

Annex 2. Indicative activities and sub-activities

The activities and sub-activities presented in the table below are indicative because it is not known which partners will contribute to their implementation. Commitments to undertake specific activities will take place during the course of the Decade as partnerships are developed and funds are raised. A wide range of potential activities are presented, including suggestions from stakeholders who commented on the online draft strategy. Roles and responsibilities will be collaboratively developed with core partners at the outset of the Decade and will be presented in an Implementation Plan (which will be made available online on the Decade's website).

UN Decade on Ecosystem Restoration: Indicative activities and sub-activities
Pathway 1. Global Movement
Increased knowledge and awareness globally on ecosystem restoration opportunities
<p>Establish a digital hub to facilitate a global movement on ecosystem restoration.</p> <ul style="list-style-type: none"> • Design and operationalise a digital hub to promote interaction, dialogues and exchange of data with the global movement. Indicative sub-activities are listed below. <ul style="list-style-type: none"> ○ Connect existing relevant platforms that have a strong track record of engagement with users of the hub. ○ Identify appropriate methods of information dissemination for different groups and scales, including marginalised groups such as women, girls and indigenous peoples. ○ Develop and publish 'calls to action' on the hub for individuals, governments, corporates and NGOs to contribute to the Decade. ○ Create a platform on the hub for individuals and organisations to establish virtual communities that can develop their own calls to action, implementation plans and deliverables. ○ Make materials available to the global movement through the hub on <i>inter alia</i>: root causes of degradation; the threats that degradation and climate change pose to society; definitions of ecosystem restoration; the costs/benefits of ecosystem restoration; the design, implementation and sustainability of ecosystem restoration initiatives; and how ecosystem restoration can support the achievement of all the SDGs. Materials will include those that already exist, as well as those produced under the Decade. ○ Track the progress/impact of the global movement's efforts using the hub. ○ Promote coordination between existing restoration initiatives at local, national, regional and global levels. ○ Provide a database/inventory of past and current restoration projects, conventions, organisations and other groups or initiatives relevant to restoration (using the Society for Ecosystem Restoration database as a platform). ○ Link to Mentor-Protégé initiatives that couple small local firms with international corporates involved in ecosystem restoration. ○ Use an adaptive management approach to adjust and hone the design and functionality of the hub as needed. This includes ensuring that the hub is functional on mobile phones and that the design of the hub changes through the course of the Decade as hardware and software evolves.
<p>Disseminate information on the digital hub on a wide range of topics relevant to ecosystem restoration. This will include materials that already exist, as well as new materials produced under the Decade.</p>
<p>Promote the Decade through a wide range of channels.</p> <ul style="list-style-type: none"> • Develop and circulate TV shows, radio shows, newspaper articles, magazine articles, films, webinars, video games and videos on ecosystem restoration benefits. • Publicise the Decade using social media channels, including Instagram, Twitter and popular YouTubers. • Host dialogues on a wide range of topics related to ecosystem restoration (see examples at the bottom of this table) using online platforms, webinars, communities of practice, TV and local radio stations. Communication should be in as many languages as possible. • Propose activities focussing on two to three SDG themes per year, based on the themes set for review by the High Level Political Forum in New York in June/July each year. • Hold competitions, through for example the X Prize Foundation, to catalyse advances in monitoring ecosystem restoration success. This could include: measuring soil organic carbon remotely; using remote sensing and unmanned aerial vehicles for monitoring environments that are currently difficult to assess remotely; and developing smartphone applications that provide information on ecosystem restoration success and can channel funds/payments to ecosystem restoration practitioners on the ground. • Partner with media organisation and social media actors. This would be undertaken in an organic, iterative manner to ensure alignment with what audiences expect from social media personalities. • Partner with artists who can promote the Decade through <i>inter alia</i> sculptures, paintings, drawings and films. • Partner with advertising and marketing agencies, as well as global news outlets. • Align the Decade with existing global awareness-raising events such as Earth Day.
Societal behaviours and perceptions shifted with regards to best practices for restoring ecosystems globally
<p>Establish a task force to develop a standards-based approach to ecosystem restoration, capitalising on existing materials wherever feasible.</p> <p>The task force will comprise representatives of <i>inter alia</i> Decade core partners and experts within the global movement to integrate standards of ecosystem restoration across existing initiatives for use in the development of a range of guidelines. These representatives will include women, youth, indigenous peoples and other marginalised groups. Activities to be facilitated or undertaken by the task force will be developed by the task force's constituents. Proposed activities are listed below.</p> <ul style="list-style-type: none"> • Develop guidelines on how to communicate and implement a standards-based approach across current and future ecosystem restoration initiatives. • Develop sector-specific ecosystem restoration standards consistent with international standards. • Develop guidelines on which social, economic and environmental criteria to use for assessing how activities are contributing to an ecosystem restoration goal (e.g. criteria relating to FPIC and VGGT).

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- Develop guidelines on appropriate global goals for ecosystem restoration and local- or national-level targets, including those within global conventions, such as the SDGs.
- Develop a global scorecard to measure outcomes and effectiveness of initiatives aligned with the Decade and to assess whether a net gain in extent of healthy ecosystems has been achieved.
- Collaborate with the International Standards Organization (ISO) to include ecological ecosystem restoration in existing and new standardization processes.
- Collaborate with and/or manage the IUCN-convened Scientific Board (to be initiated in 2020) that will focus on the theme 'Restoration with Care'.

Establish a task force to develop global calls to action for global leaders to prioritise ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

The task force will comprise representatives of *inter alia* Decade core partners and experts within the global movement to assist global leaders (in the public and private sector) to prioritise ecosystem restoration and communicate how it cuts across numerous global challenges. These representatives will include women, youth, indigenous peoples and other marginalised groups. Activities to be facilitated or undertaken by the task force will be developed by the task force's constituents. Proposed activities are listed below.

- Develop a conceptual framework for a new values-based imperative on ecosystem restoration for societies globally.
- Develop guidelines on topics, such as: i) root causes of degradation in different ecosystems and practical ways to address them; ii) threats posed to human health and well-being as a result of ecosystem degradation; iii) appropriate changes in consumption patterns and diets to catalyse global ecosystem restoration; and iv) supporting ecosystem restoration value chains to promote ecosystem restoration.
- Develop training courses tailored for heads of state, cabinet ministers, parliamentarians, heads of corporations and heads of NGOs on opportunities for ecosystem restoration.
- Showcase successful ecosystem restoration initiatives (large and small).
- Identify and promote ecosystem restoration champions at local, national and global scales.
- Work with multi-disciplinary teams to prepare investment cases for ecosystem restoration.
- Develop plans for engaging with governments to present investment cases and raise awareness on potential for changes in infrastructural spending, capitalising on existing plans wherever feasible.
- Draft templates of legal documents pertaining to financial and institutional arrangements for catalysing investments in large-scale ecosystem restoration.
- Review global and local funds that focus primarily on ecosystem restoration to identify means for expanding and/or replicating them to catalyse large-scale ecosystem restoration globally.

Establish a task force to develop local calls to action for locally-specific ecosystem restoration opportunities, capitalising on existing initiatives and materials wherever feasible.

The task force will comprise representatives of *inter alia* Decade core partners and experts within the global movement to assist local leaders and communities to prioritise ecosystem restoration. These representatives will include women, youth, indigenous peoples and other marginalised groups. Activities to be facilitated or undertaken by the task force will be developed by the task force's constituents. Proposed activities are listed below.

- Quantify ecosystem restoration opportunities in particular landscapes and seascapes (using, for example, tools such as IUCN's ROAM), including costs and benefits, opportunities for scaling up, types of restoration, and the trade-offs across economic sectors.
- Undertake a stocktake of ecosystem restoration opportunities at a national level, including how to embed ecosystem restoration into policy processes (e.g. NDCs) and investment decisions by ministries of finance.
- Develop guidelines on how to prepare business plans with multi-disciplinary teams with a focus on: i) sophisticated packaging for an investor audience; ii) financial modelling; iii) sensitivity analyses; iv) long-term cash flows; v) internal rates of return; and v) preparations needed for investor road shows.
- Identify bankable ecosystem restoration projects, assist ecosystem restoration practitioners prepare bankable business plans and introduce suitable investors to the projects. Such projects could be led by private sector companies, individuals and/or local communities.

Package technical content developed for a wide range of audiences, capitalising on existing initiatives and materials wherever feasible.

- Identify appropriate mediums of communication for different target audiences, including marginalised groups such as women, youth, indigenous peoples and local communities.
- Prepare a wide range of materials on ecosystem restoration, including results from the Decade's task forces, for dissemination. These materials could include for example YouTube clips, media articles, films, radio shows, books, reports, manuals and peer-reviewed scientific papers. Examples of topics to be covered by these materials are presented at the end of this table.

Ecosystem restoration mainstreamed into education systems globally

Develop content on ecosystem restoration to include in primary, secondary, tertiary and adult education systems, capitalising on existing initiatives and materials wherever feasible.

- Produce detailed evidence-based learning materials on causes of degradation, benefits of restoration, and the methods of restoration, in partnership with local institutions to ensure content is relevant to the local context. These materials will be included in school and university courses on a wide range of subjects, including *inter alia* ecology, economics, engineering, geography, literature, mathematics, statistics, business studies, agronomy, journalism, politics and social science. The subject matter should include information on freshwater and marine systems as well terrestrial systems.
- Promote hands-on ecosystem restoration activities in extra-curricular classes.
- Publish educational material under licensing that allows open distribution and adaptation of its contents, such as the Creative Commons license or the GNU Free Document License.

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- Share educational material directly with teachers and lecturers.

Assist schools, colleges and universities in designing, implementing and sustaining ecosystem restoration plots, capitalising on existing initiatives and materials wherever feasible.

- Develop school lessons and college/university lectures to be conducted within the ecosystem restoration plots.
- Tailor lessons and lectures for both in-field (in degraded and intact landscapes) and in-classroom learning.
- Encourage the planting and maintenance of gardens on school and university properties.

Investments into large-scale ecosystem restoration catalysed

Undertake national scenario analyses showing the range of development pathways with and without ecosystem restoration (with associated costs and benefits), capitalising on existing initiatives and materials wherever feasible.

- Assist governments and the private sector to model the full suite of socio-economic and environmental benefits associated with large-scale ecosystem restoration in sub-national and site-level contexts (using tools such as IUCN's ROAM).

Develop a range of options for structures of global funds, local funds and public-private partnerships (PPPs), capitalising on existing initiatives and materials wherever feasible.

- Engage with governments to invest in research and development that generates innovative approaches for upscaling ecosystem restoration through different funds and through PPPs.
- Engage with international and local finance institutions to unlock funding for large projects aimed at achieving structural transformation at the national and international scale, as well as smaller projects focussed on restoration at the community level.
- Raise awareness and promote innovative financing instruments for ecosystem restoration, including ecosystem services bundling, payments for ecosystem services and green bonds

Facilitate government and private sector investment in PPPs, value chain development and the implementation of business plans, capitalising on existing initiatives and materials wherever feasible.

- Undertake market studies and gap analyses of value chains that can potentially facilitate ecosystem restoration (e.g. timber and NTFPs).
- Provide materials and tools to governments and the private sector for facilitating the production of appropriately packaged, bankable business plans.
- Support governments and other stakeholders in establishing frameworks for implementing payment for ecosystem services and green bonds

Pathway 2. Political will

Policy reforms that promote large-scale ecosystem restoration developed and implemented

Develop a range of options (which can be tailored for use in different local contexts) for structures rights-based tenure arrangements, subsidies and tax incentives to promote ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

- Undertake technical studies to assess the social, economic and environmental effects of shifting fossil fuel, fisheries, forestry and agricultural subsidies to investments in ecosystem restoration at local, national and global levels.
- Develop guidelines for adjusting fossil fuel, fisheries, forestry and agricultural subsidies to catalyse large-scale ecosystem restoration.
- Develop guidelines on how to apply the UN Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in restoration initiatives.
- Establish platforms for cross-governmental and cross-sectoral dialogues on the effects of subsidies on ecosystems and the potential for adjusting subsidies to promote ecosystem restoration (e.g. through the World Trade Organisation for cross-governmental dialogue and through the Decade's digital hub for cross-sectoral dialogue).
- Hold dialogues focussed on specific subsidy types and topics. For example, some dialogues could focus on the point that the UN Secretary General has repeatedly stated in 2019 and 2020 that all fossil fuel subsidies should be stopped. Methods for diverting current fossil fuel subsidies to post-COVID-19 economic recovery, including investments in ecosystem restoration, could be presented in such a dialogue.
- Disseminate the outcomes of the above-mentioned dialogues on the digital hub.

Develop a range of methods (which can be tailored for use in different local contexts) for enhancing the enabling environment for SMMEs focussing on ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

- Develop guidelines on how to enhance access to finance for marginalised groups such as women, girls, indigenous peoples and local communities that often don't have the credit history or collateral required by commercial banks or microfinance institutions.
- Develop guidelines on how to include local entrepreneurs, local producer organisations and smallholder producers in the development of natural resource-based enterprises which use goods and services from restored ecosystems.
- Develop guidelines on how local restoration practitioners can use the UN brand of the Decade to lift their projects beyond the local context and provide international credibility.

Develop monitoring and reporting systems to highlight the effects of fossil fuel, fisheries and agricultural subsidies at a national level versus the benefits of channelling subsidies towards ecosystem restoration.

Cross-governmental and cross-sectoral collaboration on ecosystem restoration increased

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Initiate dialogues between governments, non-governmental organisations (NGOs) and across sectors on how to innovate and catalyse large-scale ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

- Establish appropriate platforms for the dialogues (e.g. through the Decade's digital hub).
- Provide technical material for the dialogues. Topics will be determined based on the specific country context and taking the barriers listed in Annex 1 into account. Examples of such topics are presented at the end of this table.

National ecosystem restoration opportunities championed by Heads of State, Ministers of Finance, Ministers of Planning and Development and business leaders

Initiate dialogues for Heads of State, Ministers of Finance, Ministers of Planning and Development (or equivalent officials) and business leaders capitalising on existing initiatives and materials wherever feasible.

- Establish appropriate platforms for the dialogues (e.g. through the Decade's digital hub).
- Provide technical material for the dialogues and trainings.
- Develop guidelines on how to collect the appropriate data for including ecosystem restoration in national accounting systems, avoiding the use of proxy data and associated inaccuracies.
- Collate and communicate existing best practices and restoration initiatives catalysed by government funding globally.

Pathway 3. Technical capacity and scientific knowledge

Methods for designing, implementing, monitoring and sustaining ecosystem restoration initiatives improved and disseminated to ecosystem restoration practitioners globally

Establish a task force to produce and promote scientific research and technical content on ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

The task force will comprise representatives of *inter alia* Decade core partners and experts within the global movement to provide standards and guidelines to reduce the uncertainty of ecosystem restoration outcomes. These representatives will include women, youth, indigenous peoples and other marginalised groups. Activities to be facilitated or undertaken by the task force will be developed by the task force's constituents. The findings and outputs of the task force will be shared via the digital hub. Proposed activities are listed below.

- Undertake in-depth analyses of case studies on large-scale ecosystem restoration globally, including successes and failures, to identify critical factors leading to success.
- Develop guidelines on how to assess ecosystem restoration potential (based on existing methods of multi-stakeholder planning and implementation processes) and how to prioritise ecosystem restoration activities within different land and seascapes.
- Facilitate a comprehensive gap analysis process that identifies gaps in resources, training needs and technical knowledge/research needs, prior to developing new resources.
- Develop a framework for measuring socio-economic and biophysical improvements achieved through ecosystem restoration in terrestrial, freshwater and marine ecosystems, including outcome indicators and metrics, using the Society for Ecological Restoration's standards as a starting point. This framework would include the use of baseline/reference ecosystems for quantifying the progression of the restoration.
- Advise on how to monitor outcome indicators and metrics, including using remote sensing technology.
- Facilitate the use of existing sets of protocols, tools and training mechanisms for restoration of specific landscapes and seascapes, and where necessary develop additional sets. These sets will include methods for the design, implementation and maintenance of the interventions, and will focus on achievement of ecosystem restoration standards and targets. They will also include standards for ensuring sufficient scientific evidence is collected at a site level to minimise the risk of unintended negative consequences from interventions (e.g. inappropriate tree species being used in the restoration). An example of such a standard is the European Committee for Standardization (CEN) standard being developed for river restoration in Europe.
- Develop a set of guidelines for assessing and taking into account the prevailing socio-economic and biophysical conditions at individual ecosystem restoration sites to ensure *inter alia*: i) appropriate incentives are in place for communities to support the long-term maintenance of the restored environment; ii) environmental, social and human rights standards are incorporated; iii) gender considerations are appropriately incorporated.; iv) free, prior and informed consent is obtained; and v) necessary social safeguards are in place.

Facilitate the development of guidelines and/or training courses on specialised topics relating to ecosystem restoration. Examples of such topics, provided by stakeholders commenting on the online draft strategy, are presented at the end of this table.

Facilitate the development of technology (and/or improve existing systems) for designing, implementing, monitoring and evaluating large-scale ecosystem restoration, capitalising on existing initiatives and materials wherever feasible.

- Facilitate citizen science programmes to monitor and evaluate large-scale ecosystem restoration initiatives.
- Establish long-term research programmes within university and state organisations to monitor and evaluate large-scale ecosystem restoration initiatives over decades.
- Use the Decade's digital hub to disseminate tools and protocols on ecosystem restoration.

Develop an Ecosystem Restoration Starter Kit for organizations and individuals who want to be involved in ecosystem restoration activities.

- Develop, publish and disseminate an Ecosystem Restoration Starter Kit, comprising a Basic Starter Kit and a more detailed Ecosystem Restoration Handbook. The basic kit will act as both introductory material and as a framework for developing the more detailed handbook. It will be designed using a similar structure to that of the ESRAG and World Environment Day Handbook, and will include explanations of what ecosystem restoration is and why it is important. Examples of how to become involved in ecosystem restoration — locally, regionally and globally — either by initiating a new, or a joining an existing initiative will be provided. In addition, the starter kit will describe the Decade's three pathways to ecosystem restoration, and the barriers inhibiting them. The handbook will build on the framework established in the basic kit, expanding on the themes and plans therein whilst also providing examples for engagement and pathways forward. It will focus predominantly on assisting organisations to capitalise on ecosystem restoration opportunities.

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Topics for dialogue, analysis, presentation and dissemination within Pathways I, II and III, with a focus on the ultimate goal of catalysing ecosystem restoration.

The topics presented below were raised by stakeholders during the development of the draft strategy and in feedback received on the online draft strategy. Each topic could, as a first step, be used as a theme for a webinar or a workshop in a conference setting. The outcomes of such webinars or workshops should be further agreed steps towards actions that directly catalyse or contribute to catalysing large-scale ecosystem restoration.

Topics relating to social factors, institutions, governance

- The value of indigenous and traditional knowledge for restoration initiatives.
- Showcasing restoration initiatives led by marginalised groups such as women, youth, indigenous peoples and local communities.
- How to incentivise individuals and local communities to make long-term investments in ecosystem protection and restoration, including the sustainable use of resources from rangelands, forests, wetlands, fisheries and agro-ecological food systems.
- Tools and methods for mediating conflicts between different stakeholder groups.
- The use of cities as hubs of innovation for ecosystem restoration by connecting existing urban networks and platforms that focus on green spaces and nature.
- Methods for disseminating materials to communities and individuals without access to the digital hub and social media (e.g. through outreach programmes and awareness-raising campaigns).
- The tailoring of materials (for a wide range of different stakeholders, including for example governments, policymakers and investors) on economic and social impacts of “business as usual” operations (i.e. without large-scale ecosystem protection and restoration interventions).
- Methods for analysing failures in ecosystem restoration initiatives to develop a culture of learning from mistakes.
- Disinformation and misinformation relating to ecosystem restoration, with an analysis of why the information is misleading and, where possible, identifying specific market forces or companies that are contributing to the spread of such information.
- Methods for collaborating with disaster reduction agencies, networks and researchers to minimise disaster risks through large-scale ecosystem restoration.
- Developing a common understanding and language of ecosystem restoration to facilitate cross-sectoral dialogues and to cater for the wide diversity of perceptions, expectations and barriers related to restoration.
- The role of regulators (e.g. environmental protection agencies) in compliance and enforcement of ecosystem protection and restoration.
- Applying the principle of free, prior and informed consent in ecosystem restoration initiatives.
- How to apply the UN Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT), in the context of ecosystem restoration, within ministries, between governments and people, and within civil society.
- Links between ecosystem restoration and achieving SDGs at a national level (tailored for a diversity of audiences, including government, NGOs and the general public).
- Leveraging existing societal support for clean-up operations of polluted sites (e.g. heavy metals, organics) to upscale restoration.
- Opportunities for the tourism industry to engage in ecosystem restoration.
- Methods for conducting, in addition to environmental and social impact assessments, Human Rights Impact Assessments, that explicitly include cultural rights.
- Exploring the concept of ‘humans in nature’ and a values-based imperative for ecosystem restoration.
- Defining the roles of different stakeholders. For example, the multi-faceted roles of NGOs in catalysing restoration is important to document and explain to stakeholders. One such role is the provision of platforms for effective communication amongst the general public, scientists, governments, UN agencies, policymakers and the private sector.
- Guidance for practitioners and stakeholders in rights recognition, community-based monitoring, and establishing forums for autonomous transfer of inter-generational knowledge, in local languages, with the inclusive participation of women and youth.
- Identifying international organisations which have experience in developing and implementing methodologies to assess ecosystem services and supporting the development of policy measures, programmes and projects aimed at ecosystem services restoration. Such organisations can play an important role in promoting political dialogue and providing support to local and national governments.
- Supporting indigenous peoples to plan, finance and implement large-scale ecosystem restoration. Establish a forum for indigenous peoples to exchange experiences on restoration initiatives, many of which are ambitious in scale (see e.g. the Dja Dja Wurrung Country plan¹).
- Supporting civil society organisations and networks in developing tools and testing applications that facilitate grassroots, locally-based ecosystem restoration projects.
- Addressing priority governance gaps relating to large-scale carbon dioxide removal (including around accounting, research investment and implementation and monitoring and reporting) as identified in the IPCC Special Report on 1.5°C Global Warming, 2018².
- Developing and incorporating qualitative measures of restoration success (including the quality of the ecosystem and the livelihoods being supported), alongside quantitative measures (such as area restored and number of trees planted) into monitoring and evaluation activities.
- Methods to work in a fully inclusive manner with marginalised groups (including women, youth, indigenous peoples and local communities) on the design, implementation and long-term maintenance and operations of ecosystem restoration initiatives.
- Methods for expanding a professional workforce in governments, NGOs and private companies to plan, advocate for, fund, and implement ecosystem restoration.

¹ <http://www.djadjaurung.com.au/wp-content/uploads/2015/11/Dja-Dja-Wurrung-Country-Plan.pdf>

² IPCC. 2018. Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf

- Applying restorative justice approaches to engage civil society actors, especially youth organisations, women and indigenous peoples, in national policy planning and implementation of ecosystem restoration.
- Enhancing social and environmental justice to ensure good governance over natural resources, including equitable land tenure and resource rights, particularly among indigenous peoples and local communities.
- Introducing legislation, policies and/or regulations that incentivise the private sector to invest in ecosystem restoration in both the short- and long-term.
- Developing mechanisms of enforcement of legislation and regulations related to ecosystem protection and restoration.
- Ensuring that ecosystem restoration is central to all resource use planning processes and is incorporated into national health, infrastructure and security planning;
- Adjusting development policies that inadvertently promote ecosystem degradation.
- Leveraging existing international commitments within MEAs and fostering collaboration among these instruments on ecosystem restoration.
- Training government staff in public policy schools on ecosystem restoration.
- Investing in communication campaigns on ecosystem restoration.
- Developing replicable project units at a local scale and regional epicenters of expertise to coach the units as well as negotiate with central government.

Topics related to finance and economics

- The role of the fossil fuel industry and extractive industries such as mining in ecosystem restoration globally.
- The value of non-economic (e.g. cultural, religious, aesthetic) benefits of ecosystem restoration.
- Strategies to generate the information/data needed for including ecosystem restoration into national accounting systems. This is especially important for developing countries, which often have to resort to using proxy data or inaccurate estimations in their accounting systems.
- Reforming taxation to include green taxes for ecological restoration.
- The role of the finance sector in ecosystem restoration.
- Using divestment strategies to reduce ecosystem degradation.
- Best practices on implementing payment for ecosystem services and green bonds.
- Incorporating data on ecosystem restoration into routine national accounting.

Topics related to science and technology

- The use and value of ‘novel ecosystems’, comprising indigenous as well as non-indigenous species of fauna and flora. Such ecosystems may be pragmatic restoration outcomes in areas where climate change or extreme pollution limits the potential to restore the ecosystem with indigenous species.
- The role of food production and dietary habits in ecosystem degradation.
- The diversity of new concepts and terminology associated with ecosystem restoration (e.g. rewilding and geotherapy).
- Ecosystem restoration in urban areas, including methods, planning and implementation.
- Integrating indigenous knowledge into evidence-based restoration initiatives.
- The benefits of ecosystem restoration to human health.
- Changes in the rates of degradation in different ecosystems at a global level.
- The contribution that specific systems (e.g. free-flowing rivers, seagrass beds, marine fisheries) can make in adapting to climate change and conserving biodiversity.
- Management of alien invasive species in restored ecosystems.
- The importance of ecological connectivity in restoring ecosystem functioning and how to incorporate this concept into natural resource planning and management.
- The role of soil microbiology in the success of ecosystem restoration initiatives.
- The potential role of forestry in large-scale ecosystem restoration.
- Methods for ensuring sufficient genetic diversity in restored ecosystems to increase resilience to climate change and other environmental changes.
- National and subnational assessments of seed and seedling requirements to meet restoration objectives.
- The concept of resilience in ecosystem restoration, including the principles of managing diversity, redundancy, connectivity, feedback loops and complex systems.
- Building the capacity of subnational and local governments to partake in decision-making processes on natural resource use and to plan, design, implement and sustain large-scale restoration initiatives. National governments are often constrained in their capacity to implement on the ground, and consequently need to rely on subnational and local government entities.
- Methods for facilitating synergies and agreements on appropriate restoration targets at a local, national and global scales.
- Standards for quantifying the health benefits, ‘ecological lift’ and increased availability of water and quality of water as a result of large-scale ecosystem restoration.
- Methods for identifying areas of highest priority and urgency for protection and restoration of ecosystems.
- Methods for minimising pollution and contamination (e.g. nutrient loads, persistent organic pollutants, metals and plastic debris) in conserved and restored ecosystems (especially freshwater and estuarine ecosystems, which are particularly vulnerable to these disturbances).
- Inventories of existing good practices, methodologies, tools and guidance for: the assessment of ecosystem services; the development of related legal frameworks; and practical measures to catalyse ecosystem restoration across different sectors and ecosystems.
- Incorporating lessons learned in paludiculture (sustainable management of peatlands through wet agriculture) pilot projects into peatland ecosystem restoration worldwide.
- Researching and communicating information on how ecosystem restoration could be beneficial in preventing and addressing future global pandemics.
- Archetype analyses³ to facilitate decision-making for achieving sustainability of restoration initiatives, upscaling of restoration and transfer of knowledge.

³ see e.g. <https://www.ecologyandsociety.org/vol24/iss3/art6/ES-2019-10855.pdf>

- Showcasing and researching restoration in grasslands and savannas. Critical activities would include: determining the rate of loss, level of threat and location of degraded grasslands and savannas globally; building capacity to conduct research on grassland and savanna ecology; and collecting the traditional knowledge on management of these ecosystems.
- Establishing long-term research programmes within university and state organisations to monitor and evaluate large-scale ecosystem restoration initiatives over decades, as exemplified by long-term forest and savanna landscapes monitoring and research plots.
- Identifying and disseminating information on existing restoration reporting systems. For example, with regards to marine restoration, the Regional Sea Conventions and other ocean-related processes have developed the following reporting mechanisms: the Barcelona Convention Reporting System; the MSFD for EU Member States; OSPAR; HELCOM; and the Ocean Conference Voluntary Commitments Registry.
- Conducting strategic foresight exercises with restoration experts and other stakeholders. These are important tools in the design of pathways to more ecosystem-based economic systems, which take into account barriers and trade-offs.
- Developing protocols and practical guidelines for restoring ecosystems with viable, genetically diverse populations to maximise productivity, reproduction, regeneration and adaptive capacity. Several tools are already in development, such as Bioversity International's SeedIt application and Tree Diversity.
- Developing protocols for improving capacity of local nurseries to provide seed and seedling stocks of native plant species used in restoration. Most commercial nurseries are not sufficiently equipped to support large-scale restoration projects. Plant quality is a primary determining factor for the success of most ecological restoration projects in terrestrial systems. Nurseries therefore need to produce high-quality plants with targeted morphological and physiological characteristics to optimise their potential to survive and thrive after outplanting.
- Developing protocols for monitoring and evaluation of seedlings after outplanting, and documenting methods that lead to both success and failure of seedling establishment.
- Making use of the 'opportunity mapping tool' to identify geographic locations where ecosystem restoration is particularly appropriate for reducing the impact of certain hazards⁴.
- Making use of the Mangrove Restoration Potential Map to identify geographic locations where coastal mangroves globally can be restored⁵.
- Investing in research and development to maximise returns from restoration of specific local ecosystems.
- Embedding ecosystem restoration into urban planning and the circular economy approach to development (i.e. minimising resource inputs and waste outputs).
- Analysing the potential relevance to the Decade of new data technologies, such as Big Data, machine learning for data analysis, and advances in remote observation.

Examples of platforms that could potentially host the above dialogues include:

- the Global Partnership on Forest and Landscape Restoration (a global network of governments, NGOs, research institutions, communities and individuals responding to the Bonn Challenge of restoring 350 million hectares of degraded forest by 2030);
- the Restoration Initiative (a collaboration between IUCN, FAO, UNEP and GEF);
- the Collaborative Partnership on Forests (chaired by FAO and supporting the United Nations Forum on Forests);
- the New York Declaration on Forests (a global, multi-stakeholder commitments to halt deforestation and restore degraded forests by 2030);
- the AFR100 African Forest Landscape Restoration Initiative (led by African Member States, with the aim of restoring 100 million hectares by 2030); the Great Green Wall (led by Member States in the Sahel of Africa);
- the Global Landscapes Forum (a knowledge platform on sustainable land use, dedicated to achieving the Sustainable Development Goals and Paris Climate Agreement);
- GLFx (in which communities of practice will be developed within individual towns and cities);
- Initiative 20x20 (which is led by Member States in Latin America and the Caribbean and is restoring 20 million hectares by 2020);
- Ramsar Regional Initiatives (which are supported through the Ramsar Strategic Plan for 2016–2024 that focuses on maintaining and/or restoring 2300 Ramsar Wetlands of International Importance);
- the UN Permanent Forum on Indigenous Issues (an advisory body to the UN Economic and Social Council, with a mandate to discuss issues, such as the state of the environment, relating to indigenous peoples);
- the Local Communities and Indigenous Peoples Platform of the UNFCCC (established to engage local communities and indigenous peoples with *inter alia* nature-based solutions to climate change);
- UNESCO's Man and the Biosphere Programme (with its 701 sites in 124 countries globally);
- The Specialized Technical Committee on Finance, Monetary Affairs, Economic Planning and Integration (hosted by the African Union and attended by ministers of finance, ministers of economic planning and central bank governors);
- the African Ministerial Conference on the Environment (hosted by the African Union, and attended by ministers of environment);
- the Global Mangrove Alliance;
- the Global Peatlands Initiative;
- the Regional Seas Conventions and Action Plans;
- the International Coral Reef Initiative; and
- the Sub-Regional Fisheries Commission.

⁴ https://postconflict.unep.ch/publications/EcoDRR_Opportunity_Mapping.pdf

⁵ <https://oceanwealth.org/explore-the-mangrove-restoration-potential-mapping-tool/>