



Land Degradation Neutrality (LDN) Targets for South Africa

1. Introduction

Land degradation, biodiversity loss and climate change are global environmental problems that are interrelated. Global estimates indicate that 25% of all land is highly degraded with 36% slightly or moderately degraded. Increases in land degradation may lead to a vicious cycle of biodiversity loss and climate change. About 91% of South Africa is dryland. The country is therefore prone to land degradation and droughts.

South Africa ratified the United Nations Convention to Combat Desertification (UNCCD) in September 1997. Parties to the Convention are required to produce National Action Programmes (NAP) to combat land degradation. South Africa produced its first NAP in 2004 and is also in the process of finalising the revised and updated NAP. The LDN TSP will further complement the implementation of the new NAP.

South Africa is also amongst other countries that face the challenges of poverty, unemployment and inequality. Balancing socio-economic development issues and environmental sustainability will be crucial. Sustainable development goal 15 focuses on promoting life on land. This goal is aimed at “protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, and halting and reversing land degradation and halting biodiversity loss”. Target 15.3 requires countries to establish voluntary targets to achieve LDN by 2030. South Africa is one of the 114 countries that have volunteered to establish the LDN targets.

Three global indicators of land degradation have been recommended for use in assessing land degradation. These are land cover change, land productivity and soil organic carbon. Countries are required to use these indicators and any other nationally relevant ones when reporting on land degradation.

South Africa has nine biomes. Savanna (32.5% of land area) is the largest whilst forest (0.3%) is the smallest biome. Table 1 shows the distribution of terrestrial carbon stocks in different biomes. Most of the carbon is stored in grassland and Savanna.

Table 1. Carbon stored in different biomes (Tg C). Source: DEA (2017)¹.

Biomes	Proportion of land area (%)	Amount of carbon stored
Savanna	32.5	2091
Grassland	27.9	2392
Nama Karoo	19.5	593

¹ Department of Environmental Affairs (DEA) 2017. The South African carbon sinks atlas. 1st edition. 15 pp.

Succulent Karoo	6.5	
Fynbos	6.6	277
Albany Thicket	2.2	416
Indian Ocean Coastal Belt	1.1	
Forest	0.3	16
Desert	0.5	6

The LDN response strategy revolves around avoiding degradation; reducing degradation and restoring degraded lands. South Africa has enacted several laws and policies aimed at preventing land degradation. Furthermore, the Department of Agriculture, Forestry and Fisheries (DAFF) and Department of Environmental Affairs (DEA) have mandates to promote the conservation and sustainable management of natural resources. LandCare is one of DAFF's flagship programmes that focuses on Sustainable Land Management (SLM) as well as restoration and rehabilitation of degraded areas. The key components of the LandCare programme include soil care, water care, veld care, conservation agriculture and junior care. In addition, The Department of Environmental Affairs has several Environmental Programmes that focus on the ecological infrastructure in the country. These include the Working for Forests, Working for Ecosystems, Working for the Coast, Working for Water, Working for Land, Working for Wetlands, Working on Fire and Working on Waste. These programmes involve partnerships with local communities and other government departments such as the Department of Agriculture, Forests and Fisheries, and Department of Water and Sanitation (DWS). These programmes have contributed both to job creation, sustainable natural resource management, restoration and rehabilitation of degraded areas.

The Land Degradation Assessment in Drylands (LADA) National Assessment Project for South Africa developed three indices. These were the degradation index, conservation index and sustainability priority index. The degradation index focuses on the extent and severity of land degradation whilst the conservation index focuses on areas under sustainable land management. The sustainability priority index focuses on levels of degradation, conservation, land capability and socio-ecological variables such as poverty, dependency on agriculture, forestry and fisheries and their contribution to the gross domestic product (GDP). These indices were used to select the most degraded areas (i.e. degradation "hotspots") for the LDN TSP. It is important to note that national parks and other protected areas serve as valuable benchmark when assessing the LDN indicators.

2. Why is it important to establish LDN Targets?

- Establishment of LDN Target(s) is foremost a political process that utilizes the best available knowledge, including the LDN baseline, to set ambitious and aspirational yet realistic targets. It means defining broad, yet clear, time-bound and measurable objectives on what a country wants to achieve in terms of halting and reversing land degradation and restoring degraded lands through a wide range of possible measures.
- Through the LDN target(s), South Africa aims to achieve a balance between anticipated land degradation (losses) and planned positive actions (gains), in order to achieve, at least, a position of no net loss of healthy and productive land. Neutrality is the minimum objective.
- South Africa is setting LDN targets at national scale with ambition to reach LDN for the entire country taking into account all LDN indicators.
- The national targets are supplemented with sub-national and specific targets:
 - **LDN at the sub-national scale:** LDN targets can be defined for specific regions. The grassland biome, thicket biome and renosterveld are under severe threat of land degradation. These

vegetation types represent degradation “hot spots” and are a high-value priority in achieving LDN.

- **Specific targets to avoid minimize and reverse land degradation:** Areas invaded by alien species and those that are bush encroachment will also be targeted for clearing and rehabilitation.
- The proposed time horizon for the **achievement of LDN targets is the year 2030** in order to align to the 2030 Agenda for Sustainable Development (SDG target 15.3).
- All targets set should be **measurable** according to the LDN indicator framework endorsed at national and global levels.
- All targets should be **validated** by the national LDN working groups and **endorsed** by the Government at the highest possible level.
- Relevant **stakeholder** groups should be involved in the LDN target setting process through the LDN national working groups in order to ensure ownership and evaluate trade-offs early on in the planning process.
- LDN Target(s) should be **integrated** into existing environmental, agricultural, infrastructure and overall development policies and plans, including UNCCD NAPs, NDCs, SDG and restoration targets. Most importantly, they should become an essential component of integrated land-use planning.

3. LDN Targets

Box 1: LDN Targets of South Africa

LDN at the national scale

- LDN is achieved by 2030 as compared to 2015 (no net loss).
- LDN is achieved by 2030 as compared to 2015 and an additional 5% of the national territory has improved (net gain).

LDN at the sub-national scale (if applicable/done)

- LDN is achieved in the grassland biome by 2030 as compared to 2015 (no net loss)
- LDN is achieved in the thicket biome by 2030 as compared to 2015 (no net loss)

Specific targets to avoid, minimize and reverse land degradation

- Improve productivity and SOC stocks in 6 000 000 hectares of cropland by 2030
- Rehabilitate and sustainably manage 1 809 767 hectares of “forest”² by 2030
- Rehabilitate and sustainably manage 1 349 714 ha of fynbos by 2030
- Rehabilitate and sustainably manage 87 621 ha of thicket by 2030
- Rehabilitate and sustainably manage 2 436 170 ha of grassland by 2030
- Rehabilitate and sustainably manage 2 646 069 ha of savanna (< 5m) by 2030
- Rehabilitate and sustainably manage 149 877 ha of Succulent Karoo by 2030
- Rehabilitate and sustainably manage 528 632 ha of Nama Karoo by 2030
- Rehabilitate and sustainably manage 76 525 ha of desert by 2030
- Rehabilitate 61 900 ha of wetlands by 2030,
- Clear 1 063 897 ha of alien invasive species by 2030
- Clear 633 702 ha of bush encroached land by 2030, and
- Rehabilitate 350 000 ha of artificial areas by 2030.

² Definition of forest follows the FAO land cover classification that includes savanna (> 5 m).

Table 2. Target setting summary for South Africa.

Negative trends ¹	Area (km ²)	Corrective measures	LDN target	
			Area (km ²)	Time (year)
Forest showing declining productivity and stable and not stressed	50 064	<ul style="list-style-type: none"> • Improved grazing management • Erosion control • Afforestation • Forest protection • Sand dune stabilization • Reforestation with local species 	-18 097.67	2030
Shrubs, grassland and sparsely vegetated areas showing early signs of decline and having a declining productivity	240 479	<ul style="list-style-type: none"> • SLM practices to avoid overgrazing • SLM practices to avoid soil erosion • Control of alien invasive species • Control bush encroachment • Rehabilitation of degraded areas (through economic incentives) • Introduce stewardship programmes 	-72 746.08	2030
Cropland showing declining productivity and early signs of decline	60 000	<ul style="list-style-type: none"> • SLM such as conservation agriculture and mulching • Manuring, composting and nutrient management • Crop rotations • Use agroforestry practices to improve cropland productivity 	-60 000	2030
Wetlands showing early signs of decline and declining productivity	1074	<ul style="list-style-type: none"> • SLM practices to avoid overgrazing • Rehabilitation 	-619	2030
Artificial areas	3539	<ul style="list-style-type: none"> • Waste management • Storm water control • Establishing vegetation strips and cover • Water quality improvement 	-3 500	2030
Alien invasive species(e.g., <i>Prosopis</i> species)	15106	<ul style="list-style-type: none"> • Clearance of invasive species and promote establishment of local species • Rehabilitation after clearing of alien vegetation to avoid soil erosion and re-colonization by alien species 	-10 638.97	2030

Bush encroachment ³	57194	<ul style="list-style-type: none"> • Bush clearing under “ Working for” programmes in the Department of Environmental Affairs and SANParks • Rehabilitation of old cultivated lands • Improved grazing management • Effective use of fire to suppress bush thickening • 	-6 337.02	2030
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¹NB: Estimates of negative trends obtained from global data set.

²Lehman Lindeque, Dr George Chirima, DAFF (Ms Lydia Bosoga and Mr Klaas Mampholo) and SANParks (Dr Claire Ntshane, Mr Ernest Daemane and Dr M Masubelele) provided LDN target data. Comments from other members of the LDN National Working Group are gratefully acknowledged.

³Andrew Skowno *et al.* 2017. *Global Change Biology*, **23**: 2358-2369. This is likely to be an underestimate of the extent of bush encroachment as it focuses on grassland replaced by woodland. It does not include thickening of woody biomass in other biomes.

⁴NB: Definition of forest follows the FAO land cover classification that includes savanna.