should include targets relating to: (i) climate change, a driver of biodiversity loss increasing in intensity in recent years; and (ii) the impacts of nutrient loading on plant diversity.

9. With the preliminary challenges identified, it may now be possible to focus on enhanced implementation of the Strategy including by reaching beyond the botanical and conservation communities to address the wider impacts on plant diversity from agriculture and climate change, integrate the Strategy with poverty reduction and development strategies, and consider the Strategy beyond 2010.

SUGGESTED RECOMMENDATIONS

The Subsidiary Body on Scientific, Technical and Technological Advice may wish to recommend that the Conference of the Parties:

- (a) *Urges* Parties that have not yet done so to:
 - (i) Nominate focal points for the Strategy;
 - (ii) Develop national and/or regional strategies for plant conservation with targets, and consider their integration in national biodiversity strategies and action plans and other relevant national and regional policies and action plans, as part of broader plans to achieve the 2010 biodiversity target and the relevant Millennium Development Goals;
- (b) *Requests* Parties, other governments and relevant organisations to:
 - (i) Undertake activities for achieving enhanced implementation of the Strategy, in particular its targets 2, 4, 6, 7, 10 and 12;
 - (ii) Provide additional information on the progress made towards achieving the targets of the Strategy, including quantitative data and additional information from other sectors and processes such as in forestry and agriculture.
- (c) *Considers* the further development of the Strategy beyond 2010, including by integrating targets relating to climate change and nutrient loading;
- (d) *Requests* the Executive Secretary to develop, in collaboration with the Global Partnership for Plant Conservation and relevant organizations, using the outline annexed to this note, and taking into account contributions from Parties, other governments and relevant stakeholders,
 - (i) A toolkit that describes *inter alia* tools and experiences that can help enhance national implementation, and
 - (ii) A Plant Biodiversity Outlook that would serve as a communication and awareness-raising tool on the status of plant conservation and the implementation of the Strategy.

I. INTRODUCTION

1. The Global Strategy for Plant Conservation) was adopted in 2002 to halt the current and continuing loss of plant diversity. The Strategy consists of 16 targets to be met by 2010 contained in the annex to decision VI/9. The Conference of the Parties to the Convention on Biological Diversity at its seventh meeting decided to undertake an in-depth review of the implementation of the Global Strategy for Plant Conservation (decision VII/31). The Executive Secretary has prepared this note in line with the guidance for in-depth reviews provided in annex III to decision VIII/15, to facilitate the work of SBSTTA in undertaking the in-depth review.

2. Section II reviews progress in national and regional implementation of the Strategy. Section III summarizes the achievements under each of the targets and identifies challenges, opportunities and obstacles. Section IV presents some proposals for the future implementation of the Strategy.

3. An earlier draft of this note was posted for review from 26 February 2007 to 13 March 2007 in accordance with notification 2007-026 and review comments were incorporated as appropriate.

II. PROGRESS IN NATIONAL AND REGIONAL IMPLEMENTATION OF THE GLOBAL STRATEGY FOR PLANT CONSERVATION

4. Information on the implementation of the Strategy at the national level is based on information from the national focal points for the Convention and for the Global Strategy for Plant Conservation, reports on the establishment and implementation of national and regional strategies, and responses to the third national report.

A. *National reports*

5. In response to paragraph 10 of decision VII/10, the targets of the Strategy were integrated into the format of the third national report under Article 26 of the Convention on Biological Diversity. As of February 2007, 92 Parties had responded to the questionnaire in the national-report form and seven Parties provided additional information. To date, one out of three Parties has set one or more national targets corresponding to the global targets and integrated these into relevant plans, programmes and strategies.

6. Less than 10 per cent of Parties reported having set national targets, baselines, milestones and indicators related to the whole Strategy. This makes it difficult to analyse and consolidate the information provided into a global status report on the progress in implementation of the Strategy. Most Parties mentioned activities being undertaken at national level that were of relevance to the targets of the Strategy but did not provide a precise indication of the status of implementation of those activities in terms of specific indicators and milestones. Also, a large number of responses were of qualitative in nature rather than providing quantitative indications.

7. For all targets, the main constraints were: technical (lack of data, tools and technologies), financial (limited funding available), institutional (poor sectoral coordination and limited institutional capacity and capability) and regulatory (lack of appropriate supporting policies and legal framework). A summary of the progress made by target is presented in section III.

B. *National focal points for the Global Strategy for Plant Conservation*

8. At its seventh meeting, the Conference of the Parties encouraged Parties to nominate focal points for the Strategy, or to designate them from among the existing focal points (decision VII/10, para. 6) so as to facilitate national implementation of the Strategy. To date 58 Parties have nominated national focal

points for the Strategy (<http://www.biodiv.org/doc/lists/nfp-cbd-.pdf>). These national focal points have played a key role in building awareness on the need for national strategies and targets. They have also been instrumental in, bringing together various stakeholders through national workshops and consultations to establish national baselines in plant conservation and sustainable use and in facilitating the development of national responses to the Strategy. Some of them have participated in liaison group meetings related to the Strategy as well as regional and international meetings and presented their national experiences and challenges, including at the first meeting of the Global Partnership for Plant Conservation in Dublin, Ireland (<http://www.botanicgardens.ie/Strategy/gppc/dbnpresent/summary.htm>.)

C. National and regional strategies

9. In accordance with paragraph 4 of decision VI/9, various countries have developed national and/or regional targets and developed national Strategies, using the global targets as a flexible framework. These include Ireland ^{1/}, the Philippines, Seychelles ^{2/} and the United Kingdom of Great Britain and Northern Ireland ^{3/}. South Africa ^{4/} developed a national response that provides a status report on the national implementation of the Strategy and a summary of actions that have to be taken to achieve the targets by 2010. In China, Germany, Honduras, Malaysia and Spain, initiatives aimed at developing national strategies are under way. Brazil ^{5/} has developed a set of national targets on the basis of the global targets for the Strategy and the sub-targets discussed in the Convention's framework for the assessment of progress towards the 2010 biodiversity target. While the initial response to the development of national and/or regional strategies by Parties has been slow, there is now a growing momentum using various approaches including national workshops and consultations. In some countries, such as the United Kingdom, the global targets have been adopted in the national context, whereas in others, e.g. Seychelles and Brazil, they have been viewed as a flexible framework from which national targets have been developed. There are now valuable experiences at national and regional level that could be used as models for the development of national strategies and targets. These experiences will be included in the toolkit requested in paragraph 7 of decision VII/10 to further enhance the development of national targets and strategies.

10. At a regional level, the targets adopted by the European Plant Conservation Strategy⁶ have been harmonized with the Strategy during its mid-term review in 2004. It is anticipated that the final review, which is due in 2007, will provide an insight into the progress, challenges and opportunities for implementation of the Strategy at the regional level. Other initiatives, which have focused on developing regional strategies and/or responses, include the IUCN- Species Survival Commission's Arabian Plant Specialist Group which has held two regional meetings to explore the potential for an Arabian Regional Plant Conservation Strategy (in 2004 and 2005) and the Latin American Botanical Congress, which reviewed potential opportunities for regional and/or national responses to the Strategy (<http://www.botanica-alb.org/>).

11. Non-governmental partners have also been active in enhancing national, regional and global implementation of the Strategy. For example, targets based on the Strategy have been developed as part of the International Agenda for Botanic Gardens, ^{7/} the African Botanic Gardens Network, ^{8/} the North American Botanic Gardens Strategy for Plant Conservation ^{9/}, the Canadian Botanical Conservation

^{1/} <http://www.botanicgardens.ie/gspc/gspc.htm>,

^{2/} <http://www.botanicgardens.ie/gspc/gspc.htm>

^{3/} <http://www.plantlife.org.uk/uk/plantlife-saving-species-global-strategy-PDCC2006.html>

^{4/} <http://www.sanbi.org/biodivseries/1strategyplantcons.htm>.

^{5/} <http://www.mma.gov.br/index.php?ido=conteudo.monta&idEstrutura=72&idMenu=2337>

^{6/} <http://www.plantlife.org.uk/international/plantlife-policies-strategies-eps.html>

^{7/} http://www.bgci.org/worldwide/bg_targets/

^{8/} http://www.bgci.org/worldwide/bg_targets/

^{9/} <http://www.azh.org/Conservation/NorthAmericanBotanicGardenStrategy2006.pdf>

Network 10/, the Australian Network for Plant Conservation, 11/ the New Zealand Plant Conservation Network 12/ and Centre for Plant Conservation (United State of America) 13/ amongst others.

12. The Executive Secretary in collaboration with members of the Global Partnership for Plant Conservation, assisted the Parties in particular the developing country Parties, in the development of their national targets and strategies, by organizing , a number of training and capacity-building activities, including the African Regional Expert Training Course in the Implementation of the Strategy (2004), the Caribbean Regional Workshop on the Strategy (April 2006), the Global Leadership in Plant Conservation Workshop in China (November 2006) and the Asian Regional Workshop on the Strategy (April 2007). In addition, the Global Partnership for Plant Conservation organized the Plants 2010 Conference in Dublin, Ireland, from 22 to 25 October 2005, whose focus was to strengthen national implementation of the Strategy. 14/

III PROGRESS, CHALLENGES, OPPORTUNITIES AND CONSTRAINTS IN ACHIEVING THE TARGETS IN THE GLOBAL STRATEGY FOR PLANT CONSERVATION

Target 1. A widely accessible working list of known plant species, as a step towards a complete world flora

13. The strategy addresses the Plant Kingdom with focus on vascular plants (flowering plants and ferns) and bryophytes (mosses and allies). It excludes algae, lichens and fungi with the proviso that Parties may choose on a national basis to include lower taxa (decision VI/9, annex I, paragraph 8).

14. An international workshop, hosted by Royal Botanic Gardens Kew and Species 2000 in 2004 produced a gap analysis identifying the status of checklist production for plant families and major gaps. 15/ As a result of this exercise, the Global Biodiversity Information Facility prioritized its seed money grants to focus on target 1 of the Strategy and now checklists are being produced for the two major gaps in coverage: the *Compositae* and *Melastomataceae*. An update of this gap analysis is now being prepared for publication by Royal Botanic Gardens) Kew.

15. Currently over 50 per cent of the information on target 1 is available on-line and is likely to rise to near 60 per cent by the end of 2007. The Global Biodiversity Information Facility) and the Catalogue of Life Partnership have done much to make existing lists accessible. The International Plant Names Index (IPNI), a collaborative venture between Royal Botanic Garden, Kew, Harvard University, and the Centre for Plant Diversity Research, Canberra, provides baseline nomenclature data necessary for all checklists, and provides further information on around one third of the plant species (102,600 species in 150 families). 16/ The working lists for ferns and gymnosperms, 17/ already exist, and a checklist of bryophytes is about 90 per cent complete. 18/ The Royal Botanic Garden Kew, the New York Botanical Garden and the Missouri Botanical Garden are working collaboratively to develop mechanisms for accelerating collaborative checklist-building 19/ and are currently investigating possibilities of linking

10/ <http://www.rbg.ca/cbcn/en>

11/ <http://www.anbg.gov.au/anpc>

12/ <http://www.nzpcn.org.nz/>

13/ <http://www.centerforplantconservation.org/>

14/ <http://www.plants2010.org>

15/ <http://www.bgci.org/files/Plants2010GPPC/Documents/WorkshopReportJune2004.DOC>

16/ www.kew.org/wcsp/

17/ <http://homepages.caverock.net.nz/~bj/fern/>

18/ <http://mobot.mobot.org/W3T/Search/most.html>

19/ www.iplants.org

IPNI and the Missouri Botanical Gardens Database TROPICOS to improve the standardization of nomenclature data.

16. Many Parties have linked this target with the implementation of the Global Taxonomy Initiative (GTI), as requested by the Conference of the Parties in decision VII/10, paragraph 8. At the national level, there are various examples, such as the Chinese Virtual Herbarium, which is a major botanical resource linking botanical institutions of China to provide on-line access to the wealth of data associated with two million plant specimens maintained in Chinese herbaria.^{20/} There are also various large regional flora projects that provide useful baselines and, through large botanical institutes with a regional or global outlook, have become an important mechanism for stimulating the production of regional checklists, such as the African Plants Initiative which brings together over 50 institutions

17. While various measures have been taken to achieve the target including capacity building in China, Ghana and India, seeking new funding in Nepal, employing new taxonomists in St. Lucia, reviewing policies in Uganda and setting national targets in the United Kingdom, the main constraints continue to be lack of funds, limited investment in taxonomy, lack of institutional capacity, lack of legislative framework, lack of taxonomists/experts and poorly maintained collections.

Target 2: A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels

18. Thirty countries indicated having completed national red lists, although over 75 per cent of these lists were completed prior to the establishment of the Strategy. Some national red lists were developed as part of national targets in the national biodiversity strategy and action plan (e.g., Ethiopia) or in an effort to assess the status of biodiversity in relation to international trade (e.g. Indonesia). Others developed their lists in response to national and or regional regulations (e.g. Denmark), linked to the national implementation of the European Union Habitats Directive.

19. Major constraints cited include lack of funding for field work and to support assessment activities leading to inter alia insufficient research and data; lack of experts (taxonomists/plant experts); limited collaboration;; incomplete taxonomic knowledge of some families; limited herbaria and ex-situ facilities, and lack of an active global or regional assessment initiative for vascular plants.

20. Of the 12,906 plants on the IUCN Red List of Threatened Species, 8,563 are listed under the 1994 version of the IUCN Red List Categories and Criteria (version 2.3) whereas only 4,343 are listed under the current IUCN Red List Categories and Criteria (version 3.1). In addition, various national and sub regional red lists have been developed in response to various national and regional legislative and policy requirements including the lists of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This creates a challenge in establishing national, regional and global milestones and indicators given a variable baseline.

21. The IUCN Species Programme is developing a two-stage methodology for preliminary plant assessments to help achieve this target by 2010, as follows:

(a) A standardized approach to preliminary assessments, known as RapidList, which will ensure scientific rigour and allow smooth integration into the IUCN Red List of Threatened Species, is under development. The IUCN Centre for Mediterranean Cooperation will work with the Mediterranean Island Plant Specialist Group and PlantLife International to test the approach in several Mediterranean countries over a three-year project (2006-2008).

^{20/} <http://www.cvh.org.cn>

(b) Another approach is the Sampled Red List (SRLI), foreseeing the sampling of several plant groups (1,500 species per taxonomic sample group from among bryophytes, pteridophytes, gymnosperms, monocots, and dicots) to add additional taxa to the IUCN Red List of Threatened Species.

Target 3: Development of models with protocols for plant conservation and sustainable use, based on research and practical experience

22. Various protocols, tools and technologies linked to the achievement of the Strategy targets were highlighted in the national reports. Examples include tools and technologies for *in vitro* propagation (Algeria), recovery planning and threat abatement (Austria and Australia), translocation of threatened species (Australia), greening using native seed (Australia), propagation and harvesting protocols (Chile), implementation of the ecosystem approach (Germany), and species action plans taking into consideration various national and international legislation and conventions (Hungary), designation of Important Plant Area (IPA) (Belgium, Romania and Slovenia), *ex situ* and *in situ* conservation (Colombia, Chile, China, India, Indonesia and Iran), forest tree breeding (Japan), GIS-based conservation models and permanent ecological plots (Malawi), sustainable forest management models (Malaysia), and sustainable use models in community forest and pro-poor leasehold forests (Nepal). Other tools and protocols include primordial botanic gardens and grand forest parks (Indonesia), wild relatives projects and integrated management of cedar forests (Lebanon), medicinal and useful plants (Nepal), conservation of threatened species (Philippines), propagation and cultivation of South African threatened species (South Africa), special use forests (Viet Nam), and economic valuation of forests (Malaysia).

23. Many international agencies also have developed various tools and protocols related to various targets such as Bioversity International for targets 1, 2, 8, 9, 13, 14 and 15; Botanic Gardens Conservation International for targets 1,2,7 8, 9, 10, 13 and 14; the Food and Agriculture Organization of the United Nations for targets 6, 8, 9, 12, 13, 14 and 15; the Global Invasive Species Programme for target 10; IUCN-The World Conservation Union for targets 2, 4, 5, 7, 10, 11, 16 ,and PlantLife International for targets 5, and 15.

24. However, the main gap is access to, and dissemination of, information, on the existing tools and protocols in appropriate formats.

Target 4: At least 10 per cent of each of the world's ecological regions effectively conserved

25. While most countries have not set specific national targets, there are efforts for mainstreaming this target into the protected areas network and national biodiversity strategies and action plans as requested in decision VII/10 paragraph 8. However, regional processes such as Natura 2000, the European Union Habitats Directive and the Emerald Network provide good frameworks for implementing this target at national level in Europe. Some countries have set national targets, e.g. Canada and Thailand, while Ireland and Netherlands indicated having already achieved this target at national level.

26. Many constraints were cited hampering the achievement of this target, including conflict between conservation and land use needs; conflict between economic development and conservation; lack of a nationally agreed ecosystem/ecological region classification; lack of indicators for monitoring; the cost/ or required effort for effective conservation; lack of adequate compensation mechanisms; and conflicts between local communities and protected area managers over land and land use rights. Many areas set aside for plant conservation are small in size (1,000-10,000 hectares), often representing remaining fragments which, although valuable, may be inadequate for maintaining large-scale processes. There are also evident gaps in coverage of existing protected area networks.

Target 5: Protection of 50 per cent of the most important areas for plant diversity assured

27. Various designations for most important areas for plant diversity have been used at national level including using Natura 2000 sites (e.g. Belgium), bio-regions (Australia), endemic and refuge areas (Bosnia and Herzegovina), the European Union Habitats Directive (e.g. Denmark and Germany), as well as Globally Significant Biodiversity Areas (Ghana).

28. Sixty-seven countries around the world have participated in Important Plant Area (IPA) initiatives focusing on target 5 since the adoption of the Strategy in 2002. Over 50 per cent of these countries have taken steps to identify IPAs and 24 per cent (16 countries) reported having ongoing programmes that are addressing conservation issues as well as documenting sites. Many of these national projects have been initiated as a result of regional workshops, including those held in Central and East Europe, the Mediterranean, the Himalayas, the Caribbean, Arabia, South East Asia and southern Africa.

29. PlantLife International has developed Guidelines to identifying Important Plant Areas which are available in French, English and Spanish. Criteria for most important areas for plant conservation have been developed and a database is now available to provide a baseline for monitoring the identification and protection of IPAs at national and global levels. ^{21/}

Target 6 :At least 30 per cent of production lands managed consistent with the conservation of plant diversity

30. Measures taken at the national level to implement this target include use of good agriculture practices, good forestry practices and national certification schemes. Efforts made at national level to reach this target are reported to be challenging. Apparently, a better understanding of plant conservation needs implanted in the agriculture and forestry sectors is a pre requisite for achieving this target. However, involving national focal points and reporting mechanisms of existing processes in forestry and agricultural sectors for any further reviews will help provide a better assessment of the progress in the implementation of this target.

31. The Global Forest Resources Assessment 2005 showed that 11 per cent of total forest area is designated primarily for the conservation of biological diversity while 65 per cent percent of the total forest area has conservation of biodiversity as one of the designated functions. FAO is developing and implementing indicators to assess progress towards the 2010 biodiversity target including the indicator on “*Area of forest, agricultural and aquaculture ecosystems under sustainable management*”. This indicator could eventually be used as a proxy for assessing progress towards implementing target 6 at the global level. In addition, at the sixth meeting of the United Nations Forum on Forests, four global goals on forests were agreed. Among these, goal 3 is directly relevant to this target (and to sustainable forest management): “Increase significantly the area of protected forests worldwide and the area of sustainably managed forests and increase the proportion of forest products from sustainably managed forests.”

Target 7: 60 per cent of the world’s threatened species conserved in situ

32. In 2005, Malaysia held its first Workshop on Plant Threat Assessment as a basis for defining this target. Various other national initiatives have been developed in response to this target and some countries have designed protected areas specifically for the conservation of threatened or endemic plants. For example, Brazil has set a national target to have a 100 per cent of threatened species effectively conserved in protected areas.

33. However, the lack of national red lists has hampered progress in the implementation of this target. Other constraints include lack of data, lack of national targets, conflicts in land use and access, as well as institutional, technical, social, financial and legislative limitations.

^{21/} www.plantlife.org.uk

34. Through the crop wild-relative project, Bioversity International is working in five countries to improve the *in situ* conservation of crop wild relatives. *In situ* conservation of amaranth (Peru), millets (India and Nepal) and *Aloe* (Yemen) has also been undertaken under Bioversity International's project on neglected and under-utilized species.

Target 8: 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

35. Substantial efforts in support of this target are being made by a wide range of national plant genetic resource centres, tree seed centers, botanical gardens and threatened-plants programmes in many countries. There have also been various initiatives taken by individual countries to set up *ex situ* collection of their threatened plants, for example, Malaysia and China have established important collections of rare bamboos, and an International Coconut Genebank for Latin America was initiated in Brazil in 2006. There are also various regional initiatives such as the RBG Kew Millennium Seed Bank projects in Africa, the Americas, and Australia and the European Network of Seed Collections Project.

36. However, several Parties have raised concerns over the limited physical, technical and financial resources to achieve this target.

37. In order to monitor progress in implementing this target, Botanic Gardens Conservation International (BGCI) has developed the Plant Search Database as a means to identify plants in cultivation in botanic gardens ^{22/} It has records for over 150,000 taxa, provided by nearly 700 botanic gardens; linked to five databases—the 1997 and 2006 IUCN Red Lists of threatened plant species, the International Plant Names Index, a list of Crop Wild Relatives and the Tree Conservation Database as well as to Google's image search service.

Target 9: 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

38. At its tenth session, the FAO Commission on Genetic Resources for Food and Agriculture accepted the invitation of the Conference of Parties to the Convention on Biological Diversity ^{23/} (decision VII/10, paragraph 12), to consider how the Global Plan of Action on the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture can contribute to the Global Strategy for Plant Conservation, in particular target 9. The data to be reported in the second report on the State of the World's Plant Genetic Resources for Food and Agriculture, expected to be published in 2008 should provide a useful reference for this target.

39. By combining *ex situ* and *in situ* conservation methods in complementary ways and focussing on centres of plant diversity, it is expected that 70 per cent of the diversity of the species that fall within the Multilateral System of Access and Benefit-Sharing of the International Treaty for Plant Genetic Resources for Food and Agriculture will be effectively conserved.

40. The 70 per cent threshold may be difficult to achieve for genetic diversity of tree species, other wild socio-economically valuable species like medicinal, aromatic, ornamental and other 'important' species and wild crop relatives, and under-utilized and orphan species and commodities.

^{22/} www.bgci.org

^{23/} Paragraph 76 of the report of the tenth regular session of the Commission on Genetic Resources for Food and Agriculture (CGRFA-10/04/REPORT): <ftp://ext-ftp.fao.org/ag/cgrfa/cgrfa10/r10repe.pdf>

41. Maintenance of associated indigenous and local knowledge remains the aspect of target 9 that presents a particularly significant challenge. Efforts are under way to identify indicators suitable for determining trends in maintenance of indigenous and local knowledge, innovations and practices. However, to date there is a lack of tested methodologies and limited assessments of indigenous and local knowledge associated with plant genetic diversity.

Target 10: Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems

42. Over 60 per cent of the Parties have linked this target to their national implementation of Article 8(h) of the Convention as requested in paragraph 8 of decision VII/10. However, less than 20 per cent have set a national target.

43. The secretariat of the Global Invasive Species Programme (GISP) has organized consultations and workshops in five countries—Chile, Costa Rica, Senegal, United Republic of Tanzania and Viet Nam—and tested a matrix approach to facilitate identification of those invasive species that pose the greatest threat to plants and plant habitats. A funding proposal to further test this approach at global level has been developed.

44. Meanwhile, the Interim Commission on Phytosanitary Measures recommended Contracting Parties and national plant protection organizations to: collect, where appropriate, information on the alien invasions of plant pests (including plants that are invasive alien species) and forward this information to national focal points of the Convention, to assist in monitoring progress towards the 2010 biodiversity target.

Target 11: No species of wild flora endangered by international trade

45. Many countries have indicated ongoing activities on target 11 linking to the national implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and have adopted the global target. In response to paragraph 11 of decision VII/10 the Plant Committee of CITES has submitted to the Executive Secretary a report which summarizes information relevant to target 11.

46. Under the CITES Significant Trade Review process, international trade in important listed plant groups such as cycads, Agar wood, tree ferns and some medicinal plants has been analysed, resulting in measures being taken to ensure that such trade is sustainable.

Target 12: 30 per cent of plant-based products derived from sources that are sustainably managed

47. Subtargets proposed for this target include:

- (a) Subtarget 1: Agricultural products;
- (b) Subtarget 2: Forest products (subtarget 2.1: Wood products, subtarget 2.2: Fuelwood products; and subtarget 2.3: Non-timber forest products); or
- (c) Subtargets related to certification programmes or standards.

48. FAO has facilitated the collection, analyses and dissemination of national, regional and international statistics on all aspects of forest resources, forest products and their trade and other important socio-economic variables at regular intervals and is providing support to the United Nations Forum on Forests as well as to regional criteria and indicators processes for monitoring progress towards sustainable forest management.

49. Various national initiatives are being developed. For example, the German Federal Agency for Nature Conservation has supported the development of the “International Standard ^{24/} for Sustainable Wild Collection of Medicinal and Aromatic Plants, which also addresses Target 6, 12, and 13. In Uganda, the BioTrade Initiative ^{25/} of the United Nations Conference on Trade and Development, ^{26/} which provides a useful model for refining and transforming medicinal and aromatic plants products, has focused promoting trade and investment in products and services derived from native or indigenous biodiversity. Further work to explore ways in which sustainable management can be adequately described and estimated by countries would be valuable. There are a number of important sustainable production initiatives that are being developed by the private sector and an exchange of experiences and identification of lessons learnt to provide a framework for development of good practices, tools and estimation procedures would be extremely beneficial.

Target 13: The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted;

50. Parties, especially developing country Parties, have developed national responses to this target in a variety of ways. Examples include establishing a national target and enacting a Traditional and Alternative Medicine Act (Philippines); developing a checklist of archived material and ethnographic records covering traditional practices with reference to plant material (Thailand); supporting various community-based initiatives and reducing barriers to improve food security and promoting utilization of plant products for health care (Nepal); ensuring sustainable development of traditional Chinese medicine (China) and implementing a Conservation of Medicinal and Herbal Plants Project (Ethiopia and Jordan). While in Tunisia the focus is on food security, in Indonesia it is community-based management where the Ministry of Health has increased cultivation of medicinal plants.

51. To support the implementation of this target, the Belgium Development Cooperation is funding programmes to support indigenous communities in selected developing countries, including the recovery and the promotion of traditional knowledge and practices, most of which are implemented through third parties by NGOs, universities or multilateral organizations. The Netherlands has supported compilation and publication of the Plant Resources of South East Asia and Plant Resources of Tropical Africa

52. There are also various responses from international and regional agencies such as the FAO programme on the promotion and development of non-timber forest products and several studies completed in 2005 in the United Republic of Tanzania, Swaziland and Mozambique to highlight the importance of local knowledge related to the use and management of local plant varieties and food security. Bioersity International has developed, tested and implemented interventions to increase the cultivation and consumption of the diversity of leafy vegetables in Kenya, Uganda, the United Republic of Tanzania, and Senegal. Botanic Gardens Conservation International has published a booklet on botanic gardens and human well being.

Target 14: The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes

^{24/} This standard will bridge the gap between already existing but mostly abstract guidelines and management plans developed for specific local conditions. Stakeholders involved will receive an easy-to-handle list of criteria, indicators and verifiers that will enable them to check the sustainability of plant material collected from the wild.

^{25/} Biotrade refers to those activities of collection, production, transformation, and commercialisation of goods and services derived from native biodiversity under the criteria of environmental, social and economic sustainability. Since its launch in 1996, the BioTrade Initiative has been promoting sustainable biotrade in support of the objectives of the Convention on Biological Diversity

^{26/} <http://www.biotrade.org/Intro/bti.html>

53. All Parties indicated active programmes on education and public awareness mainly linked to national biodiversity strategies and action plans, national environmental education programmes and policies, and communication, education and public-awareness activities. However, it was apparent that a lot of these activities are undertaken by the conservation, environmental and development non-governmental organizations.

54. International and regional agencies have also developed various responses. In 2005, Bioversity International launched a travelling exhibition of posters and artefacts concerning *Musa* diversity and the future of the banana called “No end to the banana”, which, following various exhibitions, will be hosted in a World Bank building.

55. The text of the Strategy was published by BGCI as a brochure, and to date some 25,000 copies have been distributed in English with the support of BGCI partners. The text has been translated and made available in a number of other languages, including Chinese, French, Japanese, Portuguese, Russian and Spanish. Bahasa Indonesia, German and Arabic versions are in preparation. In addition, a series of Strategy target bookmarks have been produced and widely distributed in English, French, Spanish, Portuguese, Arabic and Chinese.

Target 15: The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy

56. Over 75 per cent of the Parties reported on capacity-building initiatives linked to the academic sector but gaps and challenges were also highlighted. In addition, various networks have supported this target, including the Centre for Biodiversity of the Association of South East Asian Nations, the Biodiversity Collections Access Service for Europe (BIOCASE), the Southern African Botanical Network (SABONET), Planta Europa, Plant Resources for Tropical Africa (PROTA), the SADC Biodiversity Support Programme, South East Asian Botanical Collection Information Network (SEABCIN), the Latin American Botanical Network and others.

Target 16: Networks for plant conservation activities established or strengthened at national, regional and international levels

57. Overall, the Strategy has provided a common and focused framework for multiple stakeholders and actors at different levels and scales. It has stimulated the establishment of national, regional and international programmes and networks, such as the Philippines Plant Conservation Committee, the German National Strategy Project and the Global Partnership for Plant Conservation, which have helped bring together a wide range of stakeholders. The Strategy has also provided a focus for the Australian Network for Plant Conservation, the Irish Network for Plant Conservation, the Indonesian National Biodiversity Information Network and the Swedish Species Information Centre among others, in addition to the various regional and international networks for botanic gardens, plant genetic resources, protected areas, and plant conservation with which Parties or their stakeholders are affiliated

58. The Global Partnership for Plant Conservation organized the Plants 2010 Conference in collaboration with the Executive Secretary. Held in Dublin, from 22 to 25 October 2005, the Conference focused on strengthening the implementation of the Strategy at the national and regional levels. Furthermore, a symposium at the XVII International Botanical Congress, held in Vienna from 17 to 23 July 2005, reviewed the progress on the Strategy and the challenges to implementation.

IV SUMMARY FINDINGS FROM THE IN-DEPTH REVIEW AND PROPOSALS FOR A WAY FORWARD

A. Analysis of outcomes of the in-depth review

59. Overall, the Strategy has provided a useful framework for the harmonization of various initiatives in plant conservation at the global, regional and national levels, but there are still major challenges in making progress in its implementation, particularly at the national level. Many Parties are implementing various activities aligned to the achievement of selected targets and, where present, national strategies and targets have provided a focus to harmonize activities, identify gaps, and provide an effective platform to mobilize national resources as necessary. Further workshops at the national and regional levels on the implementation of the Strategy may be effective in enhancing additional Strategy responses and target setting as well as the integration of targets in relevant plans, programmes and policies. A regional elaboration of targets may be a more practical approach in some instances, given the added value of regional cooperation and mobilization of human, technical, financial and institutional resources that may be brought to bear.

B. Proposals for elements for a toolkit, including a checklist to assist Parties in integrating the targets into their strategies, programmes and plans

60. In paragraph 7 of decision VII/10 on the Strategy, the Conference of the Parties requested the Executive Secretary to elaborate proposals for a toolkit to assist Parties to integrate targets into their strategies, plans and programmes for review by the SBSTTA prior to its ninth meeting. The second liaison group meeting convened by the Executive Secretary in collaboration with the Global Partnership for Plant Conservation recommended such a proposal. An outline of the toolkit is presented in Annex 1, for consideration of SBSTTA. The meeting also recommended the publication of a Plant Biodiversity Outlook, which could complement the toolkit and the Global Biodiversity Outlook and link to relevant resources, software, case-studies and other initiatives. Further, the meeting recommended that Parties, and national focal points for the Convention and Strategy focal points should be consulted to identify the needs and priorities in developing the toolkit.

C. The contribution of the Strategy to the achievement of the 2010 biodiversity target and the Millennium Development Goals and responding to the challenges identified by the Millennium Ecosystem Assessment

61. Given the need, particularly in many developing countries, to link biodiversity conservation to improved livelihoods, it is important to continue to relate and integrate the Strategy targets into the implementation of the Millennium Development Goals, sustainable-use initiatives, poverty-reduction strategies and other programmes. Such integration is a critical mechanism to promote synergies and to demonstrate the relevance of the Strategy and its targets to national goals for poverty alleviation and sustainable development. Targets 12 and 13 provide a strategic link between national implementation of the Strategy and the national processes for implementing the Millennium Development Goals, especially with regard to poverty reduction (goal 1), the health crisis (goal 6) and environmental sustainability (goal 7).

62. The Strategy provides a useful tool for assessing progress towards the achievement of the 2010 biodiversity target at the national level. Some of the Strategy targets are of relevance to various sub-targets of the 2010 target, however, there are no targets in the Strategy that correspond to the sub-targets under goal 7 of the 2010 framework. (address challenges to biodiversity from climate change). There are also gaps in the Strategy framework with respect to the impacts of nutrient loading on plant diversity. These gaps could be addressed and targets incorporated in the revised Strategy beyond 2010

D. A review of the potential impact of climate change on the implementation of the Strategy

63. Climate change is expected to impact habitats and ecosystems and, in certain instances, to compromise the conservation of plants as well as the social and economic opportunities derived from the national implementation of the targets of the Strategy. The report of the Gran Canaria meeting on climate change and plant conservation, organized by the members of the Global Partnership for Plant Conservation, presents some useful options for mitigating the negative consequences of climate change. ^{27/} The Liaison Group welcomed the Gran Canaria Declaration on Climate Change and Plant Conservation and recommended that it be communicated to the Executive Secretary for further consideration and possible transmission to SBSTTA. The report of the Gran Canaria Meeting on Climate Change and Plant Conservation will be before SBSTTA as an information document.

E. Proposals on options for the Global Strategy after 2010

64. The liaison group for the Strategy reviewed the progress in implementation of the Strategy, emerging challenges such as climate change, and reviewed the adequacy of the Strategy until 2010 *vis-à-vis* its goal to halt the current and continuing loss of plant diversity. The group concluded that the current pace of implementation of the Strategy would not be adequate to meet the targets and objectives of the Strategy. The group emphasized the continued need to address the important challenges of the conservation of plant diversity through evidence-based, quantitative approaches that involve multiple sectors and stakeholders, and support national implementation of the Strategy beyond 2010.

^{27/} <http://www.bgci.org/conservation/gcdccpc/> and <http://www.bgci.org/conservation/climatechange>.

Annex I

DRAFT OUTLINE ^{28/} FOR THE TOOLKIT ON GLOBAL STRATEGY FOR PLANT CONSERVATION.

I. Purpose of the toolkit: To enable in-country practitioners to:

- develop national and/or regional targets
- implement the Strategy, elements of the Strategy or specific targets
- integrate the targets of the Strategy into their strategies, plans and programmes

Target audience: Policy makers, researchers, institutions, NGOs, local communities

II. Content:

[There could be two versions, and that check lists are integrated in each section]

Electronic version:

Section 1: Introduction:

- The Strategy background and relevant documents of the Convention on Biological Diversity

Section 2: Developing national and/or regional targets

- How to develop national/regional targets: Case-studies from selected countries
- Resources – hot links to websites
- Checklist for integrating the strategy into national strategies, plans and programmes

Section 3: Implementing the sixteen outcome targets of the Strategy at the national and/or regional level

- Target
- Overview of target – a summary
- Outcomes/recommendations of the stakeholder consultation
- Tools and resources for implementing the target
- Relevant CBD documents
- Case-studies
- Hot links to related websites and other resources
- Checklist

Section 4: Implementing cross-cutting targets:

- Tools and resources
- Case-studies
- Hot links to websites and other resources
- Checklist

Section 5: General resources for implementing the strategy at the national, regional and international level

Print version:

As above but summarized text version and references provided as appropriate.

(Format using the model of the toolkit for the programme of work on protected areas under the Convention on Biological Diversity).

^{28/} As adopted by the liaison group convened by the Executive Secretary in collaboration with the Global Partnership for Plant Conservation, in Glasnevin, Dublin, from 23 to 25 October 2006.