

Experiences from the UNCCD Land Degradation Neutrality target setting programme

Workshop

*‘Implementing SDG target 15.3
in the EU and in the Member
States: Exchange of approaches
to implement Land Degradation
Neutrality’*

Sara Minelli

Brussels, 6 December 2016

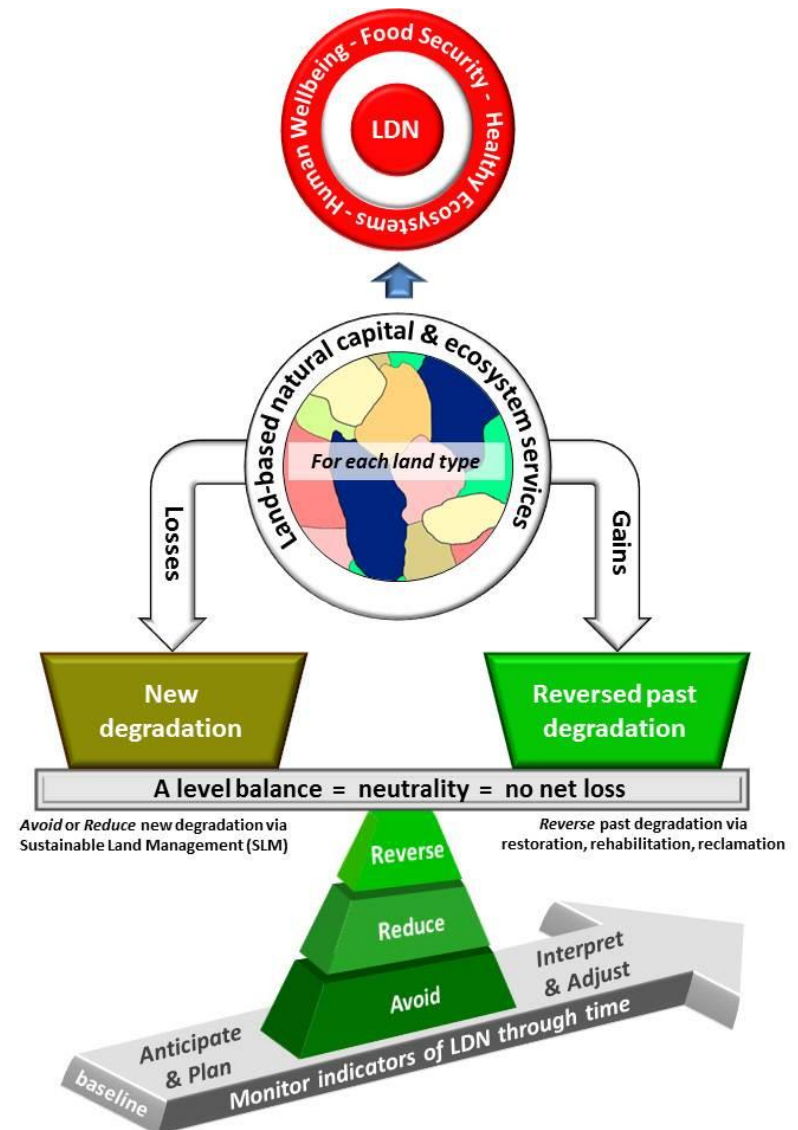


United Nations Convention
to Combat Desertification

- **Conceptualizing LDN: the conceptual framework for LDN**
- **Implementing LDN: examples from the LDN pilot project and opportunities for LDN implementation in the EU**

Land Degradation Neutrality

“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”



Scientific conceptual framework for LDN

Scientific Conceptual Framework for Land Degradation Neutrality

August 2016

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EXECUTIVE SUMMARY

The conceptual framework for Land Degradation Neutrality (LDN) is intended to provide a scientifically-sound basis for understanding LDN, and to inform the development of practical guidance for pursuing LDN and monitoring progress towards the LDN target.

It focuses on the goal of LDN and the supporting processes required to deliver this goal, including biophysical and socio-economic aspects, and their interactions.

The United Nations Convention to Combat Desertification (UNCCD) defines land degradation neutrality 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

SCIENCE-POLICY BRIEF

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION
SCIENCE-POLICY BRIEF 02 – September 2016

Land in Balance

The Scientific Conceptual Framework for Land Degradation Neutrality

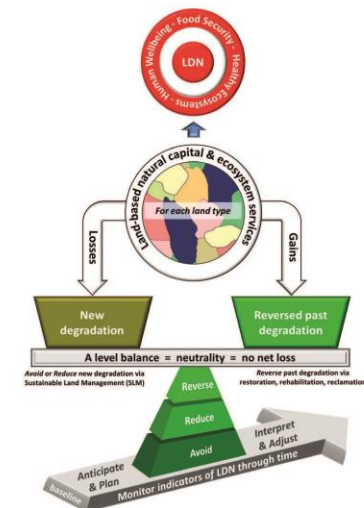
The United Nations Convention to Combat Desertification (UNCCD) defines Land Degradation Neutrality (LDN) as "a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems". Within the UNCCD this definition is intended to apply to affected areas as defined in the text of the Convention. The LDN conceptual framework has been developed to guide countries in operationalising this definition.

Land Degradation Neutrality (LDN) is a new initiative intended to halt the ongoing loss of healthy land through land degradation. Unlike past approaches, LDN creates a target for land degradation management, promoting a dual-pronged approach of measures to avoid or reduce degradation of land, combined with measures to reverse past degradation. The objective is that losses are balanced by gains, in order to achieve a position of no net loss of healthy and productive land.

- 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.

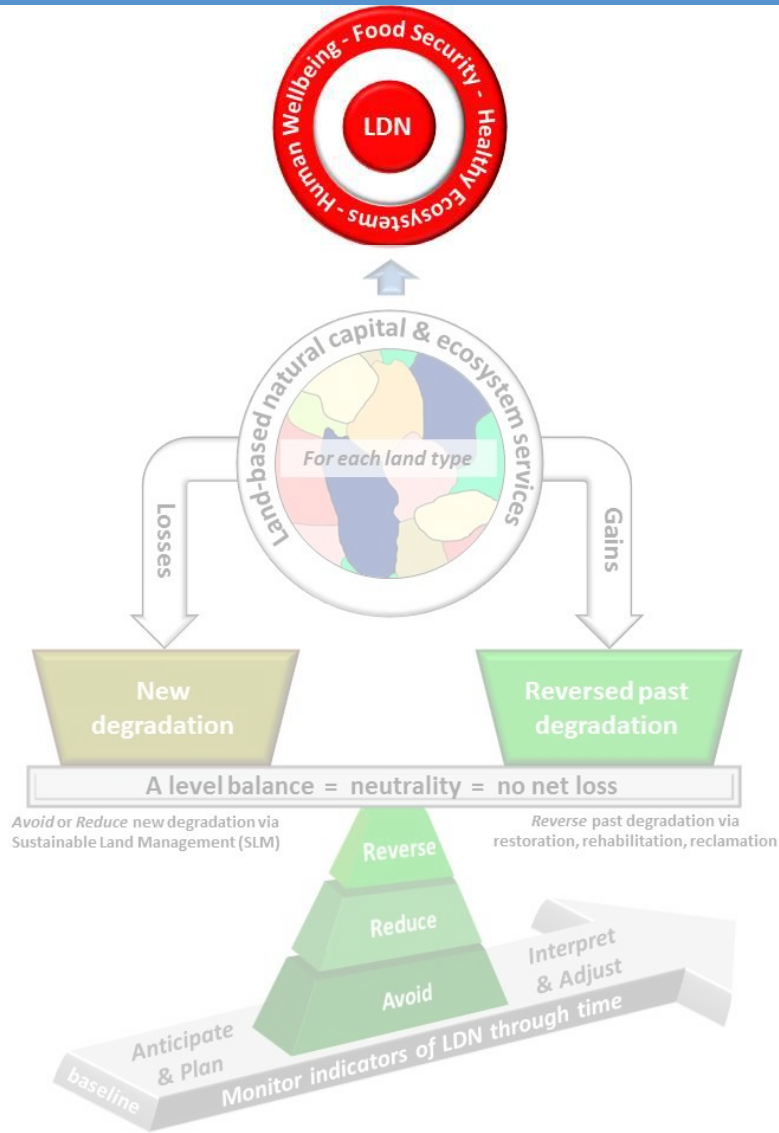
Conceptual Framework for Land Degradation Neutrality

Figure 1 illustrates the interrelationships among the major elements of the scientific conceptual framework for LDN. The target at the top expresses the vision of LDN, emphasizing the link between human prosperity and the natural capital of land – the stock of natural resources that provides flows of valuable goods and services. The balance scale in the centre illustrates the mechanism for achieving neutrality: ensuring that future land degradation (losses) are counterbalanced through planned positive actions elsewhere (gains) within the same land type (same ecosystem and land potential). The fulcrum of the scale depicts the hierarchy of responses: avoiding degradation is the highest priority, followed by reducing degradation and finally reversing past degradation. The arrow at the bottom of the diagram illustrates that neutrality is assessed by monitoring the LDN indicators relative to a fixed baseline. The arrow also shows that neutrality needs to be maintained over time through land use planning that anticipates losses and plans gains, and applies adaptive learning (where tracking impacts permits mid-course adjustments to help ensure neutrality is maintained in the future).



Vision of LDN

to sustain and improve the stocks of land-based natural capital and the associated flows of ecosystem services, in order to support the future prosperity and security of humankind

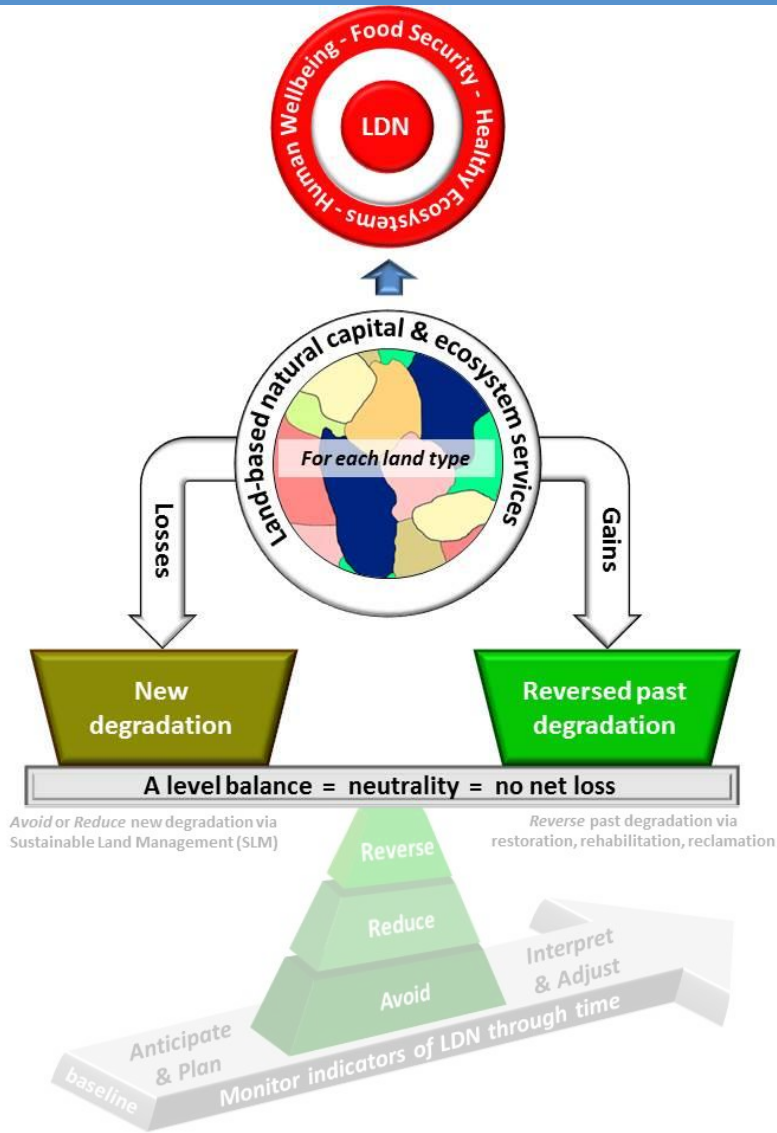


Mechanism for achieving neutrality

Counterbalancing future land degradation (anticipated losses) through planned measures to achieve equivalent gains elsewhere within the same land type

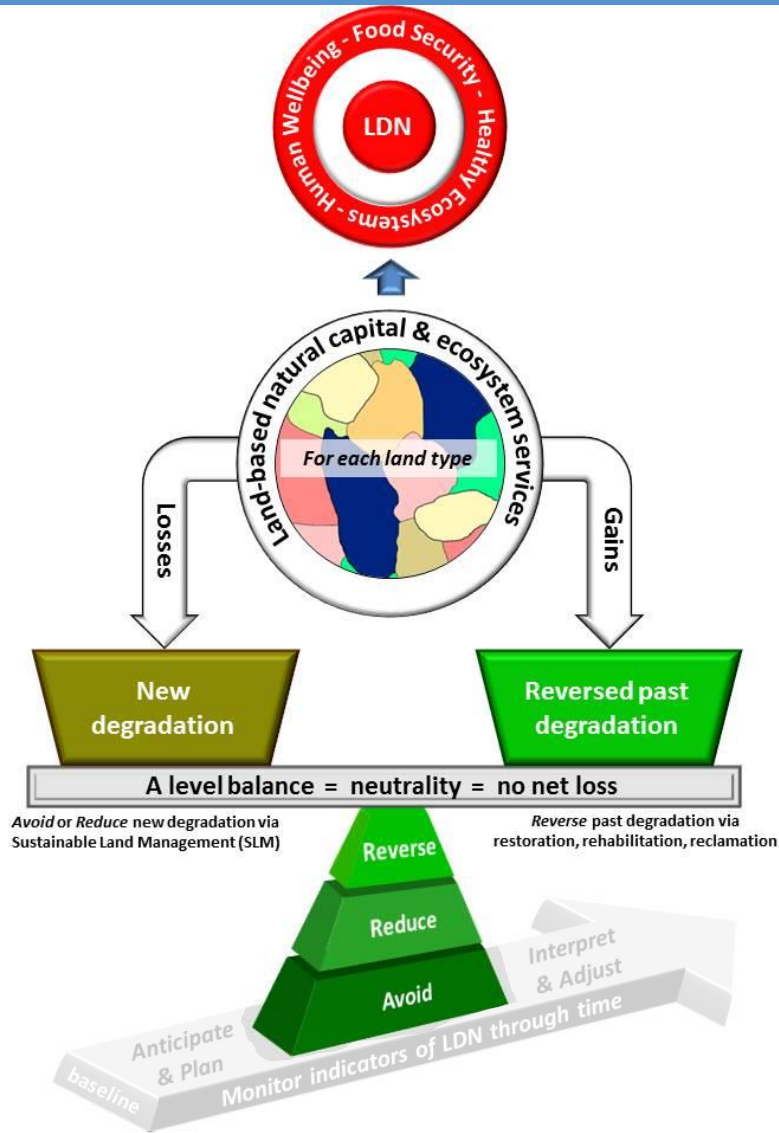
“like for like”

Neutrality = no net loss compared to the reference state



Response Hierarchy

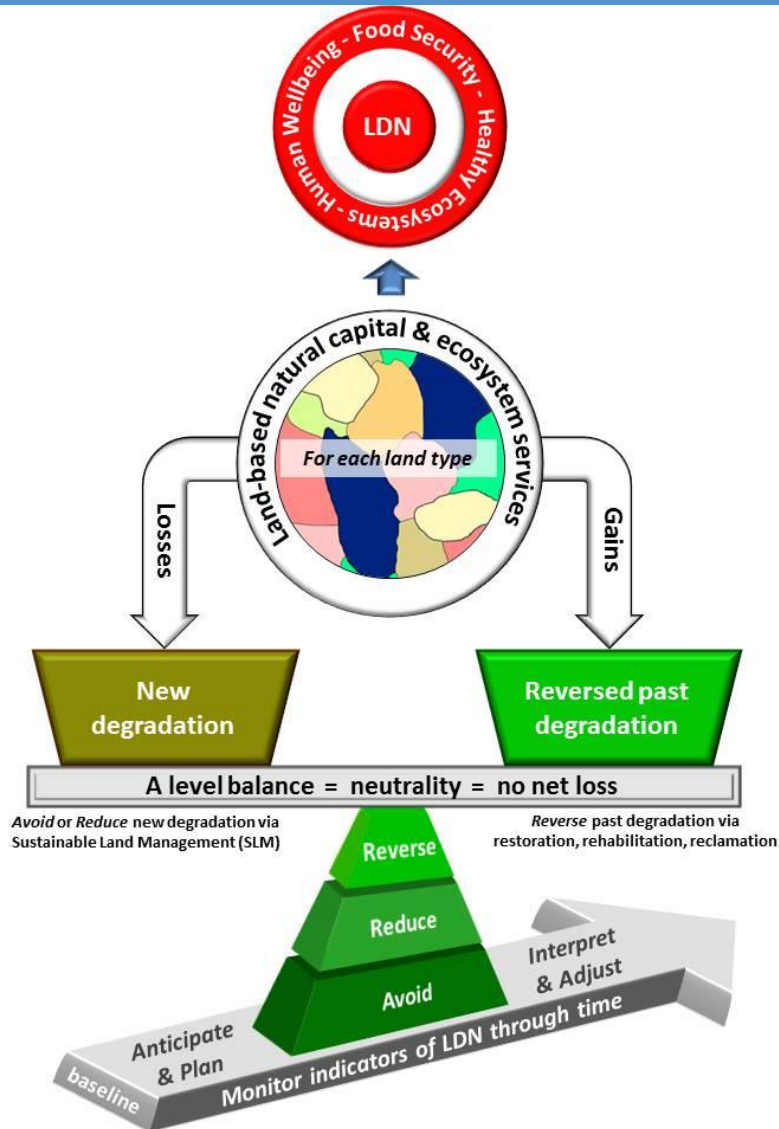
Avoiding degradation is the highest priority, followed by reducing degradation and finally reversing past degradation



Planning and monitoring

LDN introduces a new approach in which land degradation management is coupled with land use planning

Neutrality is assessed by monitoring the LDN indicators relative to a fixed baseline



LDN Target Setting Programme

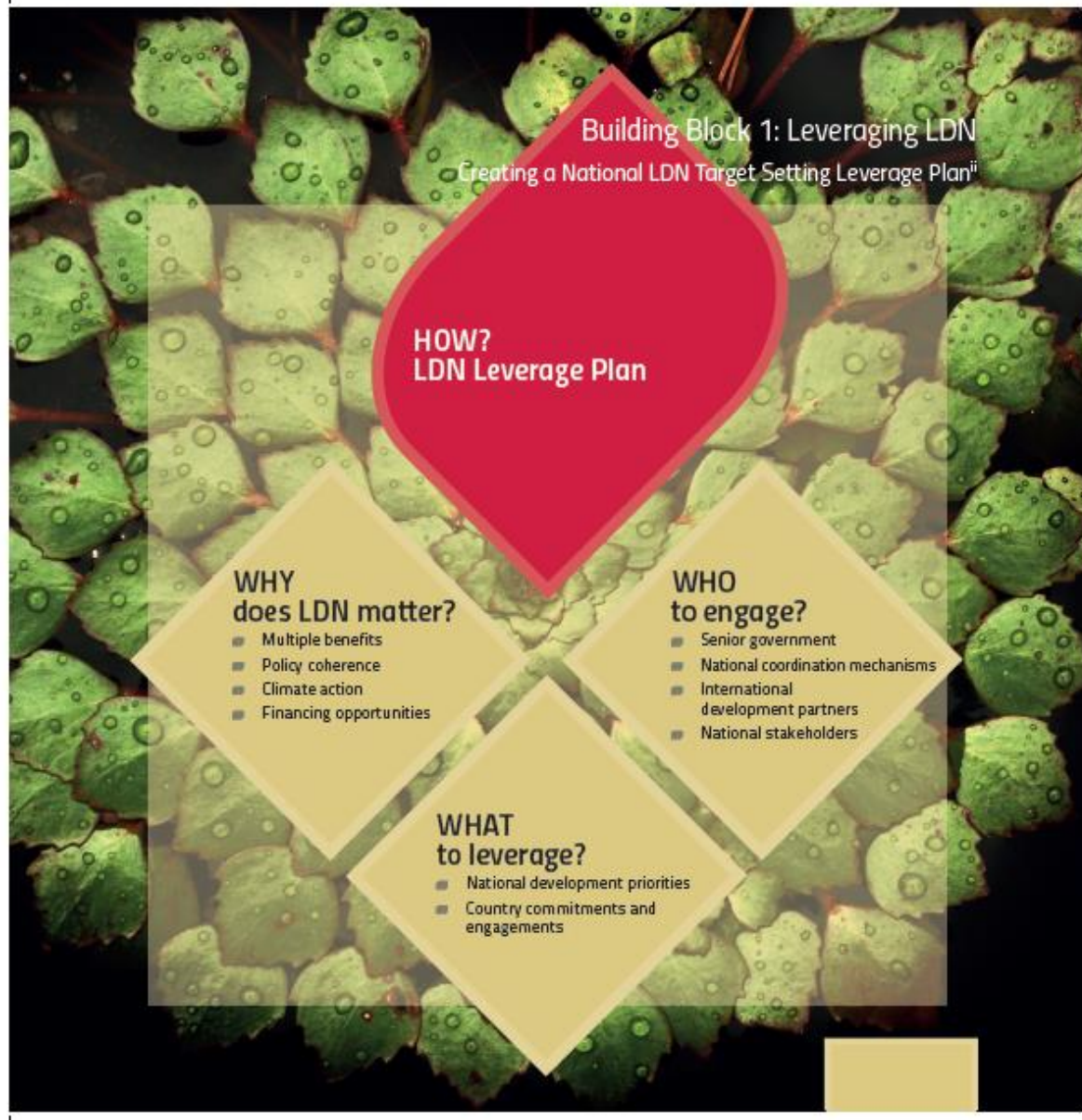
Supporting countries to set Land Degradation Neutrality targets



Achieving Land Degradation
Neutrality at the country level
Building blocks for LDN target setting



Building block 1: Leveraging LDN



WHY does LDN matter to the country?

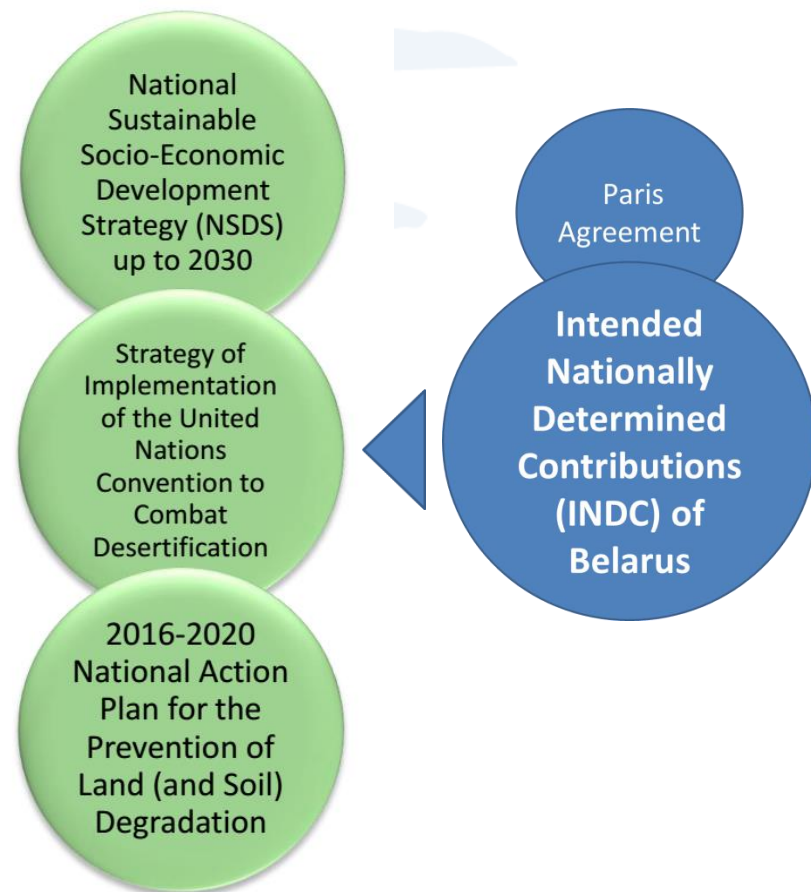
WHAT to leverage?

WHO to engage?

What to leverage?

...in Belarus

- **LDN integrated into national strategic documents and programmes:**
 - **National Sustainable Socio-Economic Development Strategy up to 2030;**
 - **Strategy of Implementation of the UNCCD; and**
 - **2016-2020 National Action Programme for the Prevention of Land (and Soil) Degradation.**
- **A specific LDN target related to the ecological rehabilitation of depleted peatland integrated into the nationally determined contribution (NDC)**



What to leverage in the EU?

	Thematic strategy on the urban environment (EC, 2006c)	Soil Thematic Strategy (EC, 2006d)	Roadmap to a resource efficient Europe (EC, 2011d)	EU biodiversity strategy to 2020 (EC, 2011g)	7EAP (EC, 2013e)	Communication on green infrastructure (EC, 2013c)	EU Forestry Strategy (EC, 2013b)
Specific impacts addressed							
Land take			✓		✓	✓	
Land fragmentation				✓	✓	✓	✓
Land degradation		✓	✓	✓	✓		✓
Soil sealing	✓	✓	✓				
Soil erosion		✓	✓		✓	✓	
Soil organic matter		✓	✓		✓		
Soil contamination		✓	✓		✓		
Contaminated sites			✓		✓		
Drivers addressed							
Urban sprawl	✓	✓					
Specific responses to be taken							
Green infrastructure				✓		✓	
Sustainable land management		✓			✓		✓
Land-use planning	✓				✓	✓	
Regeneration of brownfield sites/land rehabilitation	✓	✓			✓		

Source: EEA/Milieu elaboration.

European Environment Agency,
“The direct and indirect impacts of EU policies on land”

Online:
<http://www.eea.europa.eu/publications/impacts-of-eu-policies-on-land>

What to leverage in the EU?



“By 2020, EU policies take into account their direct and indirect impact on land use in the EU and globally, and the rate of land take is on track with an aim to achieve no net land take by 2050; soil erosion is reduced and the soil organic matter increased, with remedial work on contaminated sites well underway”.

The 2011 Roadmap to a resource efficient Europe

“By 2020 land is managed sustainably in the Union, soil is adequately protected and the remediation of contaminated sites is well underway.”

General Union Environment action programme to 2020 'Living well, within the limits of our planet' (7EAP)

“By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems.”

EU biodiversity strategy to 2020

“Binding target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990”

Intended Nationally Determined Contribution of the EU and its Member States

Building block 2: Assessing LDN



WHAT is the baseline?

WHAT are the drivers?

WHICH indicators to use?

WHICH data sources to use?

Which indicators to use?

...in Namibia

- Land cover
- Land productivity
- Soil organic carbon
- Additional Indicator: Bush Encroachment

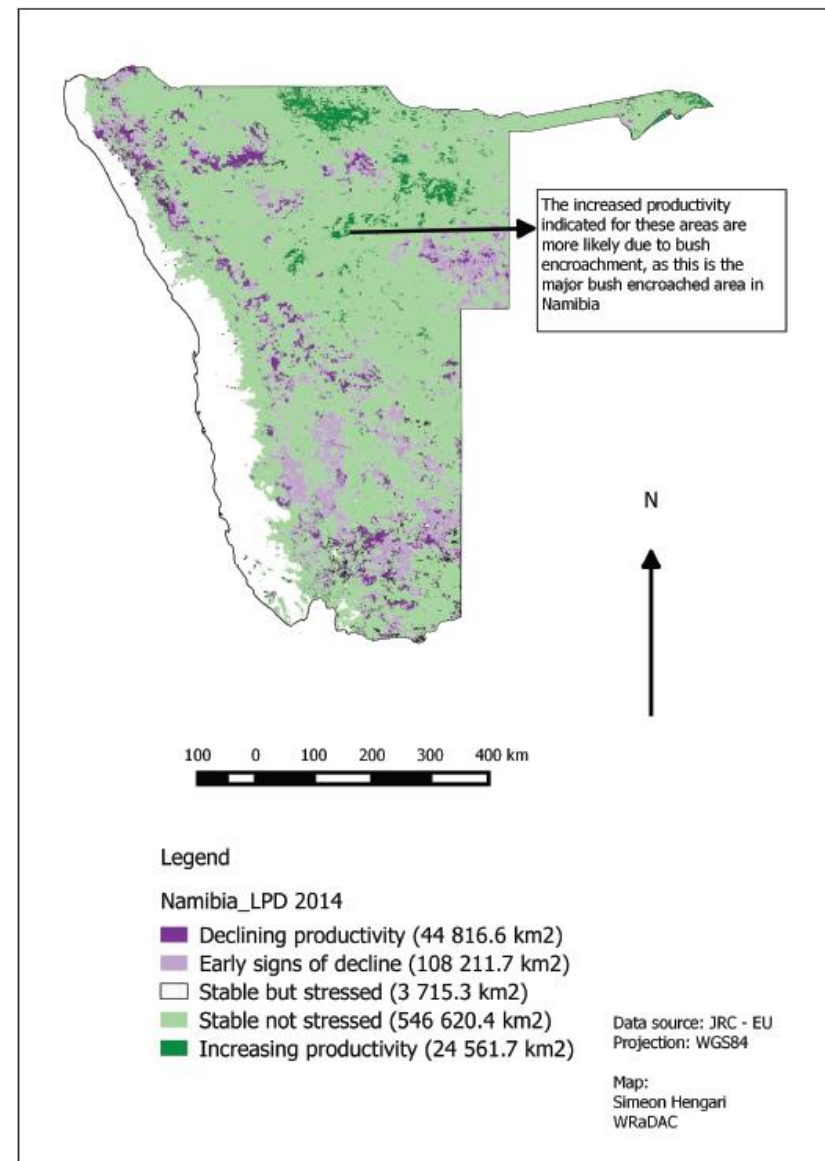
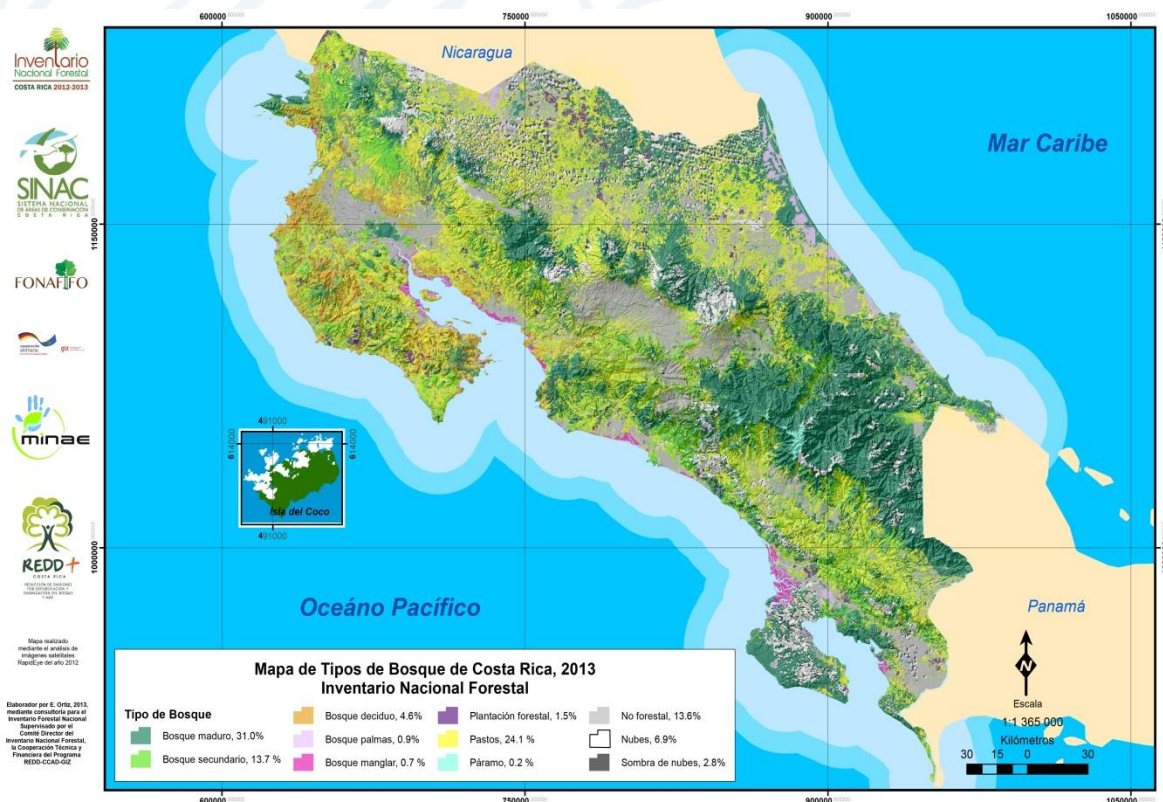


Figure 4. Land productivity dynamics in Namibia, 1998 – 2013 (data from the JRC-EU)

Which data sources to use?

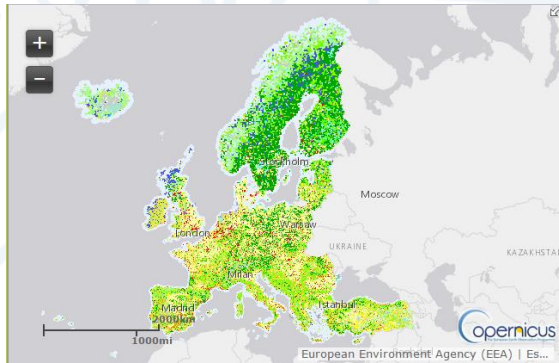
...in Costa Rica

- In Costa Rica, global data showed a 0.16% increase in forest cover between 2000 and 2010, while national data suggested a larger increase of 4.7%.
- Use of official national data is encouraged to increase country ownership

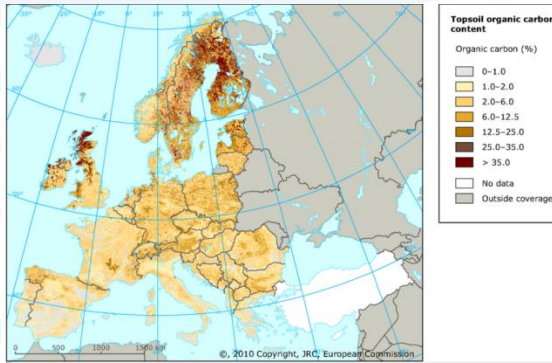


...and in the EU?

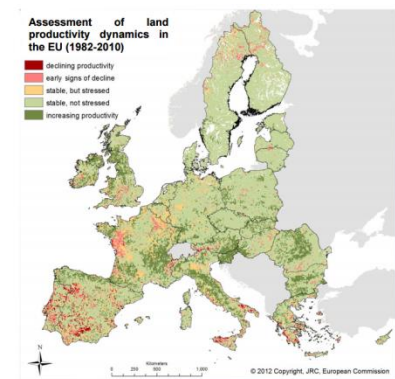
Some example of available indicators/data



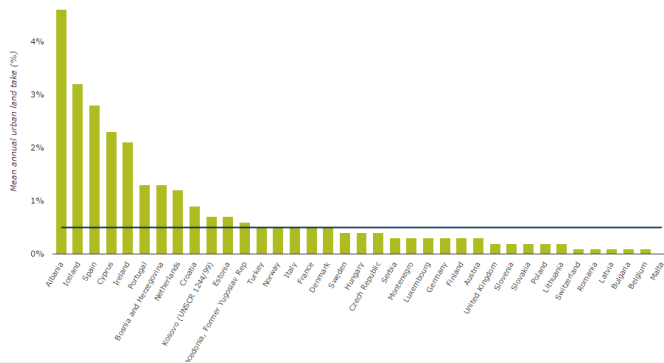
Land cover



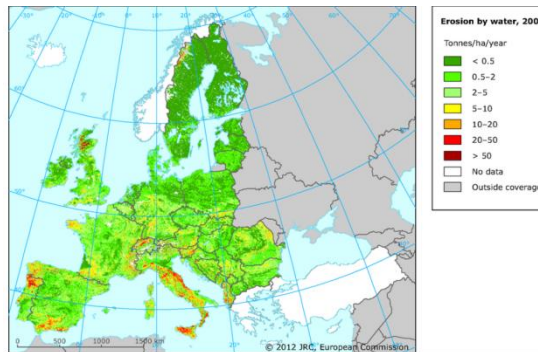
Soil organic carbon



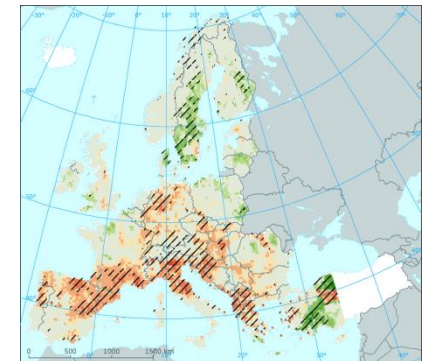
Land productivity dynamics



Land take



Soil erosion



Soil moisture

Examples of LDN targets

LDN at the national level

- LDN is achieved by 2030 compared to the 2015 baseline (no net loss)
- LDN is achieved by 2030 compared to the 2015 baseline plus an additional 10% of the national territory has improved (net gain)
- LDN is achieved by 2025 as compared to the 2015 baseline (earlier target year)

LDN at the (sub-) national level

- LDN is achieved in the Western province of country X by 2030, compared to the 2015 baseline (no net loss)
- LDN is achieved in the Southern province of country X by 2030, compared to the 2015 baseline plus an additional 25% of the province territory has improved (net gain)

Specific targets to avoid, reduce and reverse land degradation

- Improve productivity and Soil Organic Carbon (SOC) stocks in cropland and grasslands by 2030, compared to the 2015 baseline
- Rehabilitate X million hectares of degraded and abandoned land for crop production by 2030
- Halt the conversion of forests and wetlands to other land cover classes by 2020
- Increase forest cover by 20% by 2030, compared to the 2015 baseline
- Reduce the rate of soil sealing (conversion to artificial land cover) by 50% by 2030, compared to the 2015 baseline

WHAT is the level of ambition?

WHICH measures to implement?

Building block 3: Setting LDN targets



...in Costa Rica

“Costa Rica logrará para el año 2025, con una evaluación en el 2020, la Degradación Neutral de la Tierra”

...in Senegal

“Superficie dégradée 6 860 900 ha (34% de la superficie totale): Il faut un effort annuel soutenu de 480 263 ha par an à partir de 2020 pour tendre vers la neutralité 2035”

...in Ethiopia

“By 2036, ensure the rehabilitation and improvement of the productivity of about 21 M ha of forest land...”

...in Namibia

“Reduce bush encroachment on 1,9 M ha by 2040”

***The above targets are taken from the countries' pilot project reports.**

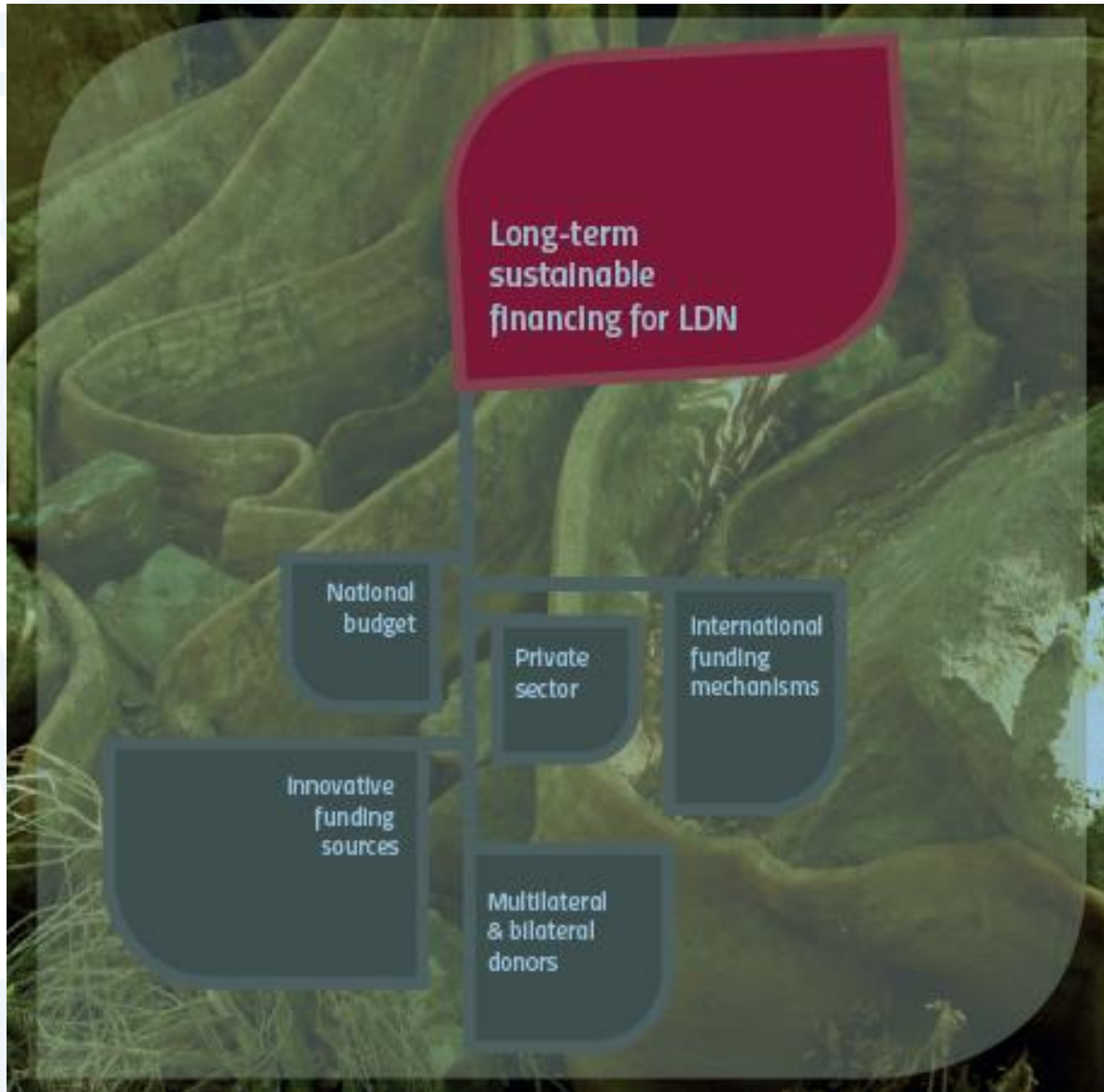
In same cases, they are only preliminary targets and where set before the adoption of the SDGs. For instance, Costa Rica's preliminary target was proposed with the disclaimer that more national data are needed. For Ethiopia and Namibia, the above targets are only 1 of the 9 and 6 targets set by the two countries respectively.

“By 2020 ... the rate of land take is on track with an aim to achieve no net land take by 2050...”

Can this be consider as a specific LDN target in the EU? Can the ambition level be raised by Member States to correspond to the SDG ambition level of reaching LDN by 2030?

Which other existing targets and commitments can be leveraged?

Building block 4: Achieving LDN



WHICH transformative LDN projects can be identified?

WHICH innovative sources of finance can be mobilized?

WHICH partnerships can be established?



Further readings

UNCCD/SPI. In Press. Scientific Conceptual Framework for Land Degradation Neutrality. A Report of the Science-Policy Interface. Barron J. Orr, Annette L. Cowie, Victor M. Castillo Sanchez, Pamela Chasek, Neville D. Crossman, Alexander Erlewein, Geertrui Louwagie, Martine Maron, Graciela I. Metternicht, Sara Minelli, Anna E. Tengberg, Sven Walter, and Shelly Welton. United Nations Convention to Combat Desertification (UNCCD) Science-Policy Interface (SPI), Bonn, Germany. ISBN (paper): 978-92-95110-42-7 ISBN (electronic): 978-92-95110-41-0.

UNCCD/SPI. 2016. Land in Balance: The Scientific Conceptual Framework for Land Degradation Neutrality. Science-Policy Brief 02 – September 2016. United Nations Convention to Combat Desertification (UNCCD) Science-Policy Interface (SPI), Bonn, Germany. ISBN 978-92-95110-36-6 (hard copy), 978-92-95110-35-9 (electronic copy). Online:
http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/10_2016_spi_pb_multipage_eng.pdf

UNCCD/The Global Mechanism (2016). Achieving Land Degradation Neutrality at the country level, Building blocks for LDN target setting.

Online: http://www2.unccd.int/sites/default/files/documents/160915_ldn_rgb_small%20%281%29.pdf

UNCCD/The Global Mechanism (2016). Scaling up land degradation neutrality target setting – from lessons to actions: 14 pilot countries' experiences.

Online: http://www2.unccd.int/sites/default/files/documents/160915_ll_rgb_small.pdf