Glossary of restoration interventions

Intervention categories can be "enabling and instrumental responses" or "direct biophysical responses" (for a comprehensive description of these response category, see Chapter 6 of the IPBES report on land degradation and restoration).

To summarize, enabling and instrumental responses aim at creating a favorable environment for landholders, or other stakeholders, to realize in a second stage biophysical and technical responses. This category includes: legal and regulatory instruments; policy, institution and governance mechanisms; economic and financial instruments; social and cultural instruments; and rights-based instruments and customary norms.

Indeed, direct biophysical responses aim to avoid or reduce land degradation. Among this category, we can find: conservation measures, mitigating responses, and restoration responses focusing on ecosystem recovery.

ENABLING INTERVENTIONS

Intervention name	Definition
• **Legal and rights-based instruments**	
Land-use planning (national, regional, local)	Land-use planning is a systematic and iterative procedure carried out in order to create an enabling environment for sustainable development of land resources which meets people's needs and demands. It assesses the physical, socio-economic, institutional and legal potentials and constraints with respect to an optimal and sustainable use of land resources, and empowers people to make decisions about how to allocate those resources.
Social and environmental impact assessments	Assessments that assess the impacts of planned activity on the society and on the environment in advance, thereby allowing avoidance measures to be taken.
Incentives for sustainable land-use practices	Positive incentives that reward the adoption of sustainable land management practices. They are usually required to avoid, reduce and reverse land degradation.
Establishment of protected areas	Assignment of protection status over a geographical space, recognized, dedicated and managed through legal means, to achieve the long-term conservation of nature. The establishment of protected status over an area may be a way to reduce drivers of degradation.
Private and community-based conservation	Enforcement of restrictions over natural resource use or conservation measures over a privately owned or community-owned or controlled geographical area.
Improvements to land tenure security	The process of improving the clarity of tenure rules over an area of the effectiveness of their enforcement. Tenure rules define how access is

	granted to rights to use, control and transfer land, as well as associated responsibilities and restraints.
Clarification of natural resource-use rights	The process of improving the clarity of natural resource-use rights over an area or the effectiveness of their enforcement. Natural-resource rights define the rights of actors within an area to extract or manage its natural resources, including through the specification of quantity, timeframe or means to do so.
• **Social and cultural instruments**	
Promotion of indigenous and local knowledge-based traditional use	The process of documenting and disseminating indigenous and local traditional knowledge on the use of natural resources. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted – usually in oral form - from generation to generation.
Participatory natural resource management and governance	The process of bringing local comnunities, government agencies, civil society, private sector, donors and all stakeholders together to develop a common vision for the protection or restoration of species, sites, habitats and ecosystems.
Eco-certification	Voluntary instrument that has been applied to certain crops and forest products (e.g., coffee and timber) to guarantee that certain environmental and social standards have been met in their production. Eco-certification enables consumers who prefer "green goods" to identify the good and purchase them in a price differentiated market, thereby helping to offset the costs of enforcing such standards.
Promotion of corporate social responsibility	Encouraging organizations to consider the interests of society by taking responsibility for the impact of the organization's activities on consumers, employees, shareholders, communities and the environment in all aspects of its operation.
Community consultations	Participatory process that underpins genuine community development. It enables communities to articulate their own concerns and identify the appropriate responses and solutions to problems that affect them.
• **Integrated landscape planning**	
Land degradation assessment and mapping	Assessment to identify areas and patterns or types of areas likely to suffer from degradation. The assessment may include an investigation of the direct and/or indirect drives of the degradation process.
Integrated planning and management	Practice that seeks to better understand the interactions between various land uses and stakeholders by integrating them in a joint management process.
Zoning	Identification and allocation of the best usage of land for different activities (productive, conservation or other) over an area. Zoning outputs may have normative value or simply as an aid to the decision-making process.

Assessment of climate change vulnerability and adaptation needs	Process aiming to mainstream assessments of climate change impacts to present development the planning o a restoration project and associated activities, to ensure that environmental and social outcomes are resilient to future climate conditions on the site.
Assessment of natural areas with high carbon stores (e.g., peatlands, old-growth forests, mangroves)	Process of data collection and analysis of the spatial variation of carbon content or sequestration potential of ecosystems over an area.
• **Capacity-building, skills and knowledge development**	
On-site trainings	Training delivered to an organization's employees at its site, or another location arranged for by the organization.
Online trainings	Training delivered to an organization's employees remotely.
Development of guidance and course materials	Production of course materials and guidance for training, in different forms, such as documents, online material, on site activities.
Training of trainers	Training delivered to an organization's employee with the role of trainer for teaching activities.

BIOPHYSICAL INTERVENTIONS

Intervention name	**Definition**
• **Restoration of vegetation cover**	
Restrictions on forest conversion	Activity for reducing the process of converting forest to to agriculture, pasture, water reservoirs and urban areas.
Promotion of sustainable forest management practices	Promotion of forest management and use in accordance with the specific objectives of ecologically sustainable management. The objectives of ecologically sustainable forest management are to maintain or enhance the full range of forest values such as biodiversity; productive capacity; ecosystem sustainability, health, and vitality; soil and water conservation; positive contribution to global geochemical cycles; long term social and economic benefits; and cultural heritage values for present and future generations.
Fire management	All activities required for the protection of fire prone forest and other vegetation values from fire and the use of fire to meet land management goals and objectives. It involves the strategic integration of such factors as a knowledge of fire regimes, probable fire effects, values-at-risk, level of forest protection required, cost of fire-related activities, and prescribed fire technology into multiple-use planning, decision making, and day-to-day activities to accomplish stated resource management objectives. Successful fire management

	depends on effective fire prevention, detection, and presuppression, having an adequate fire suppression capability, and consideration of fire ecology relationships.
Assisted natural regeneration	In areas that have the socioeconomic and ecological potential to regenerate from the seedbank or neighboring seed sources, but are not doing so or are doing so poorly, human interventions are used to secure, catalyze or enrich the process
Enrichment planting	Planting of desired tree species in a modified natural forest or secondary forest or woodland with the objective of creating a high forest dominated by desirable (i.e., local and/or high-value) species.
Tree planting	Planting of trees over an area previously not forested. This intervention includes any activities related to seed collection, growing of seedling in nurseries, planting and tending to the seedlings. If you select this activity, please ensure that you answer questions 25-30 at the end of this tab.
Grass planting	Planting of grasses, grasslike plants or forbs, with the objective of restoring a grassland.
• **Control of invasive species**	
Quarantine measures	Preventive *measures*, such as inspection, *quarantine*, and policies aiming to control the introduction or reintroduction of *alien or invasive species* with the potential to degrade the ecosystem or hamper its restoration.
Species control measures (mechanical)	Measures aimed at reducing the spread or eradicating species that degrade the ecosystem or hamper its restoration via mechanical means (cutting, burning, digging out, etc). This includes hunting for animal species (please specify in comments).
Species control measures (biological)	A management strategy towards the reduction of pest or invasive species making use of living natural enemies, antagonists or competitors and other self-replicating biotic entities.
Species control measures (chemical)	Measures aimed at reducing the spread or eradicating species that degrade the ecosystem or hamper its restoration via chemical means such as the spraying of herbicide.
• **Rehabilitation and depollution**	
On-site management of mining wastes (soils and water)	Maintenance and repair of soils and waters from pollutant mining wastes.
Reclamation of mine site topography	Encompassing the relief and contours of a land surface, previously classified as mine site.
Conservation and early replacement of topsoil	Conservation of the upper part of a soil, with the lower limit set at 30 cm or shallower. The soil depth may be limited by a root growth

	inhibiting layer which can be hard rock, a pedogenetically indurated layer, a chemically unfavorable layer, or strongly contrasting layer.
Control of point and non-point pollution sources	Management of any single identifiable source of pollution from which pollutants are discharged, for example discharges from wastewater treatment plants, operational wastes from industries, and combined sewer outfalls, and of source of pollution that does not come from a specific source.
• **Soil and water management**	
Reduced tillage	Any agricultural action or practice used by growers to allow and improve the growing conditions of fresh fruits or vegetables whether grown in an open field or in protected facilities (e.g., hydroponic systems, greenhouses/net houses).
Improved fertilizer and agrochemical use efficiency	Improvements in the amount of nutrients in a fertilizer that are taken up by the crop after the fertilizer is applied to the soil as a proportion of the amount added. This can be for the crop grown after the initial fertilizer application is made or after one or more crops are grown.
Improved irrigation and water use efficiency	Improvements in the ratio between the effective water use for a specific purpose and actual water withdrawal.
Rainwater and runoff harvesting (e.g. terracing, stone cords, zaï, half-moons)	Surface water is retained in the soil surface by use of earthworks, which are designed to act as barriers and control runoff flows, allowing it to seep into the soil.
Fog collection	Activity that provides an alternative source of freshwater through a technique used to capture water from wind-driven fog. Fog harvesting systems are typically installed in areas where the presence of fog is naturally high, typically coastal and mountainous regions. The systems are usually constructed in the form of a mesh net, stabilized between two posts that are spread out at an angle perpendicular to the prevailing wind carrying the fog. As the wind passes through the mesh, drops of freshwater form and drip into an underlying gutter, from which pipes lead the water into a storage tank.
Desalination wastewater treatment	Technical option to increase the availability of freshwater both in coastal areas with limited resources and in areas where brackish waters – such as saline groundwater, drainage water and treated wastewater – are available. Desalinated water can also be crucial in emergency situations where water sources have been polluted by saline incursions.
Wetland construction or rehabilitation	Conversion or rehabilitation of an area into a wetland (an area characterized by permanent or intermittent flooding) by building dikes, small dams (or destroying existing ones) and/or shaping land to provide an appropriate water regime for hydrophytic vegetation.
Amelioration of contaminated soils and sealed soils	Process of depolluting a soil from contamination and the presence of radioactive material sealed in a capsule, or closely bonded and in a solid form.

• **Agricultural practices**	
Conservation agriculture	Conservation agriculture is characterized by three specific actions including: (i) continuous minimum mechanical soil disturbance; (ii) permanent organic soil cover; and (iii) diversification 4 of crop species grown in sequences and/or associations. In general, conservation agriculture principles are universally applicable to all agricultural landscapes and land uses, because they emphasize the use of locally adapted practices, biodiversity and natural biological processes above and below ground.
Integrated crop, livestock and forestry systems	Integration of three production activities on the same land: agriculture, livestock and forestry. Cattle benefit by the availability of shade from trees, losing less fat in hot weather. They also benefit from better quality pastures, which improves farming capacity and reduces slaughter age. Furthermore, crop rotation applied with direct tillage reduces soil degradation, generating positive effects on the environment.
Agroforestry	Collective term for land-use systems and technologies in which woody perennials (trees, shrubs, palms and bamboos, etc.) are used deliberately on the same land-management units as agricultural crops and/or animals in some form of spatial arrangement or temporal sequence. In agroforestry systems, there are both ecological and economic interactions between the different components.
Grazing pressure management (physical fencing)	Management of the number of grazing animals of a specified class (age, species, physiological status like pregnant) per unit weight of herbage (herbage biomass) from a physical point of view.
Grazing pressure management (social fencing)	Management of the number of grazing animals of a specified class (age, species, physiological status like pregnant) per unit weight of herbage (herbage biomass) from a social point of view.
Pasture and forage crop improvement	Improvements of pasture management and cultivation of crops that are cultivated primarily for animal feed.
Silvopastoral management	A form of agroforestry that combines forestry and grazing for animals. In certain areas, silvopastoral practices can offer an alternative to cattle production systems based solely on pasture. Such practices include planting high densities of trees and shrubs in pastures, cut-and-carry systems whereby livestock are fed with the foliage of specifically planted trees and shrubs in areas previously used for other agricultural practices, and using fast-growing trees and shrubs for fencing and wind screens.
Weed and pest management	Approach focused on a control of weed and pests, through proactive pest prevention, biological control and only a limited, targeted, specific lethal action on clearly identified pests.

Increase diversity and vegetative cover in production systems	Activity focused on increasing the number of varieties of planting species for agriculture.