Desertification and Land Degradation and their impact on natural ecosystems and food security:

A UNCCD response to the 2 degrees C target

2nd meeting of the 4th session of SED on the 2013-2015 review (SED 4–2)

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I. Facts, Terms and Definitions
Some Global Facts

- *Land* is a finite resource: Global arable lands = 1/32 of the planet
- 52% of agricultural land affected by degradation
- Land sector emissions: 6.2 Billion tonnes (6.2Gt) of CO2-e per year
- 1.8 billion of world population in 2025 will be living with absolute water scarcity and 2/3 (or 5.3 billion) could live under water-stress conditions
- Land degradation over the next 25 years may reduce global food production by up to 12%, and lead to an increase of, as much as, 30% of world food prices
- World Drylands = 40% land mass; 1/3 population; 44% food production system
- 925 million people going hungry (80%: small-holder farmers & landless poor in rural areas
- 40% interstate conflicts associated with land and natural resources: in 2008 in more than 30 countries
- Some 135 million people may be displaced by 2045 as a result of desertification
Some Definitions

- *Land is an ecosystem* (CBD, UNCCD) with specific infrastructure: Soil and water (abiotic) and biodiversity (biotic) resources that interact with the climate.

- *Land ecosystems* are “natural” and urban, cultivated, range, commercial woodland, agro-forests, silvo-pastoral, etc.

- *Land-based climate change adaptation and mitigation* means the link of terrestrial ecosystem to climate change, a direct driver of ecosystem change.

- *Land degradation* means the reduction / loss of the biological or economic productivity and complexity of land ecosystems resulting from land uses or from a combination of processes arising from human activities and habitation patterns.
Some Definitions (cont)

- **Affected Areas**: Drylands (currently affected AND at risk of becoming affected by LD)
- **Non-Drylands**: Potentially affected
- **SLM** practices reduce LD caused by factors be it physical (winds, runoffs, soil sealing, etc.) or chemical (nutrient leaching, loss of organic matter, etc.).
- **Land Degradation Neutrality (LDN)** is a state whereby the amount of healthy and productive land resources, necessary to support ecosystem services and enhance food security, remains stable or increases within specified temporal and spatial scales.
- If sustainably managed (SLM) the soil, the provisioning of land ecosystem services would be ensured.
- Beyond LDN: the achievement of land improvement and conservation (SLM).
Land and climate: small changes cause larger global changes

• AR 5: Dry areas expected to increase in many parts of the world, increasing the current extent of semi-arid areas and the risk for proper functioning of ecosystems.

• As the productivity and availability of land resources falls, so does adaptive capacity and resilience: unsustainable use of natural resources for food and energy causes land degradation locally, increases carbon emissions, reduces biodiversity, and diminishes rainfall at multiple scales.

• Policy Focus for CC mitigation and adaptation: Common approach for addressing LD in drylands today and in non-dryland areas at risk.
Land and climate:
small changes cause larger global changes (cont.)

- Land ecosystems (LE) used for:
  - provisioning services (mainly food: croplands, rangelands...) and
  - “natural” purposes (parks protected areas).

- A large proportion of LE used for provisioning services is “degraded” mostly due to the modes of use.

- Policy Focus for CC mitigation and adaptation: address non-degraded productive land and under restoration in drylands and in at risk of becoming drier, by exploring, identifying and further improving SLM methods and practices.
II. UNCCD Evolving:
Towards a more holistic approach
A more holistic vision of land management: Land Degradation Neutrality

LDN is about improving ecosystem services and their benefits... and about preventing social, economic losses.
Some LDN Benefits

- **Low cost**
  Average cost for land restoration is assumed at Euro 130 per hectare = 0.45 GT of CO2 equivalent. At the same time: Economic rates of return of conservation / rehabilitation and SLM could reach 12% - 40%

- **Multiple benefits**
  Improved livelihoods (food and water security / productivity increase / employment options) primarily target 1 billion people living in dryland areas (but such benefits for all);

- **Contribution to a low carbon world** (Current emissions are 36-40 GT/year)
  - To restore 12 million Ha/year, 1.7 billion USD or 6.75 GTCo2e/year sequestered
  - Contribution to sequestration: 16.875 % (~17%)
  - Target 180 million Ha restored by 2030 (permanence issues aside which need to be addressed)
Ecosystem-based approach

land degradation neutrality is not a global target which requires a top-down protocol or international agreement

Each country may declare its own level of ambition
Coherence with CC process:

UNCCD COP decisions on bottom-up target approach

• Dec 6/COP.11: 15. Invites affected country Parties, even if the NAP alignment process has not yet been completed, to establish voluntary national targets – consistent with the global targets identified by the CoP – to measure progress in achieving priorities established in the NAP;

• Dec 22/COP.11: 12. Encourages affected country Parties to establish targets using the progress indicators...taking into account regional and national specificities;
III. Final Thoughts
Opportunities: UNCCD support to Parties

1. **Support to Intended Nationally Determined Contributions (INDCs).** Key Information on land use for the scope and nature of the INDCs likely to include:

   - **Methodologies** for assessing land use emissions and removals on various scales (IPCC methodologies)
   - **Mitigation potential analyses** for land use sector and specific countries and activities (if available)
   - **National reports** (national communications, GHG inventories, biennial reports with information on mitigation actions)
   - **Projects, actions and plans** (NAMAs, national strategies for LDN/SLM, national climate change plans, national economic development plans)
Opportunities: UNCCD support to Parties

2. **Practical approach**: Integrating/combining sources of data for the INDCs: assessing the mitigation potential of existing plans/policies for land rehabilitation using IPCC default stock change and emission factors.

3. **Setting up of national land use mitigation targets, their potential and co-benefits**
   - INDCs and their LULUCF emissions component:
     - Target setting at several scales
     - Baselines/references
     - Measuring, reporting and verification

4. **Focused action towards achieving LDN can be a starting point when reporting on INDCs implementation. UNCCD offers support, to countries requesting assistance, in the development of land components in the INDCs for Paris 2015 COP**
Opportunities: UNCCD support to Parties

5. **Land-based indicators common for reporting on CC adaptation and mitigation and on progress on LDN and SLM**

- **Trends in land use/cover** (As it is a symptom of land use or land management change, land cover change can be used as a proxy for land use change)

- **Trends in land productivity** (stratified by land use/cover, to identify and prioritize areas with high magnitude and extent of LD, where temporal and spatial variations are significant and observable); **and**

- **Trends in soil organic carbon stocks** (Positive trends in SOC reflect the impact of SLM practices).

These indicators are already part of the UNCCD framework.

Can UNFCCC consider DLDD trends more explicitly using these opportunities when addressing the 2 degrees c target?
Thank you!

Presentation prepared by the UNCCD secretariat

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