The Global Strategy for Plant Conservation

2020-2030

BOTANIC GARDENS CONSERVATION INTERNATIONAL

Kunming–Montreal GLOBAL BIODIVERSITY FRAMEWORK

Convention on Biological Diversity

MISSOURI BOTANICAL GARDEN

Global Strategy for Plant Conservation GSPC

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Foreword

After a chaotic period due to the global Covid-19 pandemic that delayed many international decisions, we are proud to present and share the third updated phase of the Global Strategy for Plant Conservation (GSPC) (2020-2030). It is the fruit of a collective undertaking by the international community, through the Convention on Biological Diversity (CBD), with the support of members of the Global Partnership for Plant Conservation (GPPC), and with valuable advice and guidance from the CBD secretariat.

Four milestone dates highlight three decades of initiatives to underscore to policymakers and the wider public the essential role of plants on Earth and the urgent need for concerted action to safeguard plant diversity and meet the global biodiversity challenges.


Dan Crowley


Victor Garcia Balderas

In 1992, the Earth Summit in Rio de Janeiro gave the first impetus with the launch of three international environmental conventions - the Convention on Biological Diversity (CBD), the United Nations Framework Convention on climate change (UNFCCC) and the Convention to Combat Desertification (UNCCD).

Ten years later, in 2002, the commitment of botanic gardens and many plant conservation organisations has been crucial to promote the development of a specific global framework to conserve the world's plant species and their habitats.

2010 marked the renewal of the GSPC for a new decade alongside the Strategic Plan for biodiversity 2010-2020 and its corresponding 20 Aichi targets. Then, 2024 marked the integration of plant specific objectives as complementary actions within the Kunming-Montreal Global Biodiversity Framework (KMGBF).

Unfortunately, during those 40 years, the acceleration of the effects of climate change, habitat loss, deforestation, fires, soil, water and atmospheric pollution have had an increased effect on the erosion of biodiversity. Plant biodiversity is today under serious threat.

Scientific research has shown that ecosystem conservation is essential to achieving the objectives of the CBD and to prevent future extreme climate scenarios. It is today recognized as a major issue both in and among public opinion and political leaders.

By developing this new set of 41 voluntary actions aligned to the targets of the KMGBF, we now have an up-to-date and sophisticated a program of action for reducing threats to biodiversity, meeting people's needs through sustainable use and benefit-sharing and finding the tools and solutions for its implementation.

This GSPC 2020-2030 represents an invaluable document for developing national, regional and international plant-based initiatives in response to the KMGBF and for mobilising institutional or individual responses.

The development of national biodiversity strategies that integrate specific actions for plants and ecosystem conservation will be key to the success of the KMGBF.

Cooperation at all levels of government and by all actors in civil society will be required to successfully achieve the ambitious 2050 Vision of the CBD, whereby biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people. We urge all plant conservation organisations and institutions to respond quickly to the new updated GSPC and help to deliver its actions urgently, safeguarding the future of plants and of ourselves.

Maïté Delmas, Peter Wyse Jackson
Co-Chairs
Global Partnership for Plant Conservation


Ian Harvey-Brown

Foreword

As Executive Secretary of the Convention on Biological Diversity, I am pleased to welcome the Global Strategy for Plant Conservation 2020–2030, a vital instrument to advance implementation of the Kunming-Montreal Global Biodiversity Framework.

Since its initial adoption in 2002, the Global Strategy for Plant Conservation has mobilized governments, research institutions, and civil society to take coordinated action for the conservation and sustainable use of plant diversity. These efforts have laid a strong foundation for the decisive action now required.

This updated Strategy introduces 41 voluntary actions, directly aligned with the Kunming-Montreal Global Biodiversity Framework targets. It provides a coherent, flexible, and inclusive framework through which both state and non-state actors can contribute meaningfully to global biodiversity goals. In doing so, it strengthens our collective capacity to address the triple planetary crisis of biodiversity loss, climate change, and pollution.

The Global Strategy for Plant Conservation affirms the central role of plants in sustaining life and ecosystem resilience. From climate adaptation and mitigation to food security and health, plants are indispensable. Implementing this strategy will also support equity, including through the recognition of traditional knowledge and the promotion of gender-responsive approaches.

Achieving the 2050 Vision of living in harmony with nature will require the full engagement of all actors. I call upon Parties to the Convention, partners, and stakeholders at all levels to adopt and implement the Global Strategy for Plant Conservation as an integral part of their biodiversity efforts.

By safeguarding plant diversity, we safeguard the future of humanity and the planet we share.

Astrid Schomaker
Executive Secretary
Convention on Biological Diversity

Osa Conservation

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Vladimir Epiktetov

Introduction

History

The Global Strategy for Plant Conservation (GSPC) was adopted by the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) in 2002, at COP6 in The Hague, Netherlands. When first adopted it included 16 targets to be achieved by 2010. At CBD COP 10 held in Nagoya, Japan in 2010 the GSPC was updated, including 16 revised targets for the period 2011-2020. This was in line with the development and implementation of the Aichi Targets for the same period. The third updated phase of the GSPC, for the period 2020-2030 is aligned with the Kunming Montreal Global Biodiversity Framework (KMGBF) and includes, 41 voluntary complementary actions in plant conservation related to 21 of the 23 KMGBF targets. This new strategy is operational from 2024 to 2030.

Over the last two decades the GSPC has seen significant success, this includes:

- The incorporation of plant based targets in National Biodiversity Strategy and Action Plans (NBSAPS) or in bespoke National Plant Conservation Strategies such as in South Africa (Raimondo *et al*. 2015).
- The development of the World Flora Online (WFO), providing a baseline of knowledge on the world's plant diversity. The WFO is a consortium of over 50 botanical institutions worldwide (www.worldfloraonline.org).
- The establishment of the FairWild Standard, and it's wider use by companies to ensure the sustainable sourcing of harvested products (www.fairwild.org).
- The Global Tree Assessment which has ensured that trees are now a comprehensively assessed group on the IUCN Red List (https://www.bgci.org/our-work/networks/gta/).
- The increased identification of Important Plant Areas (IPA) and using plant data to identify more Key Biodiversity Areas (KBAs).

To find out more about previous successes of the GSPC please see the Plants 2020 Conservation Report (Sharrock 2020).

A post-2020 GSPC

Due to the continued need for plant conservation activities, and the progress made by the GSPC up to 2020, the Global Partnership for Plant Conservation (GPPC) was invited by the CBD to develop options for an update to the GSPC for the period post-2020. This included a recommendation at the informal meetings of the CBD's 24th meeting of its Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) 24 and, at several international plant conservation conferences and consultations, such as those held in China in 2018 and 2019, calls for an update of the GSPC were also made.

A post-2020 GSPC was developed, through rigorous and broad international consultation with stakeholders which took place between 2022 and 2024. The draft was submitted to the CBD Secretariat in June 2023, and was subsequently reviewed by the CBD Parties. Amendments were made and the new complementary actions were presented at SBSTTA 25 (October 2023), where the actions were recommended for adoption at the forthcoming COP16.

The update to the Global Strategy for Plant Conservation, including its voluntary complementary actions were formerly adopted at the COP16 hosted in Cali, Colombia in October 2024.

For more information on this process see BGJournal Volume 21.1 (Cowell and Smith 2024).

A list of previous CBD related decisions and information documents for the GSPC are given on the resources page of this brochure.


South African National Biodiversity Institute

Complementary Actions vs. GSPC Targets

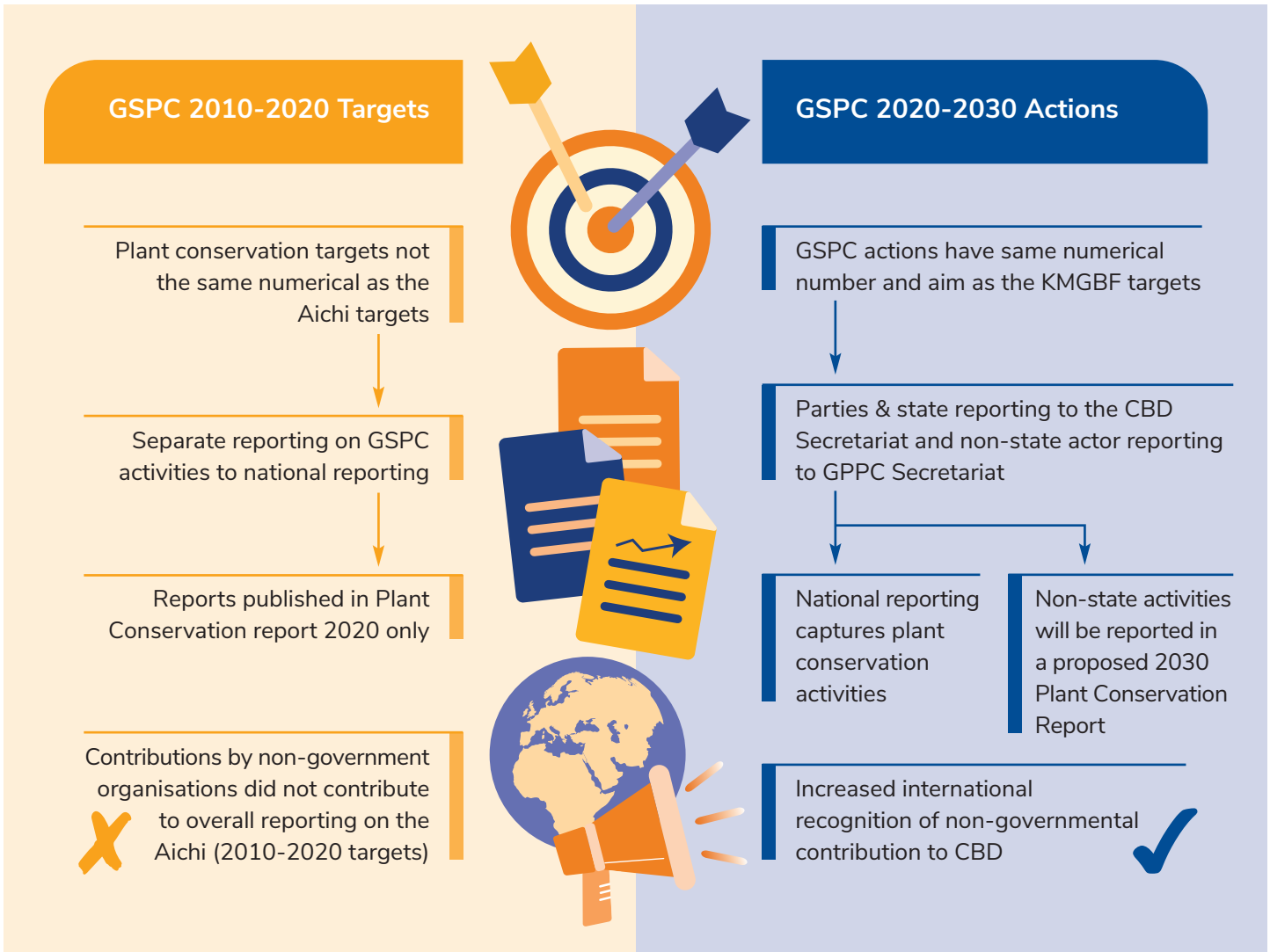
In comparison to the previous two phases of the GSPC, which were made up of targets for plant conservation, this new iteration to 2030 has replaced these with Voluntary Complementary Actions of GSPC Actions. These Actions directly align with the new Targets of the KMGBF, adopted in Montreal, Canada during CoP 15, to 2030.

The decision to move from GSPC targets to GSPC Actions will streamline and reduce reporting burdens and limit duplications in reporting.

Alignment to the KMGBF has additional benefits such as reporting and monitoring for the GSPC Actions now being fully recognised as part of the main KMGBF reporting for parties and state actors, thus limiting the possibility of duplication of reporting. Having complementary actions also means there is now a mechanism for non-state actors to contribute to wider KMGBF reporting. This difference is shown in Figure 1. The Actions themselves can also act as effective indicators for the achievement of the broader KMGBF targets.

At CBD COP 10, the Parties adopted a flexible implementation mechanism for the GSPC, to facilitate and promote GSPC implementation and monitoring at all levels. It includes four elements: Meetings of Liaison groups; National GSPC focal points; the Global Partnership for Plant Conservation (GPPC) and the CBD Secretariat.

Figure 1: Infographic comparison of reporting for the GSPC 2010-2020 and GSPC 2020-2030



Understanding the GSPC Actions

There are 41 GSPC Actions related to 21 of the KMGBF targets. Table 1 gives the summary titles and headings for each GSPC Action. Each number of a GSPC Action is equivalent to the number used for the relevant KMGBF target. Some KMGBF targets have only one relevant GSPC Action while other will have multiple GSPC Actions or Subactions.

Two KMGBF targets have no particular plant conservation actions (17 and 18) defined for them, and therefore are not included in the GSPC Action tables. Therefore there are no specific GSPC Actions for the KMGBF target 17 and 18 other than to contribute directly towards the achievement of these specific targets.

Table 1: GSPC Global Strategy for Plant Conservation Action Headlines

KMGBF Objective 1 - Reducing threats to biodiversity	
1	Plant conservation in spatial planning and management
2	Ecological restoration
3	Important areas for plant diversity
4	Plant species conservation • Conservation of genetic diversity
5	Sustainable harvest • Trade in plants
6	Monitoring invasive species • Controlling invasive species
7	Impact of pollution on plants
8	Native plant use in climate mitigation and adaptation

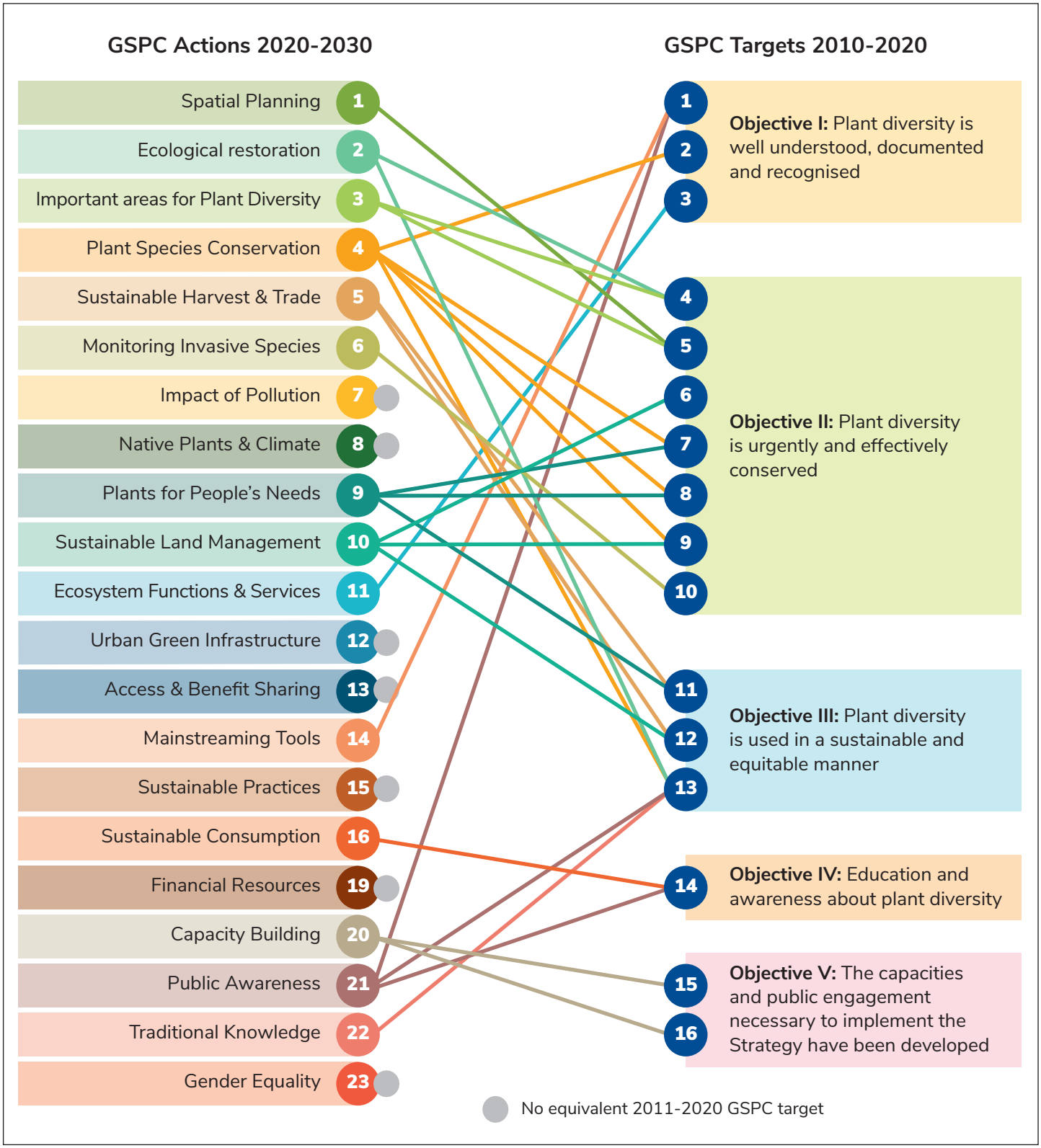
KMGBF Objective 2 - Meeting people's needs through sustainable use and benefit-sharing	
9	Plants for people's needs
10	Sustainable management of production land
11	Native plants and ecosystem functions and services
12	Urban green infrastructure • Urban plant diversity
13	Access & benefit sharing for plant conservation

KMGBF Objective 3 - Tools and solutions for implementation and mainstreaming	
14	Tools for mainstreaming plant conservation
15	Sustainable practices in plant use
16	Sustainable consumption
19	Financial resources for plant conservation
20	Capacity building
21	Public awareness programmes • Plant information systems • Citizen science
22	Plant conservation and traditional knowledge
23	Gender equality

For each GSPC Action it is important to note that as far as possible these should be taken with incorporation of traditional knowledge of indigenous peoples and local communities, with their free, prior and informed consent (FPIC) as is the basis of the CBD. All Actions most also be taken in alignment with the Cartagena and Nagoya protocols.

There are several more actions for the GSPC compared to previous decades however, as many organisations, regions and initiatives have built strategies for the previous GSPC targets and objectives, Figure 2 shows how the new GSPC Actions and old GSPC targets are linked. The full text of the Actions is given in the Actions and Rationale section of this brochure and in Annex 2.

Figure 2: Infographic showing the alignment between GSPC Actions 2020-2030 to GSPC Targets 2010-2020



The GSPC Actions and rationales

1 PLANT CONSERVATION IN SPATIAL PLANNING AND MANAGEMENT PROCESSES

Identify and map, where possible, all plant species in terrestrial, inland water, marine and coastal ecosystems, including at the population level, as well as areas and ecosystems important for plant diversity, using diverse knowledge systems.

A range of spatial planning systems in use worldwide refer to the methods and approaches used by the public and private sector to influence the distribution of people and activities in spaces of various scales. Spatial planning can be defined as the coordination of practices and policies affecting spatial organisation and can include land use, urban, regional, transport and environmental planning and economic, social, cultural and community planning.

Documenting and mapping the distribution and abundance of all plant species, ideally to the population level is needed for spatial planning for biodiversity conservation. It is recognised that it is of strategic importance to significantly increase taxonomic and geographic knowledge about plant diversity. Of particular importance is increasing knowledge of data deficient and species at risk in order to implement this Action. Prioritising the identification and mapping of threatened species and their ecosystems is encouraged as it is a necessary step in understanding the pressures that impact them and in developing conservation interventions. This would also ensure alignment with Target 4 in the KMGBF to halt human induced extinction of known threatened species and for the recovery and conservation of species.

DEFINITION

An IPA is defined as a natural or semi-natural site exhibiting exceptional botanical richness and/or supporting an outstanding assemblage of rare, threatened and/or endemic plant species and/or vegetation of high botanic value. In describing IPAs, the word 'plant' encompasses algae, fungi, lichens, liverworts, mosses, and wild vascular plants. IPAs are a national approach to identifying sites of global significance for wild plant diversity in country, and their long-term conservation and management.

The worldwide efforts to define Important Plant Areas (IPA) and Key Biodiversity Areas (KBA) can provide a valuable measure of baselines and progress towards the implementation of this Action and achievement of Target 4. In addition to IPAs and KBAs, a range of different methodologies and systems are in use in different countries worldwide to identify and help define the important areas for plant diversity at national, regional and local levels. Such systems can be used to help achieve this Action.

Use of scientific, indigenous and local knowledge is required to achieve this Action and should follow participatory and inclusive processes, to ensure that the perspectives, knowledge, and rights of various stakeholders are considered and integrated into the spatial planning and land management processes. Additionally, it may be beneficial to establish *in situ* demonstration sites of biodiversity conservation for the purpose of developing cases studies, practices and for learning purposes for those in spatial planning and land management. These can be used to 'bench-mark' actions.

2 ECOLOGICAL RESTORATION

Implement or participate in programmes for the effective restoration of degraded ecosystems and habitats, including to prevent or mitigate the existing drivers of degradation, prioritising the use of genetically appropriate material of native species, enhancing and conserving soils, considering ecological criteria, associated soil biota and pollinators and dispersers, and including species of conservation concern, as well as climate resilience, long-term commitment, innovative financing and adaptive management, ensuring that the programmes enhance biodiversity and human well-being and are informed, where possible, by traditional knowledge with the free, prior and informed consent of the indigenous peoples concerned.

This plant conservation Action places native species and biodiversity at the centre of ecological restoration efforts. Planting schemes that are solely or primarily developed to achieve carbon sequestration and for commercial forestry can have detrimental impacts on biodiversity, especially where they involve non-native monocultures that displace native species and create low-value landscapes for biodiversity. A definition of a degraded ecosystem that is applicable to the GSPC is one with a persistent reduction in its capacity to provide nature's contribution to people and ecosystem services.

The provenance of material used in ecological restoration is vitally important to ensure that the appropriate genetic diversity is used. Ecological restoration initiatives should follow best practice and not use plant material of non-local provenance, or local provenance from a limited number of genotypes.

Achieving and supporting extensive ecological restoration initiatives will require the mobilisation or refinement of conservation horticulture resources and skills, and developing or expanding existing wild plant propagation units, including nurseries and seed banks, where necessary. The availability of suitable planting material must be considered when planning restoration actions (e.g. seeds, seedlings, cuttings, whole plants, etc). These must be sustainably sourced, and it is important that sources of plant propagules are recorded. The principle of the 'right plant in the right place' underpins this Action.

DEFINITION

The term "genetically appropriate material" that is used in this Action (as well as Actions 4c and 11) is defined here and in the other Actions as referring to material of native provenances. It is 'appropriate' because it serves to protect native intraspecific diversity. Genetically appropriate provenances (plants and seeds) are those that where possible have their genetic origin in the area where they are being planted or sown. In the context of the GSPC, 'genetically appropriate' material should not be interpreted to include material derived from alien plant species (i.e. plants that are not native to the planting site), even if they are expected to grow well at a particular location. 'Genetically appropriate' also encapsulates an understanding that the material used should be from a diverse native provenance where possible, rather than just a selection of uniform clones of the species being established.


Joachim Gratzfeld

3 IMPORTANT AREAS FOR PLANT DIVERSITY

(a) Ensure that important areas for the conservation of plant species and their genetic diversity are identified, well connected and represented within protected areas and other effective area-based conservation measures, including in marine and coastal areas.

(b) Develop integrated management plans for important areas for plant diversity and implement programmes to ensure that those areas are effectively documented, protected, monitored and sustainably managed, recognising and respecting the rights of Indigenous Peoples and Local Communities (IPLCs), including over their traditional territories.

The identification of priority areas for large and continuous populations of threatened and high value species (notably trees) must also be factored into steps taken to implement Action 3a. The worldwide efforts to define IPAs and KBAs can provide a valuable measure of baselines and progress in implementing this Action. IPA projects are being implemented in over 70 countries. Other approaches in countries that identify important areas for plant diversity according to criteria other than IPAs or KBAs could also be applied to monitoring this Action.

'Effectively documented, protected and monitored' in Action 3b implies that the conservation of the ecosystems and species they contain, and their genetic diversity is being assured or being taken into account. As such, effective and sustainable management and conservation will be achieved by the integration of a variety of conservation approaches, applied at all relevant geographic scales. It is important to note that although information on genetic diversity is not often available, there should be a concentrated effort made to increase knowledge of the genetic diversity of plants (including of crop wild relatives and other socioeconomically important plants) and of finding ways to incorporate and conserve intraspecific genetic diversity in protected areas and Other Effective Area-Based Conservation Measures (OECMs).

Other effective area-based conservation measures (OECMs) could also include agrobiodiversity-rich areas, that are part of internationally recognised areas where indigenous communities play a significant role in maintaining agrobiodiversity *in situ*. This may help to safeguard these agrobiodiversity-rich areas and their associated landscapes, knowledge systems, natural-heritage and culture.

4 PLANT SPECIES CONSERVATION

(a) Ensure that extinction risk and conservation status are known, understood and maintained and that assessments are regularly updated, as far as possible, for known plant species.
(b) Develop and implement recovery plans for all known threatened plant species, including management plans for pests, weeds and other known threats and drivers of loss, to significantly reduce extinction risk.
(c) Promote programmes to ensure that threatened plant species are effectively conserved, managed, monitored and restored using *in situ* and *ex situ* methodologies, aiming to achieve adequate levels of genetic diversity and viable populations and, where appropriate, involving indigenous peoples and local communities.

CONSERVATION OF GENETIC DIVERSITY

(d) Undertake *ex situ* and *in situ* conservation programmes for genetic diversity in wild and domesticated plant species and populations, including crops and their wild relatives and other socioeconomically valuable plant species, considering the domestication gradient and the use of surrogates or proxies, ensuring that the genetic diversity within and among populations is effectively documented, managed and monitored, to maintain and restore genetic diversity and safeguard their adaptive potential, taking into account the relevant frameworks and plans of action developed under the Commission on Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations.
(e) Establish programmes to ensure that domesticated, cultivated species and crop wild relatives are effectively protected, restored and managed using on-farm and *in situ* methodologies and by applying sustainable management practices using agroecology and other sustainable production practices involving the traditional knowledge of indigenous peoples and local communities, with their free, prior and informed consent.
(f) Encourage *ex situ* operations that artificially propagate threatened plant species to seek cooperative measures that would support *in situ* conservation, such as technical support, the contribution of funds, the exchange of specimens for reintroduction into the wild, capacity-building and training, technology transfer, investment and infrastructure.

Implementing Action 4a is a priority at national and regional level as it forms the baseline of knowledge for identifying and assessing threatened species as a pre-requisite for their conservation. It is expected that assessments will be evidence-based, founded on verifiable data to ensure that the assessments are objective, repeatable and provide a strong basis for further investment and are suitable to guide conservation action. The Red List Categories and Criteria under the International Union for Conservation of Nature (IUCN) provide a robust framework for this endeavour. However, since the proportion of plants assessed globally is still low, this approach will need to be complemented by drawing upon new methodologies to rapidly identify unassessed species that are likely to be at risk or to conduct more national and/or global assessments for more reliable estimates of overall extinction risk. A variety of different conservation assessments are used by countries and other organisations around the world, and these can also contribute to achieving this Action.

Assessments should be regularly updated as many are years or decades out of date. Conservation actions will need to be aligned with the latest evaluation of threats to species. Consideration should also be given to the assessment of genetic diversity and resilience of species when possible. Parties, other Governments and relevant stakeholders may also consider undertaking assessments of the extinction risk and conservation status of species in other groups, such as algae and fungi (including lichen-forming species).

Recovery plans in Action 4b may include the incorporation of species and their habitats in NBSAPs. It is recommended that evidence-based recovery plans are developed for known threatened plant species. Such plans could include the use of information on reproductive systems and genetic diversity which is critical for designing species-specific evidencebased conservation strategies. It is important to note that recovery plans can take many forms and are not necessarily restricted to species restoration plans but can cover the recovery of a wider and collective range of plant species (including crops and their wild relatives and other socio-economically valuable plant species). These can also include conservation or restoration of *in situ* habitat for reintroduction and/or recovery of species, and *ex situ* conservation practices, such as those described below.

In situ conservation is the primary approach for conservation as it can allow evolutionary processes to continue. When the risk of extinction or genetic erosion of plant populations is high *in situ*, alternative conservation measures (e.g. inter *situ*, near *situ*, etc.) may be adopted. More specifically, such approaches may address the loss of genetic diversity in a population by introducing new genotypes, where applicable, or would be required, in the case of the definitive destruction of the natural habitat. Similarly, when the habitat is not benefiting from an effective protection measure, or when changed environmental conditions, including climate change, this will no longer support the survival of plant species in their original natural habitats.

DEFINITION

In situ conservation is defined as the conservation of species in their natural habitat.
Ex situ conservation is defined as the conservation of plant diversity outside its natural habitat.

Ex situ conservation plays a valuable and often essential complementary role to *in situ* conservation by providing a safety "back up" and acts as an insurance policy against extinction in the wild. *Ex situ* conservation can be performed by a diversity of methods:

- seed conservation including storage at low temperatures and reduced moisture levels, freeze drying, cryopreservation, *in vitro* culture
- living collections (such as in botanic gardens and arboreta) and field gene banks.

One key element is identifying the most efficient and effective (including cost-effective) methods for each species. The assumption is that effective conservation of threatened species *ex situ* will include their availability to support *in situ* conservation, restoration and recovery programmes and to ensure that their genetic variability is included in *ex situ* holdings.

Ex situ conservation in the country of origin will be crucial in the case of field gene banks and should include the participation of local stakeholders and indigenous and local communities. The lack of resources in some countries or regions may limit opportunities to undertake *ex situ* conservation of wild species, crop wild relatives and domesticated socioeconomically valuable plant species. It is suggested to use data from existing conservation and threat status assessments, to prioritise species for *ex situ* conservation. Thus, the development of networks, infrastructure and/or facilities to share germplasm, data, expertise and common protocols is crucial for the success of conservation and to maximise resources. For instance, *ex situ* projects that artificially propagate threatened plant species should be encouraged to seek complementary and cooperative measures that would support *in situ* conservation too. For example by providing (*inter alia*) technical support, mobilising financial resources, provisions of material to support reintroduction into the wild, capacity building and training, technology transfer, investment, and infrastructural development. This would also contribute to achieving the CITES Resolution Conf. 13.9 on 'Encouraging cooperation between Parties with *ex situ* breeding operations and those with *in situ* conservation programmes'. Furthermore, conservation actions on wild, domesticated and other socioeconomically important plant species and crop wild relatives should take into consideration the framework of and actions under the International Treaty on Plant Genetic Resources for Food and Agriculture and the FAO Commission on Genetic Resources.

Neptali Ramirez Marcial

As the impacts of climate change and other global challenges continue, understanding the most efficient and effective means for *ex situ* conservation and the needs for *in situ* recovery and management plans, will require conservation biology research, including the development of innovative approaches, such as assisted migration, to face the changes expected. Studies on genetic variability across and within populations should be considered, as not all species genetic variation at population level is the same. It is important to note that biological factors can also influence a species survival in the long-term. These can include inbreeding depression, dioecy, slow growth, low seed germination rates, and plant species with exceptional or recalcitrant seeds. It is therefore vital that these factors are identified and research undertaken to understand and mitigate these biological factors where possible. External biological factors impacting the viability of wild plant populations should also be considered and researched, such as the loss of pollinators and seed-dispersers, competition from invasive species, pests and diseases, and climate change induced alterations in ecosystem conditions.

Action 4e acknowledges the need for conservation and sustainable use of both wild plants and crop genetic resources, this includes the conservation of cultivated plant diversity in food systems, and especially traditional and heritage cultivars many of which continue to be at a risk of loss.

5 SUSTAINABLE HARVESTING

(a) Develop and implement strategies to ensure the sustainable and legal harvesting and use of wild plants, including determining sustainable harvest levels, and for artificial propagation or assisted production, respecting customary sustainable use by indigenous peoples and local communities.

TRADE IN PLANTS

(b) Identify wild plants that are currently or likely to be threatened by unsustainable or illegal trade and support the implementation or development and adoption of national or international guidelines and other measures to ensure that the harvesting of and trade in plants are sustainable, safe and legal.

Action 5 can be interpreted to include measures to ensure the sustainability of wild harvested plants and the products derived from them. Plant-based products harvested from wild sources include food products, timber and other wood-based products, fibre products, plants with ornamental, medicinal and cosmetics use and other uses. Sustainable management and harvesting aims to ensure that practices do not result in a decline in the diversity, availability, or supply of wild harvested plants. It is also assumed that the achievement of these Actions includes the integration of social and environmental considerations, such as the fair and equitable sharing of benefits and the participation of indigenous and local communities along the supply chain.

When implementing actions related to sustainable harvesting and meeting people's needs, these should be collaborative initiatives with relevant stakeholders that not only aim to conserve plant biodiversity, but also enhance social, economic, cultural and environmental benefits for people, especially those in vulnerable situations and those dependent on biodiversity.

Local, national and international trade is relevant as part of these Actions and must be considered as one of the potential drivers of unsustainable harvesting. CITES provides an international framework for the protection of wild flora threatened by international trade. Action 5b is consistent with the main purpose of the CITES Strategic Plan: "No species of wild flora subject to unsustainable exploitation because of international trade".

Action 5b primarily focuses on plant species threatened by trade but it is recognised that the development and adoption of measures applies to all plant species in trade and not only those which are currently threatened by unsustainable and/or illegal trade. The development of relevant guidelines would be helpful to complement the strategies developed in Action 5a. These could include the development of baselines on plant use and sustainable harvesting, in addition to continued focus on the volumes of wild plants in trade. Monitoring of the use of plant species that are not currently threatened and the identification of unsustainable harvesting or illegal trade should be undertaken as this will provide valuable data to support conservation status assessments and recovery plans (Actions 4a and 4b, as well as prioritising implementation of Action 5a).

Implementation of Actions 5a and 5b could include the development of regeneration plans of wild species threatened by trade, including cultivation of some species to minimise forest degradation resulting from sustainable harvesting. Working with the agricultural sector as integral partners in plant conservation programmes may result in the promotion of small-scale farming practices and domestication of wild species that promote legal and safe trade, while at the same time ensuring the survival of species in the wild.

Additionally, implementation of Action 5b would contribute to the achievement of the One Health Iniative (see CBD/COP/15/L.17), as it will help prevent pathogen spillover (which, in the context of plant health, is defined as the spread of plant diseases from illegally harvested and traded wild species to domesticated and commercial crop species).

6

MONITORING INVASIVE SPECIES

(a) Develop or strengthen early warning and monitoring and tracking systems, including public awareness programmes, at the national and international levels, to prevent, manage and eradicate potentially invasive alien species, that affect or may affect native plants and their ecosystems, and put in place measures to manage pathways of introduction.

CONTROLLING INVASIVE SPECIES

(b) Address the detrimental impact of invasive alien species and biological invasions on plant diversity and ecosystems by undertaking control or elimination measures, with a focus on areas important for plant diversity and considering the impacts of climate change.

These Actions seek to address biological invasions as a phenomenon and not just focus on the individual Invasive Alien Species (IAS). It must be noted that many pests and pathogens impacting plants are often IAS. It therefore combines both the invasion of the alien species (of plants, animals or micro-organisms) and the reactions of ecosystems or habitats into which they are introduced. The species often dubbed "alien" may not always become invasive when introduced to new localities, ecosystems or habitats. Sometimes they develop invasive traits subsequently or following climate change.

Management plans therefore need to be designed (using the ecosystem approach) to address the damage done by IAS to plant species and/or their communities and to restore ecosystem functions, benefits and services. This requires that target ecosystems or habitats be defined and the risks to them from IAS be understood. It is also crucial that prior to undertaking control measures and monitoring of IAS, baselines and status documents of current IAS affecting plants are established or updated. Greater impact can also be achieved by evaluating susceptibility and forecasting or predicting impacts of current and new IAS and acting early. In the process of identifying and monitoring IAS the added risk of the introduction of new pests and pathogens should be considered where possible. By doing so, this may enable the mitigation of impacts caused directly and indirectly by IAS.

Considering that climate change is enhancing the spread and impact of many invasive alien species, future research and monitoring work should ensure that there is adequate preparedness to effectively address biological invasions and that management plans should include options for adaptation to climate change. A particular focus should be given to identifying the most serious potential or actual invasive species, and setting priorities to prevent their introduction, establishment and spread.

It is clear that significant public awareness campaigns, citizen science and public involvement in control and management measures need to be developed and disseminated to enhance implementation. Awareness of pathways of introduction and messages on preventing introductions and spread should be developed and included in all IAS control or eradication measures undertaken.

7 THE IMPACT OF POLLUTION ON PLANTS

Gather information, research, assess and provide evidence of pollution risks and their negative impacts, and take action to minimise pollution pressures on plant species and their ecosystems.

Pollution comes in many forms, which can negatively affect plant diversity and its survival. Recognising the type of pollution impacting plant species and their ecosystems is a first step in implementing this Action. Undertaking studies to gather information, assess and make or implement prevention and mitigation actions will be the next steps. For instance, plastic pollution can have devastating impacts on ecosystems and plant life, it can affect soil water content and may interact with the effects of drought on soil and plants and needs to be addressed accordingly. Impacts of pollution and biocides on plant pollination and pollinators are major threats to plant diversity and must be addressed.

By addressing pollution pressures on plants and their habitats rapid positive changes can be achieved. Implementing Action 7 contributes to the One Health Initiative and would include activities such as reducing pollution, and overexploitation and harvesting practices which have negative consequences on ecosystems and wild plant populations. Additionally, given the ecological inertias in adapting to climate change and ocean acidification, it is important to urgently reduce other anthropogenic pressures on vulnerable ecosystems to give those ecosystems and the plant species they contain the best possible chance of adaptation and survival.

Ian Harvey-Brown

8 NATIVE PLANT USE IN CLIMATE MITIGATION AND ADAPTATION

(a) Consider current and projected impacts of climate change on species, species distribution and ecosystems when implementing plant conservation activities, including those undertaken under Targets 2, 3, 4 and 6 of the Framework.
(b) Encourage the use of genetically, biologically or ecologically appropriate native plant species, including species of conservation concern, in areas planted for carbon sequestration and in nature-based solutions and/or ecosystem-based approaches for climate mitigation and adaptation, ensuring that such areas are selected appropriately to avoid negative effects and foster positive impacts on biodiversity.


Xiangying Wen

These Actions place native species and biodiversity at the centre of planting and ecological restoration efforts directed towards climate change mitigation, adaptation and carbon sequestration. They promote the need for specific plant conservation efforts to be put in place to address the threats to plants from climate change. Such efforts may address whole ecosystems or focus on individual species; they may utilise *in situ* and *ex situ* conservation measures, including species recovery programmes, species translocations and ecological restoration. Nature-based climate solutions, which promote climate change adaptation and mitigation by means of ecological manipulation or management may also be considered, such as in peatland restoration, which often includes the removal of trees, or in other ecosystems manipulating their management by means of fire, changes in plant water relations, grazing by animals and many other practices. It is crucial to consider the conservation status and ecological requirements of plant species when selecting them for potential carbon sequestration and for naturebased solutions.

Planting schemes that are solely or primarily to achieve carbon sequestration and/or for commercial forestry can have detrimental impacts on biodiversity, especially when they involve non-native monocultures which displace native species and ecosystems and/or create low-value landscapes for biodiversity. It is important to consider the potential impacts of introducing non-native species or invasive plants that can negatively affect native plant communities. Careful site selection and ecological assessments are essential to minimise any adverse effects on plant biodiversity. The plant conservation community should work to raise awareness amongst relevant authorities of the potential impact of the use of non-native or invasive alien species in reforestation and carbon sequestration that seeks to mitigate climate change.

Where monocultures are planted, it is important to increase connectivity between the remaining or surrounding important natural vegetation areas. This can enable species movement and migration, and act as local sources for wild plants and habitats and refuges for native biodiversity. Examples of the importance of such natural or semi-natural areas in an otherwise modified landscape include the hedgerows surrounding agricultural and plantation forestry lands in Europe and the preserved river reserves in some tropical countries.

In implementing these Actions there may be a requirement to instigate ecosystem migration and undertake adaptation experiments, particularly for keystone species, to improve knowledge on the vulnerability or resilience of plant species to climate change. Work on addressing the impacts of climate change on plant diversity and identifying the species that are most vulnerable to climate change is also covered in Actions 3 and 4.

9 PLANTS FOR PEOPLES' NEEDS

Co-develop and implement programmes with indigenous peoples, local communities and relevant stakeholders to sustainably maintain and manage wild plants and their ecosystems that are of socioeconomic and cultural importance as well as their ecosystems, and to enhance benefits for people.

Socioeconomically important wild plants are interpreted to include, but are not limited to, crop wild relatives, plant genetic resources for food and agriculture, forest genetic resources and plant species that are used directly for economic, social and cultural purposes. Action 9 aims to ensure that crop varieties, farmers' varieties, plants of horticultural merit, landraces and other domesticated socioeconomically and culturally valuable plant species are available to support use in agriculture, forestry, horticulture, and other sustainable developmental and societal needs, as well as natural systems that provide ecosystem services.

This Action also focuses on respecting and securing the plant species and knowledge base of plant resources used to secure livelihoods, food security and health care, especially for IPLCs and contributes to the One Health Initiative. Action 9 may, in the long run, help IPLCs to adapt to emerging environmental challenges such as climate change and to ensure that future generations, accessing these resources, can continue to benefit from their sustainable use. This Action should be implemented consistent with the CBD's programme of work on Article 8(j) and related provisions.

10 SUSTAINABLE MANAGEMENT OF PRODUCTION LAND

(a) Support and put in place sustainable management programmes for existing areas under agriculture, aquaculture, fisheries and forestry and increase the proportion of those areas that are managed sustainably to ensure the conservation and restoration of associated wild plant diversity, including crop wild relatives.

(b) Include a special effort to conserve landraces, both *in situ* and *ex situ*, and promote the wider use of landraces to support the diversification of crops and cropping systems.

(c) Promote and support actions relating to the conservation of wild relatives of edible species as a clear contribution towards food security.

Ultimately, all production lands should be managed sustainably, without detrimental impacts on plant diversity. The sectors to be considered under this Action include, inter alia, croplands, pasture, forestry, including harvesting of non-timber forest products, and aquaculture. Sustainable management for plant diversity implies that several objectives are integrated into the management of such production lands: (i) the conservation of plant diversity including its genetic diversity; (ii) protection of other plant species in the production landscape that are unique, threatened, or of particular socioeconomic value; and (iii) use of management practices that avoid significant adverse impacts on plant diversity in surrounding ecosystems. Action 10 includes adopting agro-ecological, close-to-nature practices, other innovative approaches and monitoring of the agrobiodiversity within areas under agriculture, aquaculture, fisheries and forestry. The GSPC defines close-to-nature as a management approach treating production lands as an ecological system performing multiple functions.

DEFINITION

In the context of this Action, agricultural land may be defined as "production lands" where the primary purpose is agriculture, also encompassing land for horticulture, grazing, or wood production.

11

NATIVE PLANTS AND ECOSYSTEM FUNCTIONS AND SERVICES

Ensure that genetically, biologically or ecologically appropriate and adapted native plant species, including species of conservation concern, are used for the restoration of ecosystems or ecosystem services, including through nature-based solutions and/or ecosystem-based approaches.

In the achievement of Action 11, nature-based or ecosystem-based approaches focus on ecosystem restoration and hazard mitigation to protect society through sustained action taken to reduce or eliminate the long-term risk to life and property from the negative impacts on human wellbeing of the loss of plant diversity and from climate change. It is an on-going process that occurs before, during, and after disasters and serves to break a cycle of damage and repair in hazardous areas. This work may be enhanced by promoting effective land use that takes the natural occurrence and use of native plants and ecosystems into consideration. Such conservation efforts should include ongoing monitoring of restored ecosystems and adaptive management strategies to address any challenges or changes in ecosystems over time.

For example, native plants are often the best adapted species suitable for projects such as watershed protection. They may have robust root systems that allow them to filter and infiltrate water. This helps recharge important groundwater systems and reduce runoff and flooding. They can also improve air quality by absorbing and storing carbon dioxide while producing oxygen. Using native plants in ecosystem restoration projects will involve the collection, provision, and conservation of locally adapted and genetically appropriate plant material. Capacity for plant collection, propagation and restoration actions needs to be built to implement this Action.

David Bartholomew

12 URBAN GREEN INFRASTRUCTURE

(a) Establish green infrastructure projects focused on plant diversity and connectivity, encouraging the use of native climate-resilient species and preventing the use of invasive alien species in plant diversity conservation programmes in urban areas, and developing and implementing new strategies for promoting the mainstreaming of biodiversity and ecosystem services into urban and territorial planning and management, taking into account coastal urban areas and coastal and marine ecosystems.

URBAN PLANT DIVERSITY

(b) Develop, designate and protect biodiversity-rich accessible green and blue spaces in urban areas by establishing or strengthening, inter alia, parks, greenways, ponds, watercourses, wetlands, botanical gardens and arboretums in such areas, and ensure connectivity among those spaces, in order to support biodiversity conservation, environmental education and awareness, and human health and well-being effectively.

There is a growing need for the development of accessible biodiversity-rich green (and blue) spaces in cities and other urban areas with the increased urbanisation of the world's population. Biodiversity-rich urban green spaces can promote or support many aspects of sustainable urban life, including environmental education and awareness, native plant gardening, invasive species control and awareness, ecological restoration, storm water management, as well as general physical and mental health and wellbeing of the human population.

There are 81 cities in the world with a population over 5 million people, according to the United Nations (UN) 2018 estimates. The UN figures are a mixture of cities proper, metropolitan areas, and urban areas. This may be used as a definition of 'major cities'. Botanic gardens, arboreta and protected areas provide green and public spaces for residents in many of the world's major cities, providing them with biodiversity-rich spaces and nature experiences. Many municipal parks, gardens and green streetscapes are primarily managed for recreational activities without including biodiversity or plant conservation as important roles or priorities. These areas should be the focus of activities that can include more plant diversity into their landscapes and thus increase biodiversity as a whole. Urban farming, such as roof top gardens and community kitchens are also places for urban greening and should be encouraged to use native plant, crops and local varieties where possible.

DEFINITION

For the purpose of these Actions, blue spaces may be defined as riverine, wetlands, coastal and freshwater habitats.

13 NATIVE PLANTS AND ECOSYSTEM FUNCTIONS AND SERVICES

Support and encourage measures to facilitate appropriate access to plant genetic resources, ensuring the fair and equitable sharing of benefits that arise from the utilization of such resources and associated traditional knowledge, as well as from the use of digital sequence information on plant genetic resources, in accordance with applicable international access and benefit-sharing instruments.

The development and adoption of appropriate policies and actions to facilitate efficient and effective exchange and transfer of plant materials, expertise and knowledge is urgently needed in many countries to support conservation, research, benefit sharing and sustainable use of plant diversity. Constraints in facilitating access, exchanges and collaboration between institutions to support cooperative programmes, particularly at international levels, has slowed progress considerably in achieving plant conservation priorities in many countries. It is understood and expected these elements will be achieved in full compliance (legal, policy, and administrative measures) with the principles and terms of the Nagoya Protocol and its associated codes and guidelines, as well as national legislation and regulations adopted in accordance with the Nagoya Protocol at national levels. Similarly, the achievement of this Action will also be undertaken in accordance with the agreed processes under CITES for trade for scientific exchange and research purposes. Knowledge sharing and capacity building should take place within this Action to ensure the development of knowledge, skills, and resources necessary for implementing effective conservation strategies.

14 TOOLS FOR MAINSTREAMING PLANT CONSERVATION

Provide open and accessible data and develop tools to help to measure and integrate the importance of diverse knowledge systems and the value of plant diversity into policies, regulations, environmental assessments and planning processes, including rural and urban development, poverty reduction strategies and national accounting and reporting mechanisms.

The values of plant diversity are not always well reflected in decision-making and the objective of this Action is to ensure that the multiple values of plants and opportunities derived from their conservation and sustainable use are recognised and reflected in all relevant public and private decision-making. Numerous studies, at various scales, have illustrated the economic value of plant diversity and the ecosystem services it underpins. Including the values of plant diversity in national and local development and poverty reduction strategies and planning processes and into national accounting will place plants into the same decision framework as other goods and services. This would help give plant diversity greater visibility amongst policymakers and contribute to the “mainstreaming” of plant diversity issues in decision-making processes.


Missouri Botanical Garden

15 SUSTAINABLE PRACTICES IN PLANT USE

(a) Encourage and support the adoption by businesses, in particular large and transnational companies and other sectors that focus on plants of sustainable practices along supply chains for trade in wild plant species, and promote those practices in such sectors as finance, transport, e-commerce and tourism.
(b) Promote and support the development of best practices for the monitoring and evaluation of plant use in sustainable production, to support plant conservation and benefits to indigenous peoples and local communities.
(c) Provide information needed to consumers to promote sustainable consumption practices in plant use.

In order to implement change in the sustainable use of plant species these Actions aim to provide businesses and other sectors, using plants, with implementable actions and robust, accurate and up-to-date information to adopt sustainable practices along supply chains for trade in wild plant (timber and non-timber) species and thus minimise negative impacts on plant diversity. Transparency along supply chains and engagement with all stakeholders is essential for compliance with Action 15.

16 SUSTAINABLE CONSUMPTION

(a) Provide information and guidance, including in the form of trade statistics and data, and capacity-building to inform the development of policies and legislative and regulatory frameworks that recognise the importance of wild plants as sources of food, fibres, medicines, pharmaceuticals and construction material and as a resource for other sectors.
(b) Develop and support education programmes on the importance of plants and the impacts of the global footprint of consumption, global food waste and overconsumption on plant diversity.

Conserving and securing wild plant diversity will ensure that resources continue to be available for numerous sectors that utilise wild plants. Recognition is needed that plant species survival is under threat and that they are not guaranteed to be a resource for continued use if not looked after and used sustainably. This can take the form of information awareness campaigns and providing guidance to users on the conservation, harvesting and use of wild plant species. Numerous trade databases exist on the trade of plant species. Nevertheless, these are not yet widely used to guide policy and legislation development. The relevant information should be provided more effectively to provide guidance to decision-makers.

Responsible consumerism regarding plants should be incorporated into education programmes at all levels, from primary, secondary, and tertiary education to adult consumers and drivers of economies.


Markus Winkler

19 FINANCIAL RESOURCES FOR PLANT CONSERVATION

Support and mobilise resources from a wide range of appropriate sources to carry out plant conservation actions.

Resources required for plant conservation include sustainable funding to implement projects and initiatives outlined throughout the Actions. Other non-financial resources are also needed to help mobilise action amongst the diverse sectors involved in plant conservation, including for infrastructural development, training and capacity building and to further develop research and technologies. The availability of non-financial resources can sometimes reduce the need for financial resources in some situations.

The importance of cooperation and collaborations being undertaken at international levels, to support national actions is recognised, (including global, south-south, north-south and triangular actions). Such cooperation and collaboration is often supported through the provision of international funding from a variety of sources, including governments, foundations, the private sector and individual philanthropy, as well as in-kind support given by the cooperating institutions, agencies and organisations themselves. The vital role of multistakeholder partnerships in implementation of the Actions of the GSPC has been recognised, including the support given by the Global Partnership for Plant Conservation (GPPC) and its members. Such support represents significant mobilisation of financial and non-financial resources for plant conservation.

20 CAPACITY-BUILDING

(a) Establish or strengthen professional training and capacity-building initiatives related to plant conservation, scientific research and monitoring, taxonomy and information management, horticulture, botany, plant conservation biology research, biotechnology and ecological restoration.

(b) Establish mechanisms, partnerships and networks to support the accessibility of data, knowledge, technology and South-South, North-South and triangular cooperation for collaborative plant conservation.

In the context of these Actions, capacity building can also include a conceptual approach toward social and behavioural change (which is also linked to Action 16). Significant capacity building can also be supported, encouraged and facilitated through the development of training networks. It has been recognised by the botanical community that horticultural skills and techniques for propagating and producing native plants need to be strengthened to implement Actions 2, 4, 8, 10, 11 and 12. Financial resources (Action 19) to support capacity building and for partnership projects and networking will also be required.

A key element of the achievement of Action 20b will be building capacity for all aspects of plant conservation. It will be important to undertake needs assessments in many countries and regions to identify gaps and opportunities to strengthen capacity in areas such as scientific research, taxonomy, conservation assessments, plant inventories and in aspects of applied plant conservation methodologies such as conservation horticulture and ecological restoration.

DEFINITION

'Capacity' is defined as the process by which individuals and organisations will have obtained, improved, and retained the skills, knowledge, tools, equipment, and other resources needed to achieve the objectives of their national plant conservation strategies, goals and the Actions presented in the GSPC.

21

PUBLIC AWARENESS PROGRAMMES

(a) Develop or implement programmes to raise public awareness of the value of plant diversity and the ecosystem services that they provide.

PLANT INFORMATION SYSTEMS

(b) Support the development and use of comprehensive, authoritative and accessible expertise, online information systems, documentation and inventories, as well as access to biological collections (e.g. through digitisation) at the local, national and international levels, making available to all countries information on their floras and the status of known plant species and associated ecosystems, while ensuring the free, prior and informed consent of indigenous peoples with regard to access to traditional knowledge and taking into consideration the ongoing work and processes carried out under relevant organisations, such as the Food and Agriculture Organization of the United Nations and its Commission on Genetic Resources for Food and Agriculture.

(c) Explore ways to consider various knowledge systems, including traditional knowledge, innovations, practices and technologies, to support plant conservation action.

(d) Promote the continuous updating of the World Flora Online, including its identification support tools, information on plant distribution and the updating of regional floras, as well as the development of other international and national plant databases.

CITIZEN SCIENCE

(e) Develop or support citizen science programmes for identifying, documenting, monitoring, conserving, restoring and sustainably using plant diversity, in cooperation with scientific institutions.

To achieve Action 21a, there is an urgent need to effectively communicate the value of plant diversity to all relevant sectors and to refocus communication strategies to address and highlight the importance of plants in livelihoods, ecosystem products and services.

Key concepts to communicate include:

- Plants are essential to all life on Earth.
- Plants are central to ecosystem produces and services.
- Plants play an important role in the mitigation of climate change.
- Plants are critical to the functioning of and well-being of our everyday lives and livelihoods.
- As responsible stewards of the environment, we need to take action to conserve and sustainably use plants both wild and cultivated.

These concepts need to be widely understood by all sectors of society.

Implementation of this Action will require the engagement of both the informal and formal education sectors at all levels, including primary, secondary and tertiary education. In some cases, this might take the form of using iconic threatened plant species to develop awareness programmes about the value of plant diversity. Information from indigenous and local communities must be included and accessing the traditional knowledge, innovations, practices, and technologies should be in accordance with national legislation and with their free, prior, and informed consent.

Defining target audiences and their requirements must be understood before developing awareness programmes and embarking on behaviour change campaigns. It is also vital that key messages for communication on conservation of plant diversity be incorporated into national climate change communication strategies, and into other relevant resource management documents or strategies.


Joachim Gratzfeld

Action 21b aims to support the development of accessible information systems that continue to gather, systematize, integrate and present plant data that are needed to support conservation programs, restoration and sustainable use of the world's plant species, including relevant aspects of their ecology, habitats and conservation biology.

It is expected that this Action will include new focus on making such data more relevant for users, enhance and build the capacity of the community of plant experts supporting such information systems and providing new tools for identification (keys, pictures and descriptions) and include local and vernacular names where possible and ensuring that data are provided in the most relevant languages.

Consideration of different knowledge systems and incorporating these into information systems will provide a holistic view of species knowledge.

Action 21b also builds on the GSPC 2020 Target 1, to have available 'An online Flora of all known plants' which was achieved by the end of 2020. GSPC 2020 Target 1 was undertaken by a voluntary international consortium of leading botanical institutions, the World Flora Online (WFO) Consortium, as well as by individual Parties preparing and making available electronic Floras at national and other levels. Further work in developing digital and accessible data to guide plant conservation at national and other levels will need to be a priority for the GSPC over the coming period. The WFO Consortium work continues to make the WFO even more comprehensive and authoritative, and to provide an actively curated consensus taxonomic 'backbone' of knowledge on the world's plants. Nevertheless, increasingly comprehensive data continue to be needed to guide the plant conservation actions of the GSPC over the coming period.

While the WFO already provides a valuable and comprehensive baseline on the world's plants, further work is required to ensure that accessibility is enhanced, improved to meet the needs of users, including further verification of the correct names and synonymy, up-to-date geographic distributional information, comprehensive descriptions, verified images and conservation assessments. The digitisation of natural history collections, particularly herbarium specimens, is an important mechanism for enhancing the sharing of data for global accessibility. Ongoing support for the WFO will be required not only to increase and refine its data content but also to ensure that new data are incorporated and that it is able to support the needs of users to provide data for plant conservation purposes.

Digital platforms such as WFO and others, with exhaustive information on the flora of each region developed, through and with South-South, North-South and triangular cooperation and including the data from research programmes for plant conservation would be of great help to guide plant conservation action plans. Information on plant conservation should be provided to policy makers in a form that is easily usable, understood by this sector and straightforwardly implemented, whilst respecting the rights of communities.

Action 21c highlights the value of citizen science programmes, not only to build public awareness of the importance and need for plant conservation action but also to engage the public directly in contributing to research and supporting plant conservation. Citizen science programmes must be used to monitor actions and maintain knowledge systems for wild and crop species as well as alien invasive species. Highlighting the value of plant species in biodiversity conservation and climate change strategies must continually be made in order to avoid what has been called 'plant blindness' and ensure that plant conservation is resourced as comprehensively as other biodiversity conservation sectors.

22 PLANT CONSERVATION AND TRADITIONAL KNOWLEDGE

Ensure the full equitable, inclusive, effective and gender-responsive participation of indigenous peoples and local communities at all relevant levels, with their free, prior and informed consent, in accordance with national legislation, to build respect for and safeguard traditional knowledge, innovations and practices related to the conservation and sustainable use of plant diversity.

This Action focuses on respecting and securing the knowledge base of plant resources used to secure livelihoods, food security and health care, especially for IPLCs. This measure is incorporated to ensure that future generations accessing these resources can continue to benefit from their sustainable use. Implementation of Action 22 could include a variety of approaches, such as formal or informal workshops managed and directed by IPLCs and providing their input to guarantee plant conservation actions include their views, knowledge and address their concerns and needs. The Action should be implemented consistent with the Nagoya Protocol and related provisions. This element may, in the long run, help local and indigenous communities to adapt to emerging environmental challenges such as climate change.

23 GENDER EQUALITY

Ensure gender equality in the implementation of plant conservation and restoration actions by proactively implementing a responsive approach, encompassing the recognition of women's rights, equitable access to plant resources and inclusive participation at all levels in decision-making processes, while highlighting the important role of women, as essential knowledge holders, in plant conservation.

Action 23 is a cross-cutting action that will help to ensure that gender equality in the implementation of the Actions is achieved and runs throughout the GSPC. It will be implemented through guidance contributed by the CBD Women's Caucus given in Annex 2 of CBD/SBSTTA/25/INF/4

Said Mutegeki, Tooro Botanical Gardens

Implementing the Global Strategy for Plant Conservation (GSPC)

There are already many examples of organisations implementing the Global Strategy for Plant Conservation (GSPC) Actions. These include botanic gardens, government departments, restoration focused organisations, plant conservations NGOs and many more. A good first step to implement the GSPC is to look at existing organization (or higher level) strategies and map current strategic aims and adjectives to the new GSPC Actions to identify existing areas of contribution, as well as opportunities for additional engagement with the GSPC.

Examples of some of the important actions being pursued include the implementation of the Tree Conservation Programme at Botanic Gardens Conservation International (BGCI) which robustly contributes to **GSPC Action 4** – *plant species conservation and conservation of genetic diversity*. The Tree Conservation Programme promotes an integrated approach to the conservation and management of tree species, encompassing: Prioritise, Plan, Act and Monitor. The ultimate aim being that no tree becomes extinct with tree conservation activities being carried out by empowering, mobilising and collaborating with partners and organisations worldwide.

Another example are the efforts made by Plantlife. Plantlife's work has a strong focus on delivering **GSPC Action 3** – *important areas for plant diversity* – an obvious priority for their global programme, having pioneered the development of methodology which identifies key sites for plant diversity (Important Plant Areas (IPAs)). Plantlife is expanding its work to enable and support conservation actions at these sites, by working with in-country partners and communities on locally-led implementation.

The International Plant Sentinel Network (IPSN) provides a vital early warning system, identifying and sharing information about new and emerging pest and pathogen risks, addressing and implementing **GSPC Action 6** – *monitoring and controlling invasive species*. There are now over 30 network members, who work to advocate for the utilisation of living collections as invaluable resources for pest and pathogen understanding, monitoring and research. Equally striving to enhance biosecurity awareness through education and outreach activities.

Botanic gardens serve to implement all actions of the GSPC, some of these are self-explanatory such as managing *ex situ* collections for the world's plant species (**Action 4**), taking part in global and national seed banking partnerships (e.g. the Millennium Seed Bank Partnership and the Australian Seed Bank partnership) and delivering a variety of education activities (**Actions 14, 20** & **21**). Some gardens however, champion individual GSPC Actions. For example, at Jardín Botánico Regional de Cadereyta in Mexico lead a successful awareness campaign against illegal plant trade and wild plant poaching. This campaign is called "leave them in their land" ("Déjalos en su tierra") and involves community workshop activities, merchandise, etc. to raise awareness of the loss and threat the native Mexican cacti species from illegal trade activities. This campaign exemplifies actions being taken for **GSPC Actions 5** and **15** – *sustainable harvest and trade in plants – sustainable practises in plant use*.

As the GSPC was finalised recently in 2024, over the coming years we will see more and more organisations committing to the implementation of GSPC Actions. As familiarity with the Actions grows, we will also see increased alignment between the GSPC and existing strategies.

For more examples and ideas on how to contribute to GSPC Actions see Plantlife's recently developed Plant Actions Toolkit which can be populated with case studies of Actions from different organisations. Additional resources can also be found on the Plants2020 website, which will be updated in due time as we progress with work on the new GSPC.

Alongside this an indicator, monitoring and reporting framework for the GSPC and for reporting to the Convention on Biological Diversity (CBD) and KMGBF is being developed by the Global Partnership for Plant Conservation (GPPC).

Indicators, monitoring and reporting for the GSPC.

The Global Partnership for Plant Conservation (GPPC) has been invited by the CBD to develop an indicators, monitoring and reporting framework for the GSPC. This framework will build on the standard indicators' framework employed for the KMGBF (inc. Headline and component indicators) to include indicators that are relevant to plant conservation, and that can be accessed and used by both state and non-state actors (see Box below).

It is recommended that Parties use the headline indicators in their national, regional and global monitoring reports. The more detailed component and complementary indicators should be supported by either reporting to Parties or separately to the CBD via flexible coordination mechanisms. It is here that the GSPC plays a vital role. In the SBSTTA recommendation 25/4 the GSPC was invited to:

"6. Invites the Global Partnership for Plant Conservation:
a) to provide guidance on using the monitoring framework for the Kunming-Montreal Global Biodiversity Framework to monitor progress on the implementation of the voluntary complementary actions related to plant conservation, including the identification of its gaps;

b) to develop specific indicators for each of the voluntary complementary actions;

c) to develop a template for voluntary reporting on progress in the implementation of the voluntary complementary actions related to plant conservation."


Joachim Gratzfeld


Ben Jones


Alex Hudson

The indicator, monitoring and reporting framework is still in development, due to the delays in the adoption of the new GSPC Actions. A draft of the indicators and the monitoring framework was proposed in CBD/COP/16/INF/34 and included some of the following indicators:

- National analyses of representation of threatened species within protected areas
- IUCN Red List of Threatened Species
- Nationally produced plant red list indices
- BGCI's data tools (Global Tree Portal, PlantSearch, Threat Search etc.)
- GENESYS PGR, EURISCO Data Warehouse
- IUCN SSC Quadrennium reporting for plant specialist groups (seed specialist group, CWR, Orchids)
- The World Flora Online
- Plantlife database of Important Plant Areas, TIPAs database and KBA database
- Protected Planet database of management plans and OECM database
- The BONN Barometer.

It is hoped that the monitoring and reporting can be carried out online. Alongside general organisational and geographic information, suggested fields for this are given below. The fields identified represent the information needed from non-State actors in order to analyse their contributions towards the implementation of the GSPC Actions and achievement of the KMGBF set of targets:

How the indicators, monitoring and reporting framework can be accessed and used, and examples of this will be included in forthcoming documents and the complete monitoring and indicators framework will be added as an Annex to this document when it is finalised.

REPORTING SECTION 2: GSPC VOLUNTARY COMPLEMENTARY ACTIONS

(separate reports for individual actions may be submitted if required)

2.1 What GSPC Action are you reporting on?

2.2 Scale of commitment – single or multiple species, ecosystems and locations

2.3 Coverage of the commitment

2.4 What financial contributions (direct and in-kind) have been made to the achievement of this Action?

2.5 Type of governance model and the programmes put in plan to ensure compliance with CBD models.

2.6 Sustainable Development Goal(s) or other multilateral environmental agreement to which the commitment contributes (optional).

2.7 Partners and other organisations involved in the commitment

2.8 Expected impact or outcomes

2.9 Which indicator/s are you using?

2.10 Which data source are you using?

2.12 Timeline

2.13 Is this a one-time or recurrent / on-going activity? If recurrent or on-going, indicate the start date, and likely duration.

2.14 Monitoring and reporting

Reference/Resource List

Reference List

Cowell. C, and Smith. P. (2024) *Plant Conservation and Achieving the Kunming-Montreal Global Biodiversity Framework* BGCI Volume 21.1

Raimondo, D. (ed.) 2015. South Africa's Strategy for Plant Conservation. South African National Biodiversity Institute and the Botanical Society of South Africa, Pretoria.

Sharrock, S. (2020). Plant Conservation Report 2020: A review of progress in implementation of the Global Strategy for Plant Conservation 2011-2020. Secretariat of the Convention on Biological Diversity, Montréal, Canada and Botanic Gardens Conservation International, Richmond, UK. Technical Series No. 95: 68 pages.

Rhona Gracie

Resource list

Final Text of the GSPC Actions

CBD/COP/DEC16/20 – 1st November 2024 - Voluntary complementary actions related to plant conservation to support the implementation of the Kunming-Montreal Global Biodiversity Framework (https://www.cbd.int/doc/decisions/cop-16/cop-16-dec-20-en.pdf)

Towards a Post-2020 GSPC

CBD/COP/16/INF/34 – 12th October 2024 - Draft guide to the updated Global Strategy for Plant Conservation including suggested sources of indicators and monitoring framework

CBD/SBSTTA/25/CRP.1 – 16th October 2023 - Agenda item 3 (d) Facilitating the implementation of the Kunming-Montreal Global Biodiversity Framework and the monitoring of its progress: plant conservation

CBD/SBSTTA/25/INF/4 - 29th September 2023 - Technical rationales for the implementation of the set of complementary actions related to plant conservation in support of the Kunming-Montreal Global Biodiversity Framework

Previous GSPC Decisions

CBD/COP/DEC/X/17 – 29th October 2010 - Updated Global Strategy for Plant Conservation 2011-2020 (https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-17-en.pdf)

CBD/COP/DEC/VII/10 – 13th April 2004 – Global Strategy for Plant Conservation (https://www.cbd.int/decision/cop/default.shtml?id=7747)

Annexes

Annex 1: Decision adopted by the Conference of the Parties to the Convention on Biological Diversity on 1 November 2024

16/20. Plant conservation

The Conference of the Parties,

Recalling its decisions V/10 of 26 May 2000, VI/9 of 19 April 2002, VII/10 of 20 February 2004, IX/3 of 30 May 2008 and X/17 of 29 October 2010,

1. Decides to adopt the voluntary complementary actions related to plant conservation, as contained in the annex, as an update to the Global Strategy for Plant Conservation[1] to support the implementation of the Kunming-Montreal Global Biodiversity Framework,[2] noting that the voluntary complementary actions concern plants in terrestrial, inland water and marine and coastal ecosystems;

2. Emphasizes that the voluntary complementary actions related to plant conservation should be viewed as a flexible framework within which national and regional actions may be developed in accordance with national priorities and capacities, taking into account differences in plant diversity among countries and the challenges faced by developing countries;

3. Invites Parties and other Governments:

(a) To develop or update national and regional actions related to plant conservation and incorporate them into relevant plans, programmes and initiatives, including, where appropriate, national biodiversity strategies and action plans and sectoral plans, and align the implementation of the voluntary complementary actions related to plant conservation with national and regional efforts to implement the Framework, as appropriate and on a voluntary basis;

(b) To include progress towards the voluntary complementary actions related to plant conservation in their national reporting, as appropriate;

(c) Recalling paragraph 6 of decision VII/10, to consider appointing national focal points for the Global Strategy for Plant Conservation where they have not been appointed, with a view to enhancing national coordination and implementation;

4. Invites relevant international, regional and national organisations to contribute, as appropriate, to the implementation of the voluntary complementary actions related to plant conservation, in line with their respective mandates;

5. Expresses its appreciation to the Global Partnership for Plant Conservation, including its secretariat provided by Botanic Gardens Conservation International, for supporting activities related to the development of the voluntary complementary actions related to plant conservation;

6. Invites Parties, other Governments, businesses and other relevant organisations to support botanical garden initiatives related to the conservation of plant diversity;

7. Invites the Global Partnership for Plant Conservation:

(a) To provide guidance on using the monitoring framework for the Kunming-Montreal Global Biodiversity Framework to monitor progress on the implementation of the voluntary complementary actions related to plant conservation, including by identifying its gaps;

[1] Decision VI/9, annex, as updated in decision X/17.
[2] Decision 15/4, annex.

(b) To develop specific indicators for each of the voluntary complementary actions related to plant conservation and ensure that they are aligned with the monitoring framework for the Kunming-Montreal Global Biodiversity Framework and consistent, where appropriate, with indicators developed under other multilateral processes;

(c) To develop a template for voluntary reporting on progress in the implementation of the voluntary complementary actions related to plant conservation;

8. Invites, subject to the availability of resources, the flexible coordination mechanism for the Global Strategy for Plant Conservation, as established in decision VII/10, to pursue its mandate to support Parties in the implementation of the voluntary complementary actions related to plant conservation, recognising the need for enhanced international cooperation, including by fostering scientific and technical cooperation, capacity-building and technology transfer, to enhance the capacity of countries, in particular developing countries;

9. Invites Parties, in accordance with Articles 20 and 21 of the Convention on Biological Diversity,3 and relevant organisations to provide financial and technical support, as appropriate, for enabling the implementation of the voluntary complementary actions related to plant conservation and the submission of national reports on progress achieved by developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition.


Karen Pattison

Annex 2: Voluntary complementary actions related to plant conservation to support the implementation of the Kunming-Montreal Global Biodiversity Framework

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
1. Reducing threats to biodiversity	
Target 1 Ensure that all areas are under participatory, integrated and biodiversity inclusive spatial planning and/or effective management processes addressing land- and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.	**1. Plant conservation in spatial planning and management processes** Identify and map, where possible, all plant species in terrestrial, inland water, marine and coastal ecosystems, including at the population level, as well as areas and ecosystems important for plant diversity, using diverse knowledge systems.
Target 2 Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.	**2. Ecological restoration** Implement or participate in programmes for the effective restoration of degraded ecosystems and habitats, including to prevent or mitigate the existing drivers of degradation, prioritising the use of genetically appropriate material of native species, enhancing and conserving soils, considering ecological criteria, associated soil biota and pollinators and dispersers, and including species of conservation concern, as well as climate resilience, long-term commitment, innovative financing and adaptive management, ensuring that the programmes enhance biodiversity and human well-being and are informed, where possible, by traditional knowledge, with the free, prior and informed consent of the indigenous peoples concerned.
Target 3 Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognising indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognising and respecting the rights of indigenous peoples and local communities, including over their traditional territories.	**3. Important areas for plant diversity** (a) Ensure that important areas for the conservation of plant species and their genetic diversity are identified, well connected and represented within protected areas and other effective area-based conservation measures, including in marine and coastal areas. (b) Develop integrated management plans for important areas for plant diversity and implement programmes to ensure that those areas are effectively documented, protected, monitored and sustainably managed, recognising and respecting the rights of indigenous peoples and local communities, including over their traditional territories.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
Target 4 Ensure urgent management actions to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species to maintain their adaptive potential, including through *in situ* and *ex situ* conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimise human-wildlife conflict for coexistence.	**4. Plant species conservation** (a) Ensure that extinction risk and conservation status are known, understood and maintained and that assessments are regularly updated, as far as possible, for known plant species. (b) Develop and implement recovery plans for all known threatened plant species, including management plans for pests, weeds and other known threats and drivers of loss, to significantly reduce extinction risk. (c) Promote programmes to ensure that threatened plant species are effectively conserved, managed, monitored and restored using *in situ* and *ex situ* methodologies, aiming to achieve adequate levels of genetic diversity and viable populations and, where appropriate, involving indigenous peoples and local communities. **Conservation of genetic diversity** (d) Undertake *ex situ* and *in situ* conservation programmes for genetic diversity in wild and domesticated plant species and populations, including crops and their wild relatives and other socioeconomically valuable plant species, considering the domestication gradient and the use of surrogates or proxies, ensuring that the genetic diversity within and among populations is effectively documented, managed and monitored, to maintain and restore genetic diversity and safeguard their adaptive potential, taking into account the relevant frameworks and plans of action developed under the Commission on Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations. (e) Establish programmes to ensure that domesticated, cultivated species and crop wild relatives are effectively protected, restored and managed using on-farm and *in situ* methodologies and by applying sustainable management practices using agroecology and other sustainable production practices involving the traditional knowledge of indigenous peoples and local communities, with their free, prior and informed consent. (f) Encourage *ex situ* operations that artificially propagate threatened plant species to seek cooperative measures that would support *in situ* conservation, such as technical support, the contribution of funds, the exchange of specimens for reintroduction into the wild, capacity-building and training, technology transfer, investment and infrastructure.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
Target 5 Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimising impacts on non-target species and ecosystems, and reducing the risk of pathogen spillover, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities.	**5. Sustainable harvesting** (a) Develop and implement strategies to ensure the sustainable and legal harvesting and use of wild plants, including by determining sustainable harvest levels, and for artificial propagation or assisted production, respecting and protecting customary sustainable use by indigenous peoples and local communities. **Trade in plants** (b) Identify wild plants that are currently or likely to be threatened by unsustainable or illegal trade, and support the implementation or development and adoption of national or international guidelines and other measures to ensure that the harvesting of and trade in plants are sustainable, safe and legal.
Target 6 Eliminate, minimise, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent by 2030, and eradicating or controlling invasive alien species, especially in priority sites, such as islands.	**6. Monitoring invasive species** (a) Develop or strengthen early warning and monitoring and tracking systems, including public awareness programmes, at the national and international levels, to prevent, manage and eradicate potentially invasive alien species that affect or may affect native plants and their ecosystems, and put in place measures to manage pathways of introduction. **Controlling invasive species** (b) Address the detrimental impact of invasive alien species on plant diversity and ecosystems by undertaking control or eradication measures, with a focus on areas important for plant diversity and considering the impacts of climate change.
Target 7 Reduce pollution risks and the negative impact of pollution from all sources by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including: (a) by reducing excess nutrients lost to the environment by at least half, including through more efficient nutrient cycling and use; (b) by reducing the overall risk from pesticides and highly hazardous chemicals by at least half, including through integrated pest management, based on science, taking into account food security and livelihoods; and (c) by preventing, reducing, and working towards eliminating plastic pollution.	**7. Impact of pollution on plants** Gather information on, research, assess and provide evidence of pollution risks and their negative impacts, and take action to minimise pollution pressures on plant species and their ecosystems.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
Target 8 Minimise the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimising negative and fostering positive impacts of climate action on biodiversity.	**8. Native plant use in climate mitigation and adaptation** (a) Consider current and projected impacts of climate change on species, species distribution and ecosystems when implementing plant conservation activities, including those undertaken under Targets 2, 3, 4 and 6 of the Framework. (b) Encourage the use of genetically, biologically and ecologically appropriate native plant species, including species of conservation concern, in areas planted for carbon sequestration and in nature-based solutions and/or ecosystem-based approaches for climate mitigation and adaptation, ensuring that such areas are selected appropriately to avoid negative effects and foster positive impacts on biodiversity.
2. Meeting people's needs through sustainable use and benefit-sharing	
Target 9 Ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and those most dependent on biodiversity, including through sustainable biodiversity-based activities, products and services that enhance biodiversity, and protecting and encouraging customary sustainable use by indigenous peoples and local communities.	**9. Plants for peoples' needs** Co-develop and implement programmes with indigenous peoples, local communities and relevant stakeholders to maintain and manage sustainably wild plants that are of socioeconomic and cultural importance, as well as their ecosystems, and to enhance benefits for people.
Target 10 Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches, contributing to the resilience and long-term efficiency and productivity of these production systems, and to food security, conserving and restoring biodiversity and maintaining nature's contributions to people, including ecosystem functions and services.	**10. Sustainable management of production land** (a) Support and put in place sustainable management programmes for existing areas under agriculture, aquaculture, fisheries and forestry and increase the proportion of those areas that are managed sustainably to ensure the conservation and restoration of associated wild plant diversity, including crop wild relatives. (b) Include a special effort to conserve landraces, both *in situ* and *ex situ*, and promote the wider use of landraces to support the diversification of crops and cropping systems. (c) Promote and support actions relating to the conservation of wild relatives of edible species as a clear contribution towards food security.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
Target 11 Restore, maintain and enhance nature's contributions to people, including ecosystem functions and services, such as the regulation of air, water and climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and/or ecosystem-based approaches for the benefit of all people and nature.	**11. Native plants and ecosystem functions and services** Ensure that genetically, biologically and ecologically appropriate and adapted native plant species, including species of conservation concern, are used for the restoration of ecosystems or ecosystem services, including through nature-based solutions and/or ecosystem-based approaches.
Target 12 Significantly increase the area and quality, and connectivity of, access to, and benefits from green and blue spaces in urban and densely populated areas sustainably, by mainstreaming the conservation and sustainable use of biodiversity, and ensure biodiversity-inclusive urban planning, enhancing native biodiversity, ecological connectivity and integrity, and improving human health and well-being and connection to nature, and contributing to inclusive and sustainable urbanization and to the provision of ecosystem functions and services.	**12. Urban green infrastructure** (a) Establish green infrastructure projects focused on plant diversity and connectivity, encouraging the use of native climate-resilient species and preventing the use of invasive alien species in plant diversity conservation programmes in urban areas, and developing and implementing new strategies for promoting the mainstreaming of biodiversity and ecosystem services into urban and territorial planning and management, taking into account coastal urban areas and coastal and marine ecosystems. **Urban plant diversity** (b) Develop, designate and protect biodiversity-rich accessible green and blue spaces in urban areas by establishing or strengthening, inter alia, parks, greenways, ponds, watercourses, wetlands, botanical gardens and arboretums in such areas, and ensure connectivity among those spaces, in order to support biodiversity conservation, environmental education and awareness, and human health and well-being effectively.
Target 13 Take effective legal, policy, administrative and capacity-building measures at all levels, as appropriate, to ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources and from digital sequence information on genetic resources, as well as traditional knowledge associated with genetic resources, and facilitating appropriate access to genetic resources, and by 2030, facilitating a significant increase of the benefits shared, in accordance with applicable international access and benefit-sharing instruments.	**13. Access and benefit-sharing for plant conservation** Support and encourage measures to facilitate appropriate access to plant genetic resources, ensuring the fair and equitable sharing of benefits that arise from the utilization of such resources and associated traditional knowledge, as well as from the use of digital sequence information on plant genetic resources, in accordance with applicable international access and benefit-sharing instruments.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
3. Tools and solutions for implementation and mainstreaming	
Target 14 Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, and fiscal and financial flows with the goals and targets of this framework.	**14. Tools for mainstreaming plant conservation** Provide open and accessible data and develop tools to help to measure and integrate the importance of diverse knowledge systems and the value of plant diversity into policies, regulations, environmental assessments and planning processes, including rural and urban development, poverty reduction strategies and national accounting and reporting mechanisms.
Target 15 Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions: (a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity, including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains, and portfolios; (b) Provide information needed to consumers to promote sustainable consumption patterns; (c) Report on compliance with access and benefit-sharing regulations and measures, as applicable; in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.	**15. Sustainable practices in plant use** (a) Encourage and support the adoption by businesses, in particular large and transnational companies and other sectors that focus on plants of sustainable practices along supply chains for trade in wild plant species, and promote those practices in such sectors as finance, transport, e-commerce and tourism. (b) Promote and support the development of best practices for the monitoring and evaluation of plant use in sustainable production, to support plant conservation and benefits to indigenous peoples and local communities. (c) Provide information needed to consumers to promote sustainable consumption practices in plant use.
Target 16 Ensure that people are encouraged and enabled to make sustainable consumption choices, including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, including through halving global food waste, significantly reducing overconsumption and substantially reducing waste generation, in order for all people to live well in harmony with Mother Earth.	**16. Sustainable consumption** (a) Provide information and guidance, including in the form of trade statistics and data, and capacity-building to inform the development of policies and legislative and regulatory frameworks that recognise the importance of wild plants as a source of food, fibres, medicines, pharmaceuticals and construction material and as a resource for other sectors. (b) Develop and support education programmes on the importance of plants and the impacts of the global footprint of consumption, global food waste and overconsumption on plant diversity.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
Target 17 Establish, strengthen capacity for, and implement in all countries, biosafety measures as set out in Article 8(g) of the Convention on Biological Diversity and measures for the handling of biotechnology and distribution of its benefits as set out in Article 19 of the Convention.	No particular plant conservation action is required under Target 17.
Target 18 Identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, in a proportionate, just, fair, effective and equitable way, while substantially and progressively reducing them by at least 500 billion United States dollars per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.	No particular plant conservation action is required under Target 18, except to support its achievement.
Target 19 Substantially and progressively increase the level of financial resources from all sources, in an effective, timely and easily accessible manner, including domestic, international, public and private resources, in accordance with Article 20 of the Convention, to implement national biodiversity strategies and action plans, mobilising at least $200 billion per year by 2030, including by: (a) Increasing total biodiversity related international financial resources from developed countries, including official development assistance, and from countries that voluntarily assume obligations of developed country Parties, to developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition, to at least 20 billion dollars per year by 2025, and to at least 30 billion dollars per year by 2030; (b) Significantly increasing domestic resource mobilisation, facilitated by the preparation and implementation of national biodiversity finance plans or similar instruments according to national needs, priorities and circumstances; (c) Leveraging private finance, promoting blended finance, implementing strategies for raising new and additional resources, and encouraging the private sector to invest in biodiversity, including through impact funds and other instruments; (d) Stimulating innovative schemes such as payment for ecosystem services, green bonds, biodiversity offsets and credits, and benefit-sharing mechanisms, with environmental and social safeguards;	**19. Financial resources for plant conservation** Support and mobilise resources from a wide range of appropriate sources to carry out plant conservation action

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
(e) Optimizing co-benefits and synergies of finance targeting the biodiversity and climate crises; (f) Enhancing the role of collective actions, including by indigenous peoples and local communities, Mother Earth-centric actions and non-market-based approaches including community-based natural resource management and civil society cooperation and solidarity aimed at the conservation of biodiversity; (g) Enhancing the effectiveness, efficiency and transparency of resource provision and use.	
Target 20 Strengthen capacity-building and development, access to and transfer of technology, and promote development of and access to innovation and technical and scientific cooperation, including through South-South, North-South and triangular cooperation, to meet the needs for effective implementation, particularly in developing countries, fostering joint technology development and joint scientific research programmes for the conservation and sustainable use of biodiversity and strengthening scientific research and monitoring capacities, commensurate with the ambition of the goals and targets of the Framework.	**20. Capacity-building** (a) Establish or strengthen professional training and capacity-building initiatives related to plant conservation, scientific research and monitoring, taxonomy and information management, horticulture, botany, plant conservation biology research, biotechnology and ecological restoration. (a) Establish mechanisms, partnerships and networks to support the accessibility of data, knowledge, technology and South-South, North-South and triangular cooperation for collaborative plant conservation.
Target 21 Ensure that the best available data, information and knowledge are accessible to decision makers, practitioners and the public to guide effective and equitable governance, integrated and participatory management of biodiversity, and to strengthen communication, awareness-raising, education, monitoring, research and knowledge management and, also in this context, traditional knowledge, innovations, practices and technologies of indigenous peoples and local communities should only be accessed with their free, prior and informed consent, in accordance with national legislation.	**21. Public awareness programmes** (a) Develop or implement programmes to raise public awareness of the value of plant diversity and the ecosystem services that they provide. **Plant information systems** (b) Support the development and use of existing comprehensive, authoritative and accessible expertise and online information systems, documentation and inventories, as well as access to biological collections (e.g. through digitisation) at the local, national and international levels, making available to all countries information on their floras and the status of known plant species and associated ecosystems, while ensuring the free, prior and informed consent of indigenous peoples with regard to access to traditional knowledge and taking into consideration the ongoing work and processes carried out under relevant organisations, such as the Food and Agriculture Organization of the United Nations and its Commission on Genetic Resources for Food and Agriculture.

Targets of the Kunming-Montreal Global Biodiversity Framework	Global Strategy for Plant Conservation Voluntary complementary actions for the period 2024–2030
	(c) Explore ways to consider various knowledge systems, including traditional knowledge, innovations, practices and technologies, to support plant conservation action. (d) Promote the continuous updating of the World Flora Online, including its identification support tools, information on plant distribution and the updating of regional floras, as well as the development of other international and national plant databases. **Citizen science** (e) Develop or support citizen science programmes for identifying, documenting, monitoring, conserving, restoring and sustainably using plant diversity, in cooperation with scientific institutions.
Target 22 Ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders.	**22. Plant conservation and traditional knowledge** Ensure the full equitable, inclusive, effective and gender-responsive participation of indigenous peoples and local communities at all relevant levels, with their free, prior and informed consent, in accordance with national legislation, to build respect for and safeguard traditional knowledge, innovations and practices related to the conservation and sustainable use of plant diversity.
Target 23 Ensure gender equality in the implementation of the Framework through a gender-responsive approach, where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognising their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity.	**23. Gender equality** Ensure gender equality in the implementation of plant conservation and restoration actions by proactively implementing a responsive approach, encompassing the recognition of women's rights, equitable access to plant resources and inclusive participation at all levels in decision-making processes, while highlighting the important role of women, as essential knowledge holders, in plant conservation.

Annex 3: Acronyms

ABS	Access to genetic resources and benefit sharing
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species
COP	Conference of the Parties
FAO	Food and Agricultural Organisation
GBO	Global Biodiversity Outlook
GPPC	Global Partnership for Plant Conservation
GSPC	Global Strategy for Plant Conservation
IAS	Invasive Alien Species
IPA	Important Plant Area
IPLC	Indigenous Peoples and Local Communities
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
KMGBF	Kunming Montreal Global Biodiveristy Framework (sometimes just referred to as the GBF)
NGO	Non-government organisation
NBSAPs	National Biodiversity Strategy and Action Plans
OECM	Other effective area-based conservations measures
PIC	Prior Informed Consent
SBI of the CBD	Subsidary Body of the Implementation of the Convention on Biological Diversity
SBSTTA	Subsidary Body on Scientific, Tehnical and Technological Advice (of the CBD)
UN	United Nations
WFO	World Flora Online

Cristian Echeverría

The Global Partnership for Plant Conservation

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- Meet, share experiences and network with other similar institutions and organisations.
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- Get access to information on activities, initiatives and actions taking place across the network.
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Global Strategy for Plant Conservation
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BOTANIC GARDENS CONSERVATION INTERNATIONAL

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Convention on Biological Diversity

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Global Strategy for Plant Conservation
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