Embedding
PROJECT

NATURE

Regenerating Land and Soil

A GETTING STARTED GUIDE

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ABOUT THIS SERIES

This guide is part of our series of Getting Started Guides that supports your company to develop an embedded strategy. Each guide tackles a specific sustainability sub-issue and explores what your company needs to do to support the resilience of the environmental and social systems around you.

In each guide, we address relevant trends, system thresholds, key concepts, key actors, and key resources. We also offer guidance on how to address the impacts of your operational and value chain activities and develop credible goals as well as outlining key corporate actions and internal targets that can help to provide clarity on the work ahead.

We recommend you read the first guide in the series, Getting Started Guides: An Introduction, which explains our overall approach and clarifies the value of setting a clear strategy anchored in your company's most material issues. It also explains how you can leverage process-based interim targets to clearly outline the specific actions that your company needs to take to achieve its high-level goals.

A complete list of focus areas and sub-issues can be found in our guide Scan: A Comprehensive List of Sustainability Issues for Companies.

This guidebook addresses the sub-issue of **regenerating land and soil** as part of the broader issue topic of nature.

1 SETTING THE STAGE – FOREST LOSS AND DEGRADED LAND AND SOIL

Healthy land and soil underpin many of the systems we rely upon for the continued survival of society and business. Healthy land and soil are a crucial component of food production, water filtering, natural carbon storage, and more. However, land disturbance, deforestation, and soil degradation pose significant threats to our ability to maintain the resilience of these vital systems.

Around the world, there has been significant land degradation. The U.N. Convention to Combat Desertification (UNCCD) estimates that human actions have "already altered 70% of all ice-free land, impacting over 3.2 billion people" and the UN Environment Programme (UNEP) concludes that "if current trends continue, 95% of Earth's land areas could become degraded within the next 30 years."

This shift is already being seen around the world. A report from the UNCCD indicates that 77.6% of land has become permanently drier over the last three decades and that drylands have expanded to cover more than 40% of the planet (excluding Antarctica), threatening dire consequences for food production. This rate of land conversion is further intensifying the impacts of species extinction, water stress, and climate change, with land degradation poised to become a significant cause of human migration, food insecurity, and conflict.

Human actions have already altered **70%** of all ice-free land

77.6% of land has become permanently drier over the last three decades

Drylands have expanded to cover more than **40%** of the planet (excluding Antarctica)

Deforestation is largely driven by three main causes: land conversion to meet rising agriculture demands, increasing severity of wildfires reinforced by climate change, and infrastructure development.

Despite global commitments to eliminate deforestation by 2030, the world is off track. While deforestation rates have slowed in some key jurisdictions, forests are under increasing pressure from climate-related stressors, and forest product demand is rising, driven by expanding industrial needs. Overall, global deforestation rose by 3.2% in 2023, with approximately 6.37 million hectares of forest lost – that's almost equivalent to the size of Ireland.

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Soil health is pivotal in cultivating a resilient ecosystem and food system. Soil hosts a quarter of Earth's biodiversity and soil health is foundational for carbon sequestration, nutrient cycling, water management, and microbe and insect diversity. It plays a vital role in securing our food supply, mitigating climate change, and ensuring that we can continue to sustain life on Earth. Improper soil and land management practices paired with pressures from climate change, land transformation, invasive species, and pollution are degrading soil around the world, posing a significant threat to many of the world's essential systems.

Land degradation, deforestation, and the loss of soil health also pose significant business risks, from rising exposure to extreme weather events and damage to physical assets to increasing consumer and investor scrutiny about how companies manage their impacts and dependences on land. Companies need to take urgent action to make sure their operations and value chains are deforestation- and conversion-free, as well as transition to – and scale – land-positive practices that restore ecosystems and soil biodiversity to safeguard natural systems. As primary users of land, the forestry, land-use, and agriculture (FLAG) sector will have a crucial role to play in supporting the management and resilience of land resources so that natural systems are able to recover.

UNDERSTANDING THE COLONIAL UNDERPINNINGS OF LAND DEGRADATION

When engaging in practices such as conservation, regenerative agriculture, and rehabilitation and/or restoration of natural spaces to help soil health and nature recover, it is crucial that companies are attentive to historic and ongoing injustices and understand the need for decolonial approaches.

Current practices in land regeneration, such as regenerative agriculture, face increasing criticism for disregarding the histories that have led to land degradation; failing to understand the importance of Indigenous and Traditional knowledge in shaping reciprocal relationships with the land; and inappropriately prescribing (often Western) one-size-fits-all approaches that ignore or – in some cases – dismantle the rights, agency, and governance of Indigenous peoples and local communities. Other approaches, such as conservation, have also faced similar criticisms, where the creation of protected areas have resulted in rights violations and the continued dispossession of Indigenous and local communities from their lands. In some cases, the current narratives employed by companies are criticised as being rooted in colonial legacies that separate humans from nature and overlook the longstanding history of stewardship by Indigenous Peoples and local communities.

Companies and practitioners need to approach regeneration and restoration from a decolonial perspective by actively engaging with Indigenous Peoples and local communities and valuing their knowledge and decision-making. As the IUCN highlights, Indigenous Peoples and local communities "possess invaluable ecological knowledge that can guide restoration action. [They] are aware of where ecosystem restoration needs originate and count on the capacity, motivation and local knowledge needed for implementation."

When exploring restorative and regenerative land use approaches within their operations and value chains, companies need to partner with local Indigenous and Traditional knowledge holders to integrate their knowledge and understanding alongside Western scientific approaches.

Note: In these guides, a system threshold is defined as the point at which the resilience of an environmental, social, or economic system becomes compromised. This occurs when the total impacts imposed on the system exceed its capacity to assimilate those impacts.

SYSTEM THRESHOLD

Land system change is one of the nine planetary boundaries that support and regulate Earth's systems – one that has already been crossed beyond the safe operating space due to human-induced desertification, land degradation, and drought. Without urgent changes to land management and the preservation of soil health, we risk destabilised food systems, increased water stress, disrupted rainfall patterns, and countless other impacts to the systems that shape our lives. Companies cannot continue to rely on the ability of soil and land resources to recover from the stresses and shocks posed from business activities. They need to take urgent action to halt deforestation, protect and improve soil and microbial health, and improve the vitality and resilience of land systems.

KEY TOPICS WITHIN REGENERATING LAND AND SOIL:

- Deforestation
- Land conversions
- Encroachments and impacts on protected spaces
- Cumulative and secondary impacts from land use and development
- Soil and microbial health
- Regeneration and rehabilitation of natural spaces
- Land restoration and regeneration
- Soil restoration

2 KEY CONCEPTS IN REGENERATING LAND AND SOIL

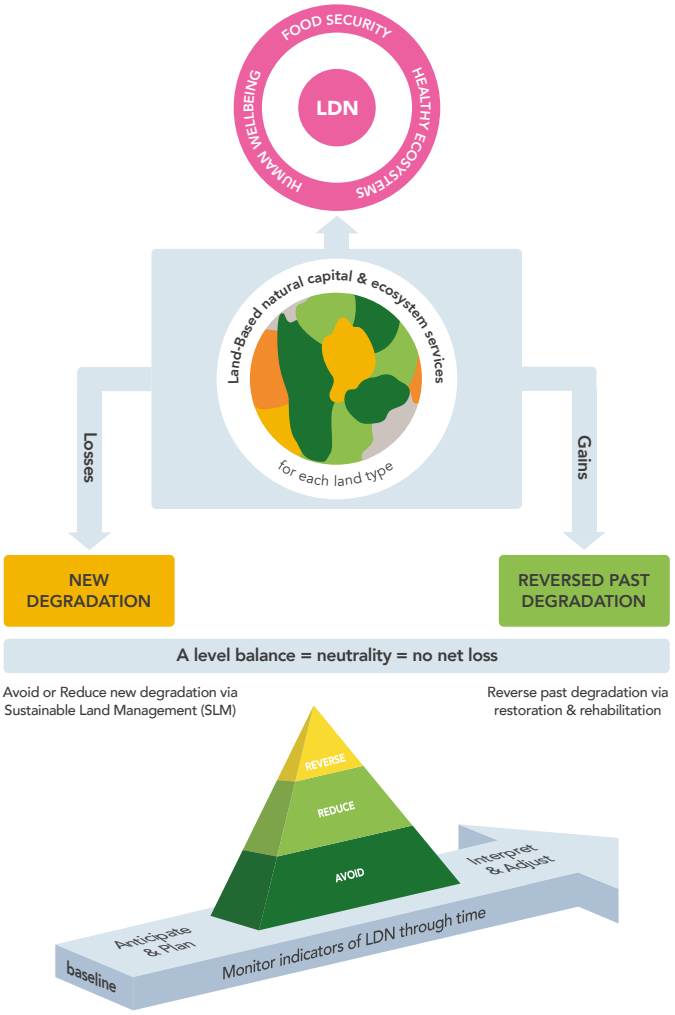
Land degradation, as defined by the UN Office for Disaster Risk Reduction, is "a negative trend in land condition, caused by direct or indirect human-induced processes including anthropogenic climate change, expressed as long-term reduction or loss of at least one of the following: biological productivity, ecological integrity, or value to humans." Furthermore, **desertification** refers to land degradation that results in fertile land becoming a desert.

Land restoration, as defined by the UNCCD, is "the ecological process to restore a natural and safe landscape for humans, wildlife, and plant communities."

A key goal of the UNCCD is to achieve **land degradation neutrality**, which is "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services to enhance food security remain stable, or increase, within specified temporal and spatial scales and ecosystems." The UNCCD identifies three concurrent actions that will be required to reach land degradation neutrality:

- Avoiding new degradation of land by maintaining existing healthy land;
- Reducing existing degradation by adopting sustainable land management practices that can slow degradation while increasing biodiversity, soil health, and food production;
- Ramping up efforts to restore and return degraded lands to a natural or more productive state

The diagram below, adapted from the UNCCD, explains the concept of land degradation neutrality and how its key elements interact:



Adapted from: UNCCD

Soil health, as described by the Food and Agriculture Organization (FAO), is "the ability of the soil to sustain the productivity, diversity, and environmental services of terrestrial ecosystems."

Additional terms and definitions:

Reclamation: Actions undertaken with the aim of returning degraded land to a useful state. While not all reclamation projects enhance natural capital, those that are more ecologically-based can qualify as rehabilitation or even restoration.

Rehabilitation: Actions undertaken with the aim of reinstating ecosystem functionality, where the focus is on the provision of goods and services rather than restoration.

Ecosystem restoration: The process of reversing the degradation of ecosystems to regain their ecological functionality, and to improve their productivity and capacity to meet the needs of society.

Rewilding: The process of rebuilding, following major human disturbance, a natural ecosystem by restoring natural processes and the complete or near complete food-web at all trophic levels as a self-sustaining and resilient ecosystem using biota that would have been present had the disturbance not occurred.

Sustainable land management: The use of land resources – including soils, water, animals and plants – for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions.

Land type: Class of land with respect to land potential, which is distinguished by the combination of […] features that support the actual or historic vegetation structure and species composition on that land.

3 KEY PLAYERS IN REGENERATING LAND AND SOIL

THE UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

The United Nations Convention to Combat Desertification (UNCCD) aims to mitigate the impacts of desertification through long-term strategies for action to revitalise degraded land around the world. Their flagship publication, the Global Land Outlook, is a key resource to understand land system challenges and guides best practice on sustainable land management and policies.

THE UNITED NATIONS ENVIRONMENTAL PROGRAMME

The United Nations Environmental Programme (UNEP) is the global authority responsible for UN programmes focused on climate, nature, sustainable development, and more. They often partner with the Global Environment Facility (GEF) – a family of funds that aims to confront biodiversity loss, climate change, pollution, and support land and ocean health – on global programmes, projects, and research for sustainable land management.

4 COMMITTING TO TAKE ACTION – MID- AND LONG-TERM GOALS

Committing to take action on **regenerating land and soil** can include addressing many of the key topics listed above. The mid- and long-term commitments that your organisation elects to make will be based on your identified priorities, areas of greatest impact, and your capacity to undertake the work required. It is important to note that this section does not provide all possible mid- and long-term goals related to this issue. Below, we share our understanding of current corporate action and goals by offering a sample of the goals that were most frequently adopted by organisations in our research.

Common mid- and long-term goals and/or commitments on **regenerating land and soil** include variations of the following:

Long-term goal: Zero conversion of natural ecosystems by 20[XX]

- Remediate all past conversion occurring as a result of company activities between [base year] and 20[XX]
- Source [X]% of [volume of commodity] from conversion-free areas by 20[XX]

Long-term goal: Become a regenerative company by 20[XX]

- Restore and/or rehabilitate [XX] hectares of land by 20[XX]
- Conserve, protect, and/or restore more land than disturbed because of operations by 20[XX]
- Implement regenerative agriculture practices across [X] acres of farmland by 20[XX]
- Eliminate deforestation across the supply chain by 20[XX]
- Zero peat burning by 20[XX]

Are you setting new goals or interested in benchmarking your goals against leading practice? To help advance progress in credible corporate sustainability goals, we maintain a public goals database containing leading sustainability goals and commitments set by large companies globally.

Explore our Sustainability Goals Database for more mid- and long-term goals on **regenerating land and soil.**

5 HOW TO GET THERE – PROCESS-BASED INTERIM TARGETS

Note: *The following proposed timelines are only for guidance and are based on the pace outlined by other companies. The timeframe for actions and work for each step needs to be embedded in your organisational context, which may require different time allocations.*

YEAR 1: LEARN ABOUT LAND DEGRADATION, DEFORESTATION, AND SOIL DEGRADATION, AND THE IMPACTS OF YOUR INDUSTRY

Build an understanding of the drivers of land degradation, deforestation, and soil degradation, and the relevant limits and thresholds that safeguard the resilience of local land systems. Examine current research to understand land and soil degradation and deforestation in your region and the impacts of your industry. Also seek to understand the histories and legacies that have shaped land degradation and soil health in the region, the role of your industry in perpetuating the impacts of these histories, and the knowledge and priorities of Indigenous Peoples and local communities to shape your understanding of the action needed to meaningfully tackle land issues.

Identify international and/or national initiatives and targets to guide a deeper understanding of which key issues are currently being discussed.

YEAR 1: LEARN ABOUT RESPONSIBLY REGENERATING LAND AND SOIL

Learn about the components that make up regenerative approaches to land and soil and their importance as business practice for the resilience of nature, society, and economies. Leverage your learnings about the impacts your industry has on land and the knowledge, priorities, and needs of Indigenous Peoples and local communities to understand what best practice will look like for your company. Explore whether there is existing guidance to support benchmarking and further learning.

Examples of process-based targets for Year 1:

- By 20[XX], we will learn about the drivers of land and soil degradation and deforestation in the regions where we and our value chain partners operate.
- By 20[XX], we will engage with Indigenous Peoples and local communities to understand how land issues are impacting them.
- By 20[XX], we will identify international, national, and/or local initiatives for regenerating land and soil.
- By 20[XX], we will learn about regenerating land and soil and identify industry best practice.

YEAR 2:CONDUCT BASELINE ASSESSMENTS

Conduct baseline assessments to determine and measure the likely impacts of your land use and land management decisions. Depending on your operations, this can include assessments of soil quality, land cover, land productivity, forest cover, and more.

CASE STUDY: Unilever monitors land use

Recognising the importance of understanding its impact on land, Unilever worked to better understand its forest footprint. Using "a combination of supplier information, concession boundaries, indicative algorithms, deforestation alerts, carbon layers, and social indicators," Unilever started to identify the total area of forests, peatlands, and communities impacted by forest risk commodities. In 2021, the company published its first forest footprint report for palm oil, focusing a case study on Aceh, Indonesia. Unilever also created a No Deforestation, No Peat Conversion, No Exploitation (NDPE) dashboard that monitors agriculture, forests, and peatland to ensure that supply chains abide by their 'no deforestation' goal.

YEAR 2: BENCHMARK CURRENT PRACTICES

Leverage your learnings about industry best practice in year one to benchmark your current strategy, policy, and/or plans. Identify opportunities for improvement that strengthen your approach to align with restoration and resilience.

Examples of process-based targets for Year 2:

- By 20[XX], we will conduct baseline assessments to understand our impacts on land and soil.
- By 20[XX], we will benchmark our current strategy, policy, and/or plan against industry best practice.

YEAR 3: DEVELOP A STRATEGY FOR REGENERATING LAND AND SOIL

Identify and adopt sustainable land management practices based on your baseline assessments and understanding of drivers – this could include regenerative agriculture, sustainable forest management, and more. Ensure that these are aligned – and, where possible, co-created – with Indigenous Peoples and local communities, including but not limited to respectfully acknowledging and integrating Indigenous and Traditional knowledge and practices. Integrate these into your site plans and internal processes with the aim to avoid, reduce, and reverse land and soil degradation where possible. Counterbalance anticipated land degradation as a result of your operations with planned rehabilitation and/or restoration initiatives that are strategically positioned to recover land within the same 'land type' – often referred to as 'like for like'.

CASE STUDY: Kering's commitments to regenerative land use

Recognising the importance of restoration and regeneration as a lever for protecting nature, Kering launched the Conservation International/ Kering Fund for Regenerative Agriculture with a goal to regenerate one million hectares of farms and rangelands within their supply chain by 2025. The company is also exploring different materials, plant varieties, and livestock breeds within its supply chain to move away from a reliance on activities that contribute to large-scale land degradation such as monocropping. To take action on supply chains outside of regenerative agriculture, Kering has also set a goal to restore habitats where mining and other activities have occurred with an aim to impact an area 3x larger than the company's total direct footprint by 2025.

Examples of process-based targets for Year 3:

- By 20[XX], we will develop a strategy for regenerating land and soil.

YEAR 4: SUPPORT REGENERATION OF LAND AND SOIL IN YOUR SUPPLY CHAIN

For many companies, their greatest impacts reside within their supply chains. Identify priority supply chains and work to understand the land impacts of your raw materials. Engage with your supply chain partners, share insights, and identify opportunities to collaborate on potential solutions to eliminate deforestation and support the restoration and regeneration of land and soil. This may be through direct investments, industry or local collaborations, or broader advocacy with industry groups and other key actors.

CASE STUDY: Oshadi champions responsible regenerative agriculture

Oshandi is a regenerative fashion initiative that aims to build a responsible seed-to-sew supply chain in rural India. Witnessing the harmful impacts of industrial manufacturing and agriculture, from polluted rivers and degraded soils to rising rates of cancer, the Oshadi Collective is "rooted in ancient Indian agricultural practices and artisan heritage" to empower traditional knowledge and practices as a key component of restorative supply chains. The collective is a vertically integrated project, including local "regenerative cotton farmers, traditional weavers, natural dyers, block printers and talented tailors" with a focus on "supporting and preserving traditional techniques" as a crucial path forward.

YEAR 4: SUPPORT SYSTEMS CHANGE TO RESTORE LAND AND SOIL

Consider how you can support systems change, such as by advocating for policy reforms – for example, encouraging shifts from harmful agricultural subsidies to those that prioritise regeneration of soil health. Identify and support initiatives that incentivise deforestation-free activities across sectors to motivate broader systemic change beyond your organisation.

Examples of process-based targets for Year 4:

- By 20[XX], we will collaborate with our suppliers to identify opportunities to regenerate land and soil within our value chain.
- By 20[XX], we will identify opportunities to support systems change for the regeneration of land and soil.

RESOURCES

GUIDANCE

UNDERSTANDING THE IMPORTANCE OF LAND AND SOIL

Healthy soil is essential for healthy plant growth, human nutrition, and water filtration, but what exactly is soil? The secret world beneath our feet is mind-blowing is a fascinating article from George Monbiot that can help you to understand the complexity and significance of soil; the consequences of our agricultural practices on soil health, and how they are contributing to a looming (and global) food crisis; and the actions and innovations required to restore, preserve, and advance good soil health.

Global Land Outlook: Land Restoration for Recovery and Resilience from the UNCCD can help change agents, policy advocates and lobbyists, and corporate strategic planners to understand the rationale, enabling factors, and diverse pathways by which land degradation can be reduced and reversed. The guide is divided into three parts: Land In Focus examines the current global land use system, including its status, dynamics, trajectories, and the consequences for people and the planet; Restoration Around the World highlights and explores the range of land restoration activities currently happening around the world; and Framing the Land Restoration Agenda demonstrates the feasibility and applicability of different pathways to recovery and resilience.

The Bonn Challenge and New York Declaration on Forests' goal of restoring 350 million hectares of degraded land by 2030 could yield up to $9 trillion of net economic benefits, not to mention the incalculable value from vital ecosystem services restored – but how do we get there? Restoring Forests and Landscapes: The key to a sustainable future from the Global Partnership on Forest and Landscape Restoration (GPFLR) emphasises the need for bold restoration targets to achieve the objectives of the UN's Sustainable Development Goals. It provides facts and figures that will help you to understand the damage from degradation; the benefits of restoration; and brief case examples to highlight what restoration in action looks like.

TAKING ACTION ON REGENERATING LAND AND SOIL

Every business, knowingly or otherwise, shapes the land beneath it and around it. To gain a better understanding of the positive impacts your company can have on the land, Landscapes for Life from the FAO provides summary information on a range of best-practices for land use, including territorial development, forest and landscape restoration, and integrated peri-urban systems. The document also includes a variety of short case studies highlighting FAO approaches in action.

Land Degradation Neutrality: A Business Perspective by the World Business Council for Sustainable Development introduces the concept of land degradation neutrality, how companies can implement land degradation neutrality targets at a business level, and insights on the role companies play in supporting regenerative land use.

TAKING ACTION ON DEFORESTATION

The Accountability Framework from the Accountability Framework initiative (AFi) features twelve core principles for building, strengthening, and supporting ethical supply chains. These principles serve as a guide for companies and others in setting, implementing, monitoring, and reporting on effective goals and commitments on deforestation, ecosystem conversion, and human rights in ethical supply chains. AFi has also developed operational guidance to help you put the core principles into practice; a self-assessment to help you with benchmarking your goals, policies, and practices against the framework; and other related tools and guides.

Forests are gaining increasing attention for their central role in the resilience of our global economy. The Forest Transition: From Risk to Resilience by the CDP can help you understand the importance of addressing deforestation for your business. It explores deforestation risks, current progress on eliminating deforestation, and the essential actions companies need to take to eliminate deforestation within their supply chains.

TOOLS

InfoFLR from the IUCN is a good source for news, resources, and updates on forest landscape restoration (FLR) around the globe and will help you to build your knowledge and understanding of FLR trends in a specific region. InfoFLR has created detailed national profiles that include discrete country-specific information, national domestic targets, and details and status updates on restoration policies and programs.

Natural Lands Map by the Science Based Targets Network can help you understand the scale and location of human-caused land degradation through pollution, urban expansion, agriculture, and extractive industry. This detailed map - created via remote sensing data -conservatively estimates non-natural lands. The map has two filter options: the first shows the world divided into natural and non-natural land area, and the second shows the natural areas based on classification (e.g. forests, wetland forests, short vegetation). This information provides a baseline that companies can use to estimate the conversion of natural lands from a 2020 baseline with their current production unit or sourcing area data. It also allows companies to set 'no conversion of natural ecosystem' targets under SBTN. However, it does not offer conversion monitoring over time, nor does it intend to define ecosystems or assess their quality.

Global Forest Watch Pro is an online platform that provides data and tools for monitoring forests and can help you to access near real-time information about where and how forests are changing around the world. The maps features allow you to visualise and analyse historical trends in tree cover loss and gain since 2000, view land cover, and toggle for various country-specific climate and biodiversity factors.

Explore more resources on regenerating land and soil here.

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