Land Degradation Neutrality

A scientific conceptual framework

The objectives of LDN are to:

- Maintain or improve ecosystem services;
- Maintain or improve productivity, in order to enhance food security;
- Increase resilience of the land and populations dependent on the land;
- Seek synergies with other environmental objectives;
- Reinforce responsible governance of land tenure.

Introduction

Achieving Land Degradation Neutrality (LDN) is the new paradigm, introduced to halt the ongoing loss of healthy land as a result of unsustainable management and land conversion. Defined as "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems"[1], the goal of LDN is to maintain the land resource base so that it can continue to supply ecosystem services while enhancing the resilience of the communities that depend on the land.

While the scope of the United Nations Convention to Combat Desertification (UNCCD) is limited to drylands, the LDN conceptual framework is intended to be applicable across all land types, so it can be used by countries according to their individual circumstances. The LDN conceptual framework is designed to apply to all land uses (i.e. land managed for production – e.g. agriculture, forestry, for conservation – e.g. protected areas and also land occupied by human settlements and infrastructure) and all types of land degradation.

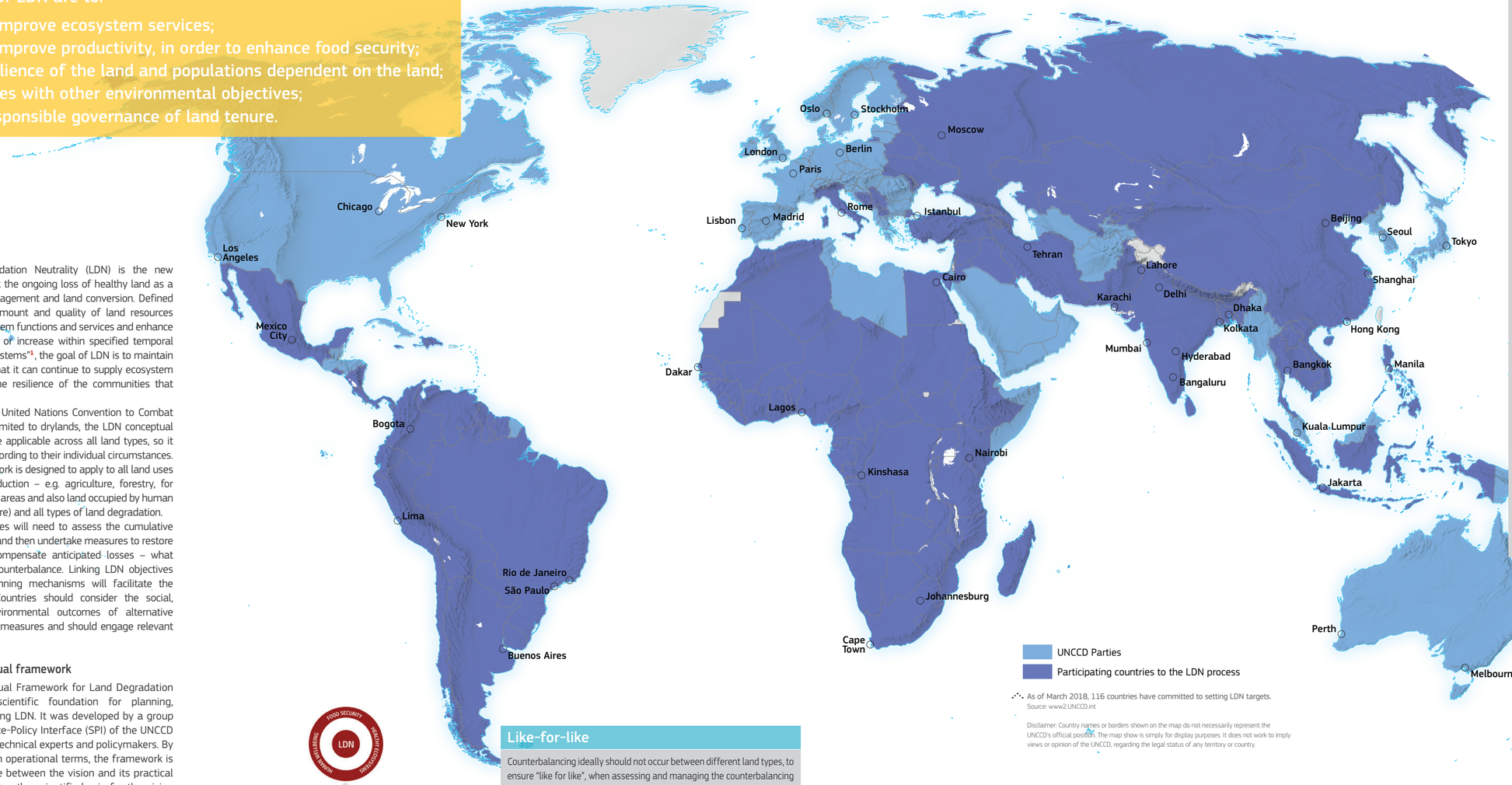
To achieve LDN countries will need to assess the cumulative effect of land use decisions and then undertake measures to restore degraded land so as to compensate anticipated losses – what the policy refers to as a counterbalance. Linking LDN objectives with existing land-use planning mechanisms will facilitate the implementation of LDN. Countries should consider the social, economic as well as environmental outcomes of alternative options when planning LDN measures and should engage relevant stakeholders.

Overview of the conceptual framework

The Scientific Conceptual Framework for Land Degradation Neutrality[2] provides a scientific foundation for planning, implementing and monitoring LDN. It was developed by a group of experts led by the Science-Policy Interface (SPI) of the UNCCD and has been reviewed by technical experts and policymakers. By defining the LDN concept in operational terms, the framework is designed to create a bridge between the vision and its practical implementation. It articulates the scientific basis for the vision and logic of LDN and, based on this, presents a strategy for achieving LDN, an approach to monitoring LDN status and guidance on interpreting the results of monitoring.

Integrated land use planning and the counterbalancing mechanism

Achieving LDN will require monitoring land use where degradation is anticipated (so that cumulative negative impacts can be estimated), followed by interventions designed to avoid, reduce or reverse land degradation, with the intent of achieving neutrality at national scales. Therefore, the conceptual framework introduces a new approach in which land-degradation management is coupled with land-use planning. Decision-makers are encouraged to consider the cumulative effects on the health and productivity of a nation's land resources caused by the collective impact of their individual decisions. LDN thus promotes integrated land use planning, with a long-term planning horizon including consideration of the likely impacts of climate change. The counterbalancing mechanism requires implementation of interventions that will deliver gains in land-based natural capital equal to or greater than anticipated losses due to degradation elsewhere.

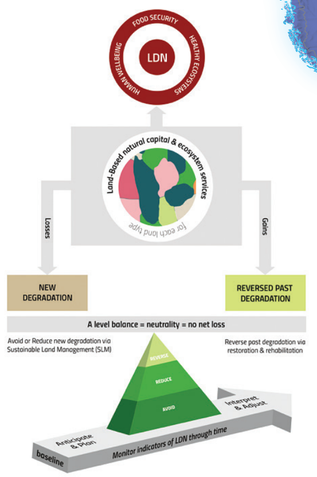


As of March 2018, 116 countries have committed to setting LDN targets.
Source: www2.UNCCD.int

Disclaimer: Country names or borders shown on the map do not necessarily represent the UNCCD's official position. The map show is simply for display purposes. It does not work to imply views or opinion of the UNCCD, regarding the legal status of any territory or country.

The principles for governing LDN:

1. Maintain or enhance land-based natural capital.
2. Protect the rights of land users.
3. Respect national sovereignty.
4. For neutrality, the LDN target equals (is the same as) the baseline.
5. Neutrality is the minimum objective: countries may elect to set a more ambitious target.
6. Integrate planning and implementation of LDN into existing land-use planning processes.
7. Counterbalance anticipated losses in land-based natural capital with interventions to reverse degradation, to achieve neutrality.
8. Manage counterbalancing at the same scale as land-use planning.
9. Counterbalance "like for like" (within the same land type).
10. Balance economic, social and environmental sustainability.
11. Base land-use decisions on multi-variable assessments, considering land potential, land condition, resilience, social, cultural and economic factors.
12. Apply the response hierarchy in devising interventions for LDN: Avoid > Reduce > Reverse land degradation.
13. Apply a participatory process: include stakeholders, especially land users, in designing, implementing and monitoring interventions to achieve LDN.
14. Reinforce responsible governance: protect human rights, including tenure rights; develop a review mechanism; and ensure accountability and transparency.
15. Monitor using the three UNCCD land-based global indicators: land cover, land productivity and carbon stocks.
16. Use additional national and sub-national indicators to aid interpretation and to fill gaps for ecosystem services not covered by the three global indicators.
17. Use the "one-out, all-out" approach to interpret the result of these three global indicators.
18. Apply local knowledge and data to validate and interpret monitoring data.
19. Apply a continuous learning approach: anticipate, plan, track, interpret, review, adjust, create the next plan.

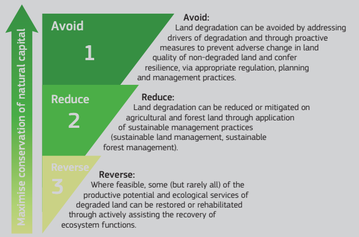


Schematic of the scientific conceptual framework for land degradation neutrality. Envisaged new land degradation needs to be counterbalanced by restoring already degraded land so that on balance the area degraded remains the same or decreases. This is done per land type on a like-for-like basis.
Source: Orr B., 2017[2].

Like-for-like

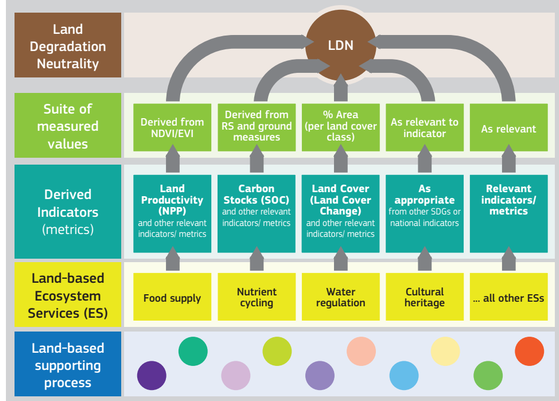
Counterbalancing ideally should not occur between different land types, to ensure "like for like", when assessing and managing the counterbalancing between losses and gains. In other words, a gain in one land type cannot counterbalance a loss in a different land type. Counterbalancing losses in land types managed for conservation with gains in land types managed for production should be avoided.

LDN activities should seek to deliver 'win-win' outcomes, whereby land restoration and rehabilitation contribute to broader environmental goals and more sustainable livelihoods.



The LDN response hierarchy encourages broad adoption of measures to avoid and reduce land degradation, combined with localised action to reverse degradation, to achieve LDN across each land type. It acknowledges that preventing degradation is typically easier and more cost effective than reversing degradation.
Source: Orr B., 2017[2].

Monitoring LDN



Selection of indicators based on ecosystem services to be monitored.
Source: Orr B., 2017[2].

Monitoring LDN achievement of neutrality will quantify the balance between the area of gains (significant positive changes in LDN indicators=improvements) and area of losses (significant negative changes in LDN indicators=degradation), within each land type across the landscape. The LDN indicators specify what to measure, while the metrics state how each of the indicators is assessed. Indicators for LDN were selected to reflect the land-based ecosystem services the LDN seeks to support. The relationship between ecosystem services, indicators and metrics is illustrated in the figure adjacent.

LDN can help achieve multiple global development and environmental goals

Achieving LDN can have major benefits for both society and the environment. The Sustainable Development Goal 15 (SDG 15) "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" includes the specific target (15.3) to "combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods and strive to achieve a land degradation-neutral world". Achieving this goal will be a catalyst to many other SDG goals relating to poverty, hunger, water, fuel and climate. LDN, however, also cuts across all three of the Rio conventions, as in addition to its obvious links to the Convention to Combat Desertification, it will also help maintain biodiversity as well as reduce the rate of climate change through the sequestering of carbon[3].