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PROTECTED AREAS AND ECOSYSTEM RESTORATION

Note by the Executive Secretary

I. INTRODUCTION

1. At its twelfth meeting, the Conference of the Parties adopted decision XII/19 on ecosystem conservation and restoration. Progress reports on activities undertaken in follow up to that decision are provided in sections III (on ecosystem restoration) and IV (on protected areas) of the present note.

2. In paragraph 8 of recommendation XIX/1, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) requested the Executive Secretary to prepare, in consultation with relevant organizations and stakeholders, including the secretariats of relevant conventions, key elements for a short-term action plan on ecosystem restoration, with a view to the submission of a recommendation from the Subsidiary Body to the Conference of the Parties at its thirteenth meeting.

3. Accordingly, the Executive Secretary has prepared draft key elements for a short-term action plan on ecosystem restoration, annexed to the present note,[1] in collaboration with the United Nations Convention to Combat Desertification (UNCCD), the Society for Ecological Restoration and other members of the Global Partnership on Forest and Landscape Restoration. Background information is provided in section II. A list of guidance and tools that could support implementation of the action plan is provided in an information note (UNEP/CBD/SBSTTA/20/35). Supplementary information from the Society for Ecological Restoration on technical aspects of ecological restoration is provided in information note UNEP/CBD/SBSTTA/20/INF/36 and case-study examples from the International Model Forest Network are provided in document UNEP/CBD/SBSTTA/20/INF/41.

II. BACKGROUND TO THE KEY ELEMENTS FOR A SHORT-TERM ACTION PLAN ON ECOSYSTEM RESTORATION

4. Ecosystem degradation is a growing challenge, not only for biodiversity but for climate change mitigation and adaptation, sustainable development and human well-being generally. The current extent

[*] UNEP/CBD/SBSTTA/20/1/Rev.1.

[1] The annotations to the provisional agenda (UNEP/CBD/SBSTTA/20/1/Rev.1) lists document UNEP/CBD/SBSTTA/20/12/Add.1 "key elements for a short-term action plan on ecosystem restoration". However, the key elements are provided herewith as an annex to the present document rather than as an addendum. The addendum is not being issued.

and trend of ecosystem degradation and the resulting loss of ecosystem services severely threaten the livelihoods of people and the planet's ecological security. Conversely, ecosystem restoration can provide an effective means of ensuring the conservation and sustainable use of biodiversity as well as means of addressing broader societal objectives such as food security and poverty alleviation.

5. Article 8(f) of the Convention, which calls on Parties to "rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies", provides the basis for ecosystem restoration under the Convention.

6. Ecosystem restoration is reflected in the Strategic Plan for Biodiversity 2011-2020 and in Aichi Biodiversity Targets 14 and 15 and is linked to several other targets.[2] The 2050 Vision of the Plan is that "by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people". Scenario analysis undertaken for the fourth edition of the *Global Biodiversity Outlook*[3] suggests that ecosystem restoration will be an essential part of the actions needed to achieve the 2050 Vision.

7. In 2010, the United Nations General Assembly endorsed the Strategic Plan for Biodiversity 2011-2020 as a universally agreed framework for action on biodiversity and a foundation for sustainable development for all stakeholders.[4]

8. The Global Strategy for Plant Conservation[5] also calls for ecosystem restoration in its Target 4. In addition, Target 8 calls for ex situ collections of threatened plant species to be made available for recovery and restoration programmes.

9. The Subsidiary Body addressed ecosystem restoration at its fifteenth meeting. Documents prepared for that meeting and for the eleventh meeting of the Conference of the Parties to the Convention provided comprehensive information on the topic, including on use of terms, ways and means of support, tools and approaches. Further, at its seventeenth meeting, the Subsidiary Body considered policy support tools and methodologies for each of the Aichi Biodiversity Targets.

10. A list of decisions relevant to ecosystem restoration was presented in UNEP/CBD/SBSTTA/15/4. This list is annotated and updated with decisions from the eleventh and twelfth meetings of the Conference of the Parties in an information document (UNEP/CBD/SBSTTA/20/INF/37). In particular, decisions XII/19 and XI/16 invite specific actions by Parties, donors and partners to effectively undertake and support ecosystem restoration, and make requests to the Executive Secretary for capacity-building, tools, and collaboration with partners. The Forest Ecosystem Restoration Initiative (FERI) was welcomed by the Conference of the Parties in its decision XII/19 and it works closely with the Forest and Landscape Restoration Mechanism of the Food and Agriculture Organization of the United Nations to support ecosystem restoration activities under the Convention.

11. On the occasion of the eleventh meeting of the Conference of the Parties, a number of countries and organizations endorsed the Hyderabad Call for Concerted Action on Ecosystem Restoration, which called upon "all Governments, Parties to the Rio Conventions and other Multilateral Environmental Agreements, donor agencies, including the World Bank and regional development banks, private and corporate donors, and business consortia, as well as other relevant international bodies and organizations, indigenous and local community organizations and civil society, to make concerted and coordinated long-term efforts to mobilize resources and facilitate the implementation of ecosystem restoration activities on the ground for sustaining and improving the health and well-being of humans and all other species with whom we share the planet".

[2] https://www.cbd.int/sp/targets/

[3] https://www.cbd.int/gbo4/

[4] See General Assembly resolution 65/161 of 20 December 2010.

[5] https://www.cbd.int/gspc/targets.shtml

12. Many Parties have made commitments to ecosystem restoration within their national biodiversity strategies and action plans, as well as within other forums mentioned below. These commitments are further examined in an information document (UNEP/CBD/SBSTTA/20/INF/38).

13. Ecosystem restoration not only helps to achieve many of the Aichi Biodiversity Targets under the Convention, but also ecosystem-based adaptation and climate change mitigation and the Paris Climate Agreement under the United Nations Framework Convention on Climate Change, land degradation neutrality under the United Nations Convention to Combat Desertification, the wise use of wetlands under the Ramsar Convention on Wetlands, the four Global Objectives on Forests of the United Nations Forum on Forests, commitments under the Convention on the Conservation of Migratory Species of Wild Animals, and the Sendai Framework for Disaster Risk Reduction 2015-2030.[6]

14. Within the Paris Climate Agreement,[7] the role of ecosystems in adaptation and mitigation is highlighted in Articles 7 and 8, the role of forests is highlighted in Article 5, and the concept of carbon pricing is included in the preamble. Countries have made commitments relating to ecosystem restoration within their nationally appropriate mitigation actions, and intended nationally determined contributions. For example, of the 79 developing country Parties and five Annex I countries[8] that have declared their intention to enhance forest carbon stocks in their intended nationally determined contributions or other forums,[9] 36 have quantified the area intended for restoration/ afforestation/reforestation, amounting to a total of over 141 million hectares committed by October 2015.[10]

15. The 2030 Agenda for Sustainable Development[11] includes targets for ecosystem restoration of marine and coastal ecosystems (target 14.2) and terrestrial and inland freshwater ecosystems (target 15.1) as well as a specific target for the restoration of degraded forests (target 15.2) and for the restoration of land and soil (target 15.3) and the mobilization of resources for such purposes (target 15.b). Restoration actions can also contribute to achieving other Sustainable Development Goals, including ending poverty and hunger (Goals 1 and 2).

16. Voluntary commitments for large-scale ecosystem restoration include, among others, the Bonn Challenge, the New York Declaration on Forests, Initiative 20x20, the Great Green Wall for the Sahara and the Sahel Initiative, the African Resilient Landscapes Initiative and the African Forest Landscape Restoration Initiative (AFR100). The Caring for Coasts Initiative, proposed by BirdLife International, is being promoted as part of a global movement to restore coastal wetlands.

17. It is important to note that in addition to these international processes, many restoration projects and initiatives are being implemented through non-governmental organizations, academic institutions, botanical gardens, indigenous peoples and local communities, and through the private sector. For example, many land management activities undertaken by indigenous peoples and local communities contribute significantly to effective, sustainable and cost-efficient conservation and restoration efforts. These efforts should also be captured by countries as they make commitments to and plan and implement ecosystem restoration.

[6] General Assembly resolution 69/283, annex II.

[7] United Nations Framework Convention on Climate Change, Conference of the Parties, twenty-first session, decision 1/CP.21 (see FCCC/CP/2015/10/Add.1). Available from https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

[8] http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php

[9] Other forums in this context include nationally appropriate mitigation actions, bilateral arrangements, the Carbon Fund, and international multi-stakeholder partnerships, such as the New York Declaration on Forests and the Bonn Challenge.

[10] UNEP (2015). *The Emissions Gap Report 2015*. United Nations Environment Programme (UNEP), Nairobi.

[11] General Assembly resolution 70/1, annex.

III. PROGRESS REPORT ON ACTIVITIES ON ECOSYSTEM RESTORATION, INCLUDING COLLABORATIVE ACTIVITIES OF THE SECRETARIAT, PARTNERS AND AGENCIES

18. In paragraph 8 of decision XII/19, the Conference of the Parties requested the Executive Secretary, with regard to the proposed thematic assessment on land degradation and restoration of the Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services to share all relevant information and results with the Platform and to cooperate in the development of next steps, with a view to strengthening synergies and avoiding duplication of work, and to report on progress to the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting prior to the thirteenth meeting of the Conference of the Parties.

19. Accordingly, the Executive Secretary nominated four experts to participate in the thematic assessment on land degradation and restoration of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. While these experts were not accepted as part of the thematic assessment team, the Secretariat has remained in contact with the relevant technical support unit, will participate in the review process, and will advise Convention focal points of the review process. An update on this thematic assessment is presented in an information note (UNEP/CBD/SBSTTA/20/INF/39), and a further update will be provided to the Conference of the Parties at its thirteenth meeting.

20. The Secretariat collaborates on activities such as developing guidance and tools and planning and delivering capacity to support countries in undertaking ecosystem restoration. In carrying out these activities, the Secretariat works with numerous partners, including: the Food and Agriculture Organization of the United Nations and its Forest and Landscape Restoration Mechanism, the United Nations Convention to Combat Desertification and its Global Mechanism, the Ramsar Convention on Wetlands, the United Nations Environment Programme, the United Nations Framework Convention on Climate Change, United Nations Forum on Forests, the Global Environment Facility, the World Bank, the Global Partnership on Forest and Landscape Restoration, the Society for Ecological Restoration, World Resources Institute, International Union for Conservation of Nature, BirdLife International, the Center for International Forestry Research, the International Tropical Timber Organization, organizations representing indigenous peoples and local communities, regional agencies and banks, academia and the private sector.

21. The Secretariat has provided developing country Parties with capacity-building and direct support as part of the implementation of the Forest Ecosystem Restoration Initiative (FERI) supported by the Korea Forest Service of the Republic of Korea. FERI provides capacity-building for developing country Parties and small-scale funding support to forest restoration projects in an effort to support the achievement of Aichi Biodiversity Targets 5, 14 and 15. Direct support has been approved for a project for implementing the national plan on ecosystem restoration in Guatemala, in the context of the Joint ITTO/CBD Initiative for Tropical Forest Biodiversity. Regarding capacity-building, the Secretariat is currently conducting a series of capacity-building workshops for restoration of forests and other ecosystems in support of achieving the Aichi Biodiversity Targets in collaboration with the Food and Agriculture Organization of the United Nations (and its Forest and Landscape Restoration Mechanism) and with the support of other partners. The first capacity-building workshop in this series was conducted for West Africa in October 2015.[12] Further workshops are planned for other regions over 2016-2017. The workshops facilitate the mainstreaming of biodiversity across sectors and bring together national forestry and biodiversity experts to explore planning and implementing ecosystem restoration within the landscape, and means of engaging with the private sector.

[12] For the report of the workshop, see https://www.cbd.int/doc/?meeting=ECRWS-2015-01.

IV. PROGRESS REPORT ON ACTIVITIES ON PROTECTED AREAS

22. The Programme of Work on Protected Areas (PoWPA) has catalysed multiple actions over the decade since its adoption, including: an approximately 3 per cent increase in global terrestrial and inland water protected areas and an approximately 6 per cent increase in marine and coastal protected areas within national jurisdiction; the launch of regional initiatives, such as the Micronesian Challenge, the Carpathian Network of Protected Areas, the Amazon Vison, among others; over US$ 1.5 billion for protected areas provided through the Global Environment Facility; the nomination of more than 150 Protected Areas National Focal Points; a wide array of tools, including 15 e-learning modules; an increase in global and national awareness of the values and benefits of protected areas; and the development of 108 national PoWPA action plans. In decision XI/24 on protected areas, the Conference of the Parties invited Parties to undertake major efforts to achieve all elements of Aichi Biodiversity Target 11. Since May 2015, the Secretariat, in collaboration with partner organizations, has undertaken efforts to reach out to Parties and collect information on the status of each element of Aichi Biodiversity Target 11 and draft priority actions that Parties would undertake in the next five years and whose implementation will contribute to facilitating the achievement of the target at the global level. To date, Parties from mainland Asia, Latin America and the Caribbean were covered through three subregional capacity-building workshops. Detailed information on the status of implementation of Aichi Biodiversity Target 11 at the subregional, regional and global levels from publicly available information and from the outcomes of these three workshops is presented under agenda item 3 (see UNEP/CBD/SBSTTA/20/2).

23. In decision XI/24, the Conference of the Parties welcomed the organization of the Sixth World Parks Congress (WPC). The Congress was held in Sydney, Australia, in November 2014 by the International Union for Conservation of Nature (IUCN). An information document provided by IUCN on the outcomes of the Congress is available to SBSTTA (UNEP/CBD/SBSTTA/20/INF/40), including a progress report on the work of the IUCN World Commission on Protected Areas to develop guidance on criteria for other effective conservation measures.

V. SUGGESTED RECOMMENDATION

The Subsidiary Body on Scientific, Technical and Technological Advice

Recommends that the Conference of the Parties at its thirteenth meeting adopt a decision along the following lines:

The Conference of the Parties,

Recalling Article 8(f) and decisions XI/16 and XII/19,

Welcoming the progress made in the implementation of the Forest Ecosystem Restoration Initiative, supported by the Korea Forest Service of the Republic of Korea,

Noting that the effective implementation of ecosystem restoration not only helps to achieve many of the Aichi Biodiversity Targets, but also the Sustainable Development Goals,[13] ecosystem-based adaptation and climate change mitigation under the United Nations Framework Convention on Climate Change,[14] land degradation neutrality under the United Nations Convention to Combat Desertification,[15] the wise use of wetlands under the Ramsar Convention on Wetlands,[16] the four Global Objectives on Forests of the United Nations Forum on Forests, commitments under the Convention on the Conservation of Migratory Species of Wild Animals,[17] the Bonn Challenge of the Global Partnership on Forest and Landscape Restoration and other initiatives;

[13] See General Assembly resolution 70/1, annex.

[14] United Nations, *Treaty Series*, vol. 1771, No. 30822.

[15] Ibid., vol. 1954, No. 33480.

[16] Ibid., vol. 996, No. 14583.

[17] Ibid., vol. 1651, No. 28395.

1. *Adopts* the key elements for a short-term action plan on ecosystem restoration, as contained in the annex to the present draft decision, as a flexible framework for urgent action towards achieving Aichi Biodiversity Targets 5, 14 and 15, and Targets 4 and 8 of the Global Strategy for Plant Conservation, and other internationally agreed goals;

2. *Urges* Parties to promote action on ecosystem restoration by making use of the key elements of a short-term action plan on ecosystem restoration;

3. *Encourages* Parties, when developing ecosystem restoration plans and when updating national biodiversity strategies and action plans, to take into account existing commitments on ecosystem restoration, including those promoted under other relevant processes;

4. *Urges* overseas development agencies, international finance agencies and other funders, such as regional development banks, to provide support for ecosystem restoration, integrated as appropriate into programmes and initiatives for development, food security, job creation and poverty eradication;

5. *Encourages* relevant organizations, including, as appropriate, members of the Global Partnership on Forest and Landscape Restoration, to promote and support Parties in their efforts to implement short-term action plans on ecosystem restoration;

6. *Requests* the Executive Secretary, subject to the availability of funds, to support the efforts of Parties in making use of the key elements for a short-term action plan on ecosystem restoration by:

(a) Providing capacity-building and tools in collaboration with partners and initiatives, including by implementing the Forest Ecosystem Restoration Initiative in collaboration with the Forest and Landscape Restoration Mechanism of the Food and Agriculture Organization of the United Nations;

(b) Updating the information on guidance, tools and initiatives relating to ecosystem restoration[18] and making it available through the clearing-house mechanism.

[18] UNEP/CBD/SBSTTA/20/INF/35.

Annex

KEY ELEMENTS FOR A SHORT-TERM ACTION PLAN ON ECOSYSTEM RESTORATION

I. OBJECTIVES AND PURPOSE

1. The *overall objective* of the action plan is to promote restoration of natural and semi-natural ecosystems as a contribution to halting the loss of biodiversity, improving ecosystem resilience, enhancing the provision of ecosystem services, mitigating and adapting to the effects of climate change, combating desertification and land degradation, and improving human well-being while reducing environmental risks and scarcities.

2. The *purpose* of the action plan is to help Parties accelerate and upscale activities on ecosystem restoration to support achievement of the Strategic Plan for Biodiversity 2011-2020, in particular Aichi Biodiversity Targets 14 and 15. Aichi Biodiversity Target 15 calls for the restoration of at least 15 per cent of degraded ecosystems by 2020. The action plan can also contribute to the achievement of objectives under other conventions, including the United Nations Framework Convention on Climate Change, the United Nations Convention to Combat Desertification, the Ramsar Convention on Wetlands, the Convention on the Conservation of Migratory Species of Wild Animals, and the United Nations Forum on Forests, as well as the 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction 2015-2030.

3. The *specific objectives* of this action plan are the following:

(a) To identify and communicate the benefits of ecosystem restoration to generate public awareness, support and involvement;

(b) To support and accelerate action in the planning, implementation and monitoring of ecosystem restoration activities at all levels;

(c) To identify and formalize regional, national and local targets, policies and actions for ecosystem restoration.

Scope and scale

4. Ecological restoration refers to the process of actively managing or assisting the recovery of an ecosystem that has been degraded, damaged or destroyed as a means of sustaining ecosystem resilience and conserving biodiversity. Degradation is characterized by a loss or reduction in ecological integrity and/or productivity. Degradation and restoration are context-specific and refer to both the state of ecosystems and to ecosystem processes.

5. The action plan promotes ecosystem restoration across all types of habitat, biomes and ecosystems, including forests, grasslands, savannas and other terrestrial and inland water ecosystems, marine and coastal ecosystems, and, as appropriate, urban environments. The activities can be applied at the national, regional, subnational and site levels within a land- and seascape perspective. Actions intended to reduce, mitigate or reverse direct drivers of degradation, restore ecosystem conditions and processes may be undertaken on a range of scales within a mosaic of land uses, for a range of purposes and with different actors. Actions on the national or regional scale are necessary to provide an enabling institutional framework.

6. The action plan promotes short-term actions that can be undertaken between now and 2020. However, restoration necessarily involves sustained activities over the long term. The short-term actions identified in this plan need be undertaken in the context of the 2050 Vision of the Strategic Plan for Biodiversity and the 2030 Agenda for Sustainable Development.

7. The action plan can be applied, as appropriate, to: (a) cases where ecosystems already under ongoing restoration, (b) degraded ecosystems already identified and considered for restoration, and

(c) degraded ecosystems not yet considered for restoration, by adjusting objectives and actions accordingly.

Principles

8. Ecosystem restoration is not a substitute for conservation, nor is it a conduit for allowing intentional destruction or unsustainable use. Ecosystem restoration is a complement to conservation activities and can greatly enhance the value of protected areas. Where possible, priority should be given to conserving biodiversity and preventing the degradation of natural habitats and ecosystems by reducing pressures and maintaining ecological integrity (see guidance for integrating biodiversity considerations into ecosystem restoration in appendix 1).

9. Ecosystem restoration activities should be undertaken consistent with the provisions of the Convention. In particular, the 12 principles of the Ecosystem Approach are highly relevant for guiding ecosystem restoration activities,[19] as is the United Nations Declaration on the Rights of Indigenous Peoples.[20] Other relevant guidance includes the Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity,[21] the Akwé: Kon guidelines,[22] the Tkarihwaié:ri Code of Ethical Conduct,[23] and the Plan of Action on Customary Sustainable Use of Biological Diversity.[24]

10. Ecosystem restoration activities should be planned and implemented using the best available science and local knowledge. The free, prior and informed consent and full and effective participation of indigenous peoples and local communities and women, as well as the engagement of other relevant stakeholders are crucial at all stages of the processes. Communication, education and public awareness are also crucial at all stages so that the benefits and costs of ecosystem restoration activities are widely understood.

Key elements of the action plan

11. The plan comprises four main groups of activities:

(a) Assessment of opportunities for ecosystem restoration in the light of ecological and institutional realities;

(b) Improving the institutional enabling environment for ecosystem restoration (at the national level or the level of other relevant jurisdictions);

(c) Planning and implementation of ecosystem restoration activities;

(d) Monitoring, evaluation, feedback and disseminating results.

12. An iterative process is likely to be required and there should be feedback among and within these four main groups of activities.

A. Assessment of opportunities for ecosystem restoration

13. To ensure that restoration activities are implemented in areas requiring restoration and are high priority in the light of both ecological and institutional realities, it is imperative to implement broad-scale ecosystem assessments, including mapping. These assessments would be initiated at the national level (or, where appropriate, at the level of subnational or supranational jurisdictions) and adjusted in the light of more detailed assessments that result from the site-level activities under step C below.

[19] https://www.cbd.int/ecosystem/

[20] General Assembly resolution 61/295.

[21] Decision VII/12, annex II.

[22] Decision VII/16 F.

[23] Decision X/42, annex.

[24] Decision XII/12 B, annex

1. **Identify and obtain the free, prior and informed consent and full and effective participation of indigenous peoples and local communities and relevant stakeholders** in the process, including consideration for gender balance, in the identification of priority areas for restoration.

2. **Determine the extent, type, degree and location of degraded ecosystems** on the national scale (including biome-by-biome) and resulting losses of biodiversity and ecosystem services and determine the drivers of ecosystem degradation. Take into account ongoing ecosystem restoration actions, and determine baseline information.

3. **Assess the potential costs and benefits of ecosystem restoration** on the national scale. Benefits may include those linked to biodiversity and ecosystem services, and socioeconomic benefits, such as water and food security, carbon capture and sequestration, jobs and livelihoods, disaster risk reduction (e.g. fire and erosion control, and coastal protection). Costs of inaction may also be significant. Capitalize on the potential for ecosystem restoration to provide ecosystem services or "green infrastructure".

4. **Assess the institutional, policy, and legal framework** and identify financial and technical resources, as well as gaps, for implementing ecosystem restoration. This assessment should be conducted at the national level (or at the level of subnational or supranational jurisdictions, where appropriate).

5. **Reduce and eliminate the drivers of the loss of biodiversity and the degradation of ecosystems at various scales**. Consult with experts and stakeholders to determine what is required, such as: resources; behavioural changes; incentive mechanisms; adopting sustainable land, water, forest, fisheries and agriculture management practices; diversifying land tenure; and recognizing resource rights.

6. **Identify and prioritize areas** where restoration would contribute most significantly to achieving national level targets contributing to the Aichi Biodiversity Targets (such as key biodiversity areas, areas that provide key ecosystem services, and areas that would enhance the integrity of protected areas and their integration into wider land- and seascapes).

7. **Consider the need for safeguard measures** to reduce risks of displacing habitat loss and degradation as well as other risks to biodiversity and indigenous peoples and local communities. (see also "Principles" (paras. 8-10 above) and "guidance for integrating biodiversity considerations into ecosystem restoration" in the appendix).

B. Improving the institutional enabling environment

14. In order to achieve restoration goals, it may be necessary to further develop the enabling institutional framework for ecosystem restoration. This includes providing legal, economic and social incentives, and appropriate planning mechanisms, and fostering cross-sectoral collaboration, to promote restoration and for reducing ecosystem degradation. This work would be informed by the assessments undertaken in step A, and especially A4, and would be undertaken in parallel with the planning and implementation activities undertaken in step C.

1. **Review, improve or establish a legal and policy framework for the protection and restoration of ecosystems.** This may include, as appropriate, laws, regulations, policies and other requirements for protecting, and restoring vulnerable habitats. It may require a certain proportion of land, coast or sea to be maintained in its natural state.

2. **Review, improve or establish a legal and policy framework for land tenure**, and for recognizing the rights of indigenous peoples and local communities.

3. **Review, improve or establish terrestrial and marine spatial planning processes** and zoning activities in the framework of integrated management.

4. **Review, improve or establish national targets, policies and strategies for ecosystem restoration**. These activities should normally be reflected in national biodiversity strategies and

action plans, and/or national plans for sustainable development, climate change mitigation and adaptation and land management. Setting national targets can help to increase political will and public awareness. Existing national targets established under other relevant processes should also be taken into account.

5. **Develop accounting processes** that take into account the values of natural habitats.

6. **Promote economic incentives** and avoid perverse incentives in order to reduce the drivers of ecosystem loss and degradation and promote restoration.

7. **Develop a resource mobilization strategy**. Create a framework for mobilizing resources to support ecosystem restoration, from national, bilateral and multilateral sources, such as the Global Environment Facility, leveraging national budgets, donors and partners, including the private sector, local communities and non-governmental organizations, to support implementation of plans and to fill gaps identified through assessments. Public funds and instruments can be used to leverage private funding through such methods as risk guarantees, payment for ecosystem services, and green bonds.

8. **Promote capacity-building and training** for planning and implementing ecosystem restoration so as to improve the effectiveness of future restoration programmes.

C. Planning and implementation of restoration activities

15. Restoration activities should be planned on the basis of priorities identified under step A and implementation facilitated by actions under step B. Actions will require consultation with stakeholders and experts from various disciplines to assist with all phases of project work (assessment, planning, implementation and monitoring). Capacity-building for stakeholders, including legal and legislative support for the rights of women and indigenous peoples and local communities, may be required.

1. **Identify the most appropriate measures for conducting ecosystem restoration**, based on a range of options and considering ecological appropriateness, cost effectiveness, and support to indigenous peoples' and community conserved territories and areas, and respect for their traditional customary knowledge and practices.

2. **Consider how ecosystem restoration activities can support ecological and economic sustainability** of agriculture and other production activities, as well as climate change mitigation and adaptation, disaster risk reduction, and the needs of urban areas. Restoration needs to be mainstreamed into landscape planning. The expected effects of restoration activities on the ecological function of adjacent lands and waters should be considered, for example through environmental impact assessments and strategic environmental assessments. Possible future environmental changes, such as those resulting from climate change, should be kept in mind.

3. **Develop ecosystem restoration plans that include clear and measurable objectives** for expected environmental and social outcomes as well as indicators for assessing them. In addition to goals and objectives, plans should include the extent and lifetime of the project, the feasibility of mitigating degrading forces, budget and staff requirements, and a coherent plan for monitoring project implementation and efficacy. Project goals should include the desired future condition of the areas being restored, and the ecological and socioeconomic attributes of the reference ecosystem(s) to be achieved. In addition, goals should explicitly specify ecological and social targets (e.g., biomass of vegetation, jobs), and for each target an action (e.g., reduce, increase, maintain), quantity (e.g., 50%), and timeframe (e.g., 5 years). Objectives should then be developed to detail the specific steps required to fulfil the goals.

4. **Develop explicit implementation tasks, schedules, and budgets**. Anticipated details of implementation, including site preparation, installation, or follow-up activities, should be considered. In addition, performance standards should be explicitly stated, along with questions to be addressed through monitoring and the protocols that will be used to examine project success

at specified intervals during restoration. Integral to monitoring and evaluation is the establishment of standards for data collection, management and retention, analyses, and sharing of lessons learned.

5. **Implement the measures outlined in the ecosystem restoration plan** to conserve, manage sustainably, and, where necessary, restore degraded ecosystems and landscape units in the most effective and coordinated manner possible, making use of existing science and technology and local knowledge.

D. Monitoring, evaluation, feedback, and disseminating results

16. Monitoring activities should begin during the earliest phases of project development to enable ecosystem conditions and socio-economic effects to be measured against a reference model. Effective monitoring requires extensive planning prior to initiation of restoration activities, including establishing baselines. Monitoring results and the lessons learned on the outcomes of activities under B and C should be documented, analysed and used to support adaptive management.

1. **Assess the efficacy and effects of implementing the ecosystem restoration plan**, including the success of ecosystem restoration activities, the environmental benefits and financial costs. This should be done in close collaboration with relevant stakeholders and be based on the questions and analysis set out in the monitoring section of the restoration plans (step C above).

2. **Adjust plans, expectations, procedures, and monitoring through adaptive management** based on monitoring results and lessons learned and ensure continuity beyond the project end, including through collegial management.

3. **Share lessons learned** from planning, implementing and monitoring ecosystem restoration plans in collaboration with researchers, including across ministries and with the public to demonstrate the practices and areas that provide multiple benefits of ecosystem restoration, identify unintended consequences, and improve outcomes of future restoration efforts both locally and in other sites within a given biome or further afield.

Supporting guidance, tools, organizations and initiatives relating to ecosystem restoration

17. Relevant guidance and tools developed under the Convention, and those developed by partner organizations and initiatives, as well as relevant organizations and initiatives are provided in information document UNEP/CBD/SBSTTA/20/INF/35 and will be made available on the clearing-house mechanism.

Appendix

GUIDANCE FOR INTEGRATING BIODIVERSITY CONSIDERATIONS INTO ECOSYSTEM RESTORATION

- Address the drivers of biodiversity loss, including land-use change or habitat change, degradation and fragmentation, over-exploitation, pollution, and invasive alien species: conservation should be prioritized, as ecosystem restoration generally costs more than avoiding degradation, and the loss of some species and ecosystem services might not be recoverable. Further, natural habitats act as refugia for species that can offer restoration opportunities to other areas.

- Aim to restore ecosystems to the condition they would have been in if degradation had not occurred, recognizing that, particularly under climate change, this may not always be achievable.

- Avoid the afforestation of grasslands and ecosystems with naturally low tree cover, noting that ecosystems may not always be homogenous, and non-climax ecosystems could naturally have areas without forests.

- Traditional disturbance regimes (e.g., under fire or grazing) may be important for ecosystem structure and functioning, and may need to be maintained or restored.

- Make use of research into the functions of species in the ecosystem: due consideration should be given to the restoration of species directly providing ecosystem services and functions, such as seed dispersal, pollination, and maintaining the food web (such as key predators) and nutrient flows.
- Take into consideration the fact that natural regeneration may allow a degraded area to recover on its own after stressors have been removed or reduced. If active restoration is required, such as removing invasive alien species, reintroducing native plants and animals, and revitalizing soils and hydrological processes, this will generally require greater resources over a greater period of time.
- If ecosystem restoration is being aided by planting, make use of native species, giving attention to genetic variation within and among native species, their life histories and the consequences of their interactions with each other and with their environment.
- Site-based actions should be taken in the context of integrated land- and seascape management practices. For example: priority can be given to restoring ecosystem services within a mosaic of land uses; or promoting ecological connectivity and biodiversity conservation through ecosystem restoration in proximity to species refugia (e.g., protected areas, key biodiversity areas, important bird and biodiversity areas, and Alliance for Zero Extinction sites) creating buffer zones, or connectivity corridors between them.
- Prevent the introduction of those alien species which threaten ecosystems, habitats or species: if the use of alien species is being considered, for example to initially stabilize severely degraded soils, this should, in particular, be guided by sound science and the precautionary approach in order to avoid loss of habitat and species due to invasive alien species.

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