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TECHNICAL BRIEF

Land, Climate and Development

CONTRIBUTING ORGANIZATION

UN Convention to Combat Desertification

This technical brief is developed with the support of the contributing organizations to inform the 3rd Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development.

The findings, interpretations, and conclusions expressed in this document do not necessarily reflect the views of any of the contributing organizations or the conference coordinating organizations.



I. Abstract

Land resources – soil, water, and biodiversity – provide the foundation for the wealth of our societies and economies. However, the way we currently manage and use these natural resources is threatening the health and continued survival of many species on Earth, including our own. Humans have already transformed more than 70% of the Earth’s land area from its natural state, causing unparalleled environmental degradation and contributing significantly to global warming.^{1 2}

The global extent of land degradation is estimated at between 20-40% of the total land area, directly affecting nearly half of the world’s population and spanning the world’s croplands, drylands, wetlands, forests, and grasslands.³ Of nine planetary boundaries used to define a ‘safe operating space for humanity’, four have already been exceeded: climate change, biodiversity loss, land use change, and geochemical cycles,⁴ leading to a business-as-usual scenario that suggests additional degradation of a land area the size of South America by 2050.⁵

As land is the operative link between biodiversity loss and climate change, it provides a multitude of meaningful entry points to tackle these intertwined crises. Land restoration is essential and urgently needed. Land restoration is broadly understood as a continuum of sustainable land and water management practices that can be applied to conserve or ‘rewild’ natural areas, ‘up-scale’ nature-positive food production in rural landscapes, and ‘green’ urban areas, infrastructure, and supply chains.

The Sustainable Development Goals – including Land Degradation Neutrality targets (LDN) under the UNCCD – Paris Agreement, and post-2020 global biodiversity framework provide countries, corporations, and communities with sufficiently ambitious goals and clear targets, and most importantly a blueprint for action at all levels.^{6 7} When taken together, these agreed upon strategies and commitments will underpin the success of the biodiversity, climate, and land restoration agendas.^{8 9}

The United Nations, acting as one, has a unique capacity to motivate the global community, stimulate a worldwide movement, and help secure finance for land restoration at scale. With its convening power, the UN can help build the evidence base needed to assist countries in creating incentives that shift attitudes and behavior towards regenerative, climate-resilient, and nature-positive solutions that create long term economic opportunities which are important for many poor rural communities struggling to recover from the COVID-19 pandemic.

To realize the promise of the land restoration agenda a human rights approach, more inclusive and responsible governance as well as increased transparency and accountability are prerequisites to deliver multiple benefits at various scales while managing competing demands.

¹ IPBES, 2018. The IPBES assessment report on land degradation and restoration. Montanarella, L., Scholes, R., and Brainich, A. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn.

<https://ipbes.net/assessment-reports/ldr>

² IPCC, 2019. Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems. <https://www.ipcc.ch/srcccl>

³ FAO, 2021. The State of the World’s Land and Water Resources for Food and Agriculture – Systems at breaking point. Synthesis report. Rome. <https://doi.org/10.4060/cb7654en>

⁴ Raworth, K., 2017. The doughnut of social and planetary boundaries. Doughnut Economics Action Lab. <https://doughnuteconomics.org/about-doughnut-economics>

⁵ United Nations Convention to Combat Desertification. 2022. The Global Land Outlook, second edition. UNCCD, Bonn. https://www.unccd.int/sites/default/files/2022-04/UNCCD_GLO2_low-res_2.pdf.

⁶ Mohammed, A.J. and Ghebreyesus, T.A., 2018. Healthy living, well-being, and the sustainable development goals. Bulletin of the World Health Organization, 96(9), p.590. doi: 10.2471/BLT.18.222042. <https://doi.org/10.2471/BLT.18.222042>

⁷ Blissman, B., 2021. The United Nations’ Sustainable Development Goals (SDGs): A Strategic Plan for Humanity. In World Scientific Encyclopedia of Climate Change: Case Studies of Climate Risk, Action, and Opportunity Volume 2 (pp. 43-61). https://doi.org/10.1142/9789811213953_0005

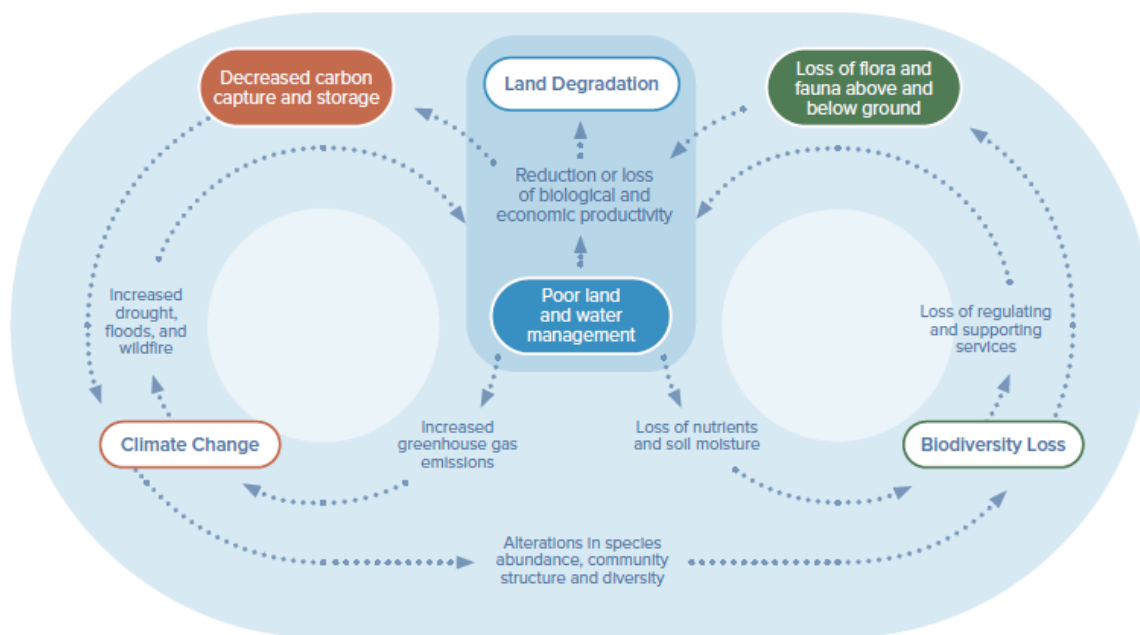
⁸ Mohammed, A.J. and Ghebreyesus, T.A., 2018. Healthy living, well-being, and the sustainable development goals. Bulletin of the World Health Organization, 96(9), p.590. doi: 10.2471/BLT.18.222042. <https://doi.org/10.2471/BLT.18.222042>

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II. Addressing synergies and trade-offs

Land is the operative link between biodiversity loss and climate change, and therefore must be the primary focus of any meaningful intervention to tackle the intertwined crises (see Figure 1). Land and ecosystem restoration will help slow global warming, reduce the risk, scale, frequency, and intensity of disasters (e.g., pandemics, drought, floods), and facilitate the recovery of critical biodiversity habitat and ecological connectivity to avoid extinctions and restore the unimpeded movement of species and the flow of natural processes that sustain all life on Earth.¹⁰

Figure 1: Feedback loops between land degradation, climate change, and biodiversity loss



Source: Millennium Ecosystem Assessment, 2005.

Protecting and restoring land resources reduces emissions and sequesters carbon, providing more than one-third of the cost-effective, land-based climate mitigation needed between now and 2030 to stabilize warming,¹¹ in addition to its mitigation potential, land-based climate solutions enhance adaptation via:

- effective management and expansion of networks of conserved and protected areas
- sustainable land and water management practices in working rural landscapes
- ecological restoration or rewilding of biodiversity and well-functioning ecosystems

The UN General Assembly has affirmed that combating desertification, land degradation, and drought – and achieving LDN – is an effective pathway to accelerate progress towards achieving multiple Sustainable Development Goals by 2030.¹² Furthermore, the Glasgow Leaders Declaration on Forests and Land Use asserted for the first time the importance of leveraging multiple UN processes. Over 130 countries promised to reaffirm their respective individual and collective commitments including financial commitments under the three Rio Conventions – on Desertification (UNCCD), Biological Diversity (CBD), and Climate Change (UNFCCC), making the three conventions strategically positioned to activate the land restoration agenda. Their mandates address

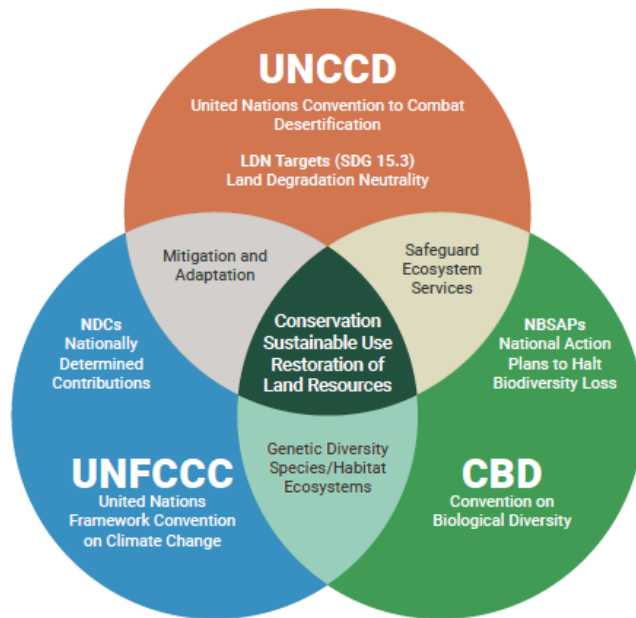
¹⁰ UNCCD, 2022. Summary for Decision Makers. Global Land Outlook, second edition. United Nations Convention to Combat Desertification, Bonn. https://www.unccd.int/sites/default/files/2022-04/GLO2_SDM_low-res_0.pdf

¹¹ Griscom, B.W., Adams, J., Ellis, P.W., Houghton, R.A., Lomax, G., Miteva, D.A., Schlesinger, W.H., Shoch, D., Siikamäki, J.V., Smith, P. and Woodbury, P., 2017. Natural climate solutions. Proceedings of the National Academy of Sciences, 114(44), pp.11645-11650. <https://doi.org/10.1073/pnas.1710465114>

¹² UN General Assembly, 2020. Implementation of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa. A/RES/75/218. <https://digitallibrary.un.org/record/3896583?ln=en>

interdependent issues related to the sustainability of Earth systems where conservation, sustainable use, and restoration of land resources are often central to their respective action plans (see Figure 2).¹³

Figure 2: Land restoration and the Rio Conventions



Source: UNCCD, 2017.

*The efficiency gains of joint land, climate, and biodiversity prioritization underscore the mutual benefits that arise from bridging the aims of the three Rio Conventions rather than pursuing their objectives in isolation.*¹⁴

III. Lessons learned on opportunities and challenges

The examples showcased in UNCCD’s flagship publication, *Global Land Outlook, 2nd edition*, tell us that land restoration is receiving increased attention by communities, businesses, and governments alike.¹⁵ These case studies make clear that restoration can be implemented in almost all settings and at many spatial scales, signifying that every country can design and implement their unique land restoration agenda. They also show that inclusive and responsible governance of land resources, the recognition of indigenous peoples and local communities rights, gender equality and youth engagement is an effective way to balance trade-offs and harness synergies that optimize restoration outcomes.

Success also requires predictable finance, a sensitive balance between traditional and modern scientific knowledge, education, training, and capacity building and partnerships that can sustain human and technical capacities to restore degraded land and soil. Linking local engagement to national policies helps ensure a responsive and well-aligned restoration agenda that delivers tangible outcomes for people, nature, and the climate.¹⁶

To begin, countries could explore the ways and means to merge individual national action plans (e.g., NDC, LDN, NBSAP) into a single unified strategy and implementation plan. By mapping overlapping challenges and opportunities, countries could achieve

¹³ UN Convention to Combat Desertification, 2017. The Global Land Outlook, first edition. UNCCD, Bonn. <https://www.unccd.int/resources/global-land-outlook/glo1>

¹⁴ Strassburg, B.B., Iribarrem, A., Beyer, H.L., Cordeiro, C.L., Crouzeilles, R., Jakovac, C.C., Junqueira, A.B., Lacerda, E., Latawiec, A.E., Balmford, A. and Brooks, T.M., 2020. Global priority areas for ecosystem restoration. *Nature*, 586(7831), pp.724-729. <https://doi.org/10.1038/s41586-020-2784-9>

¹⁵ United Nations Convention to Combat Desertification. 2022. The Global Land Outlook, second edition. UNCCD, Bonn. https://www.unccd.int/sites/default/files/2022-04/UNCCD_GLO2_low-res_2.pdf

¹⁶ UNCCD, 2022. Summary for Decision Makers. Global Land Outlook, second edition. United Nations Convention to Combat Desertification, Bonn. https://www.unccd.int/sites/default/files/2022-04/GLO2_SDM_low-res_0.pdf

economies of scale to meet the objectives of the Rio Conventions while advancing national development priorities.

For example, if climate change is the overriding national priority for a country, restoration commitments and response measures under other conventions and processes could be allied and integrated with mitigation and adaptation objectives. This increased level of coherence will unlock the potential of sectoral and departmental coordination, create a pipeline of investment-ready projects and programmes, and engage the private sector and civil society to cost-effectively achieve mutual benefits through land restoration. ¹⁷

Now is an excellent opportunity to align targets and commitments, currently siloed under the UNCCD, CBD, and UNFCCC frameworks, to implement land restoration, realize multiple benefits, and maximize returns on investment.

IV. Recommendations for action: means of implementation and partnerships to accelerate progress

What is clear and unequivocal is the need for coordinated measures to meaningfully slow or reverse climate change, land degradation, and biodiversity loss to safeguard human health and livelihoods, ensure food and water security, and leave a sustainable legacy for future generations.

- **Land restoration is receiving increased attention from communities, businesses, and governments alike.** Globally, governments have already committed to restore one billion hectares or 10 million square kilometres of farms, forests, and pasture through a variety of pledges – almost half come under the voluntary national LDN targets set by UNCCD country Parties. In total, these pledges are equivalent to an area greater than the size of the United States or China.¹⁸
- **Restoration pathways can be pursued in combinations that offer the potential for immediate actions and tangible benefits.** A shift towards place-based, people-centered strategies and approaches will help improve the traction and success of restoration activities, and contribute to greater equity and inclusion, reduced poverty, improved food and water security, and many other targets contained in the Sustainable Development Goals (see Figure 3). Examples from around the world clearly demonstrate that land and ecosystem restoration is a proven and cost-effective multiple benefits strategy for tackling interlinked challenges.
- **Governments are often responsible for creating the key enabling conditions that sustain the implementation of restoration projects and programmes.** This includes ensuring a supportive policy, regulatory, legal, financial, and institutional environment that makes sufficient capacity and resources available to diverse stakeholders. To realize the promise of the land restoration agenda, a human rights approach, more inclusive and responsible governance as well as increased transparency and accountability are prerequisites to deliver multiple benefits at various scales while managing competing demands.¹⁹
- **No country can stand alone.** International and regional cooperation among countries as well as other forms of collaborations, such as partnerships and coalitions, are essential to build, scale, and deliver the required levels of financial, human, and social capital to activate the land restoration agenda. Restoration projects and programmes can have even greater impacts when they are employed in tandem with poverty alleviation, disaster risk reduction, and rural development strategies. This combination gives people the agency to improve their health, livelihoods, and prospects by regenerating land based natural capital.
- **The United Nations, acting as one, has a unique capacity to motivate the global community, stimulate a worldwide movement,** and help secure finance for land restoration at scale. With its convening power, the UN can help build the evidence base needed to assist countries in creating incentives that shift attitudes and behavior towards regenerative, climate-resilient, and nature-positive solutions.

¹⁷ United Nations Convention to Combat Desertification. 2022. The Global Land Outlook, second edition. UNCCD, Bonn.

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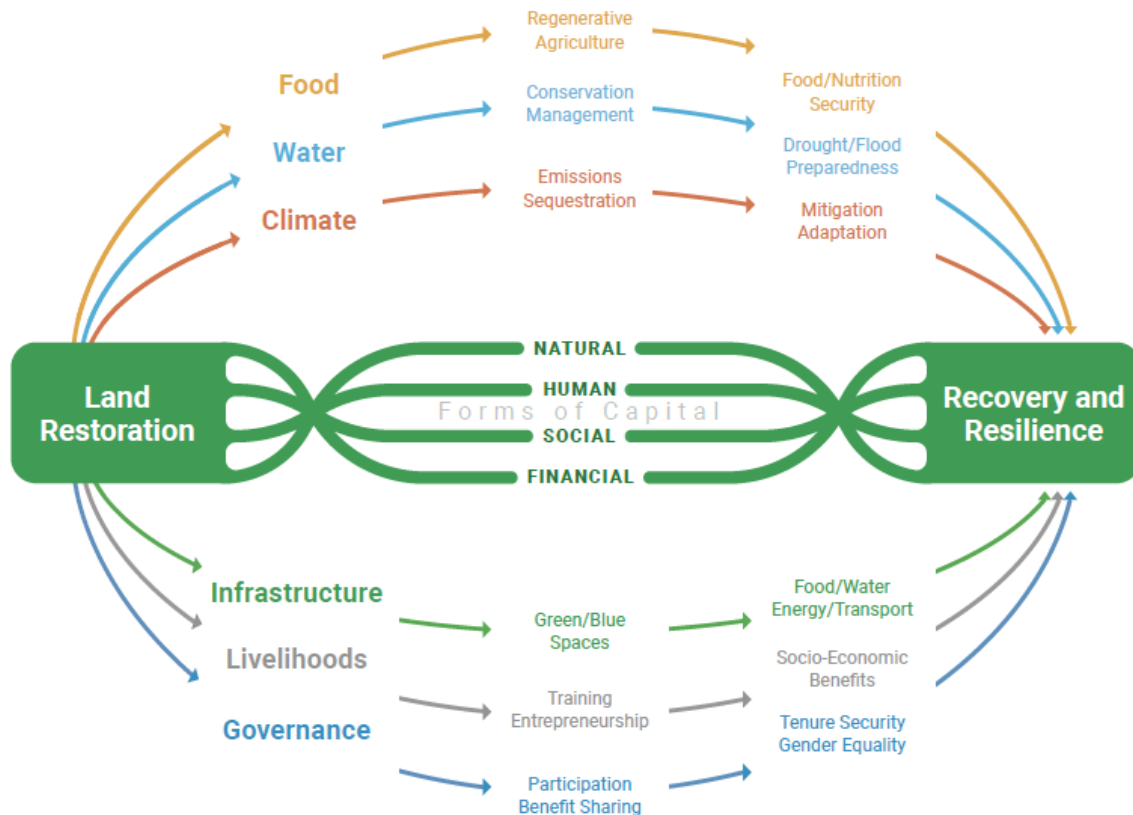
¹⁸ United Nations Convention to Combat Desertification. 2022. The Global Land Outlook, second edition. UNCCD, Bonn.

https://www.unccd.int/sites/default/files/2022-04/UNCCD_GLO2_low-res_2.pdf

¹⁹ UNCCD, 2022. Summary for Decision Makers. Global Land Outlook, second edition. United Nations Convention to Combat Desertification, Bonn. https://www.unccd.int/sites/default/files/2022-04/GLO2_SDM_low-res_0.pdf

- The UN Decade on Ecosystem Restoration is galvanizing indigenous peoples and local communities, governments, the private sector, and civil society as part of a global movement to undertake all types of restoration, across all scales, marshalling all possible resources. This powerful 10-year ambition aims to transform land and water management practices to meet the demands of the 21st century while eradicating poverty, hunger, and malnutrition.

Figure 3: Land restoration pathways to recovery and resilience



Source: UNCCD, 2022.

References and additional reading list

Goals and Commitments for the Restoration Decade: A global overview of countries' restoration commitments under the Rio Conventions and other pledges © PBL Netherlands Environmental Assessment Agency, The Hague, 2020. PBL publication number: 3906.

<https://www.pbl.nl/en/publications/goals-and-commitments-for-the-restoration-decade>

The global potential for land restoration: Scenarios for the Global Land Outlook 2 © PBL Netherlands Environmental Assessment Agency, The Hague, 2021. PBL publication number: 3898. <https://www.pbl.nl/en/publications/the-global-potential-for-land-restoration-scenarios-for-the-global-landoutlook-2>

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