UNCCD COP-14

August 3, 2019 New Delhi, India

Land Degradation and Restoration Assessment
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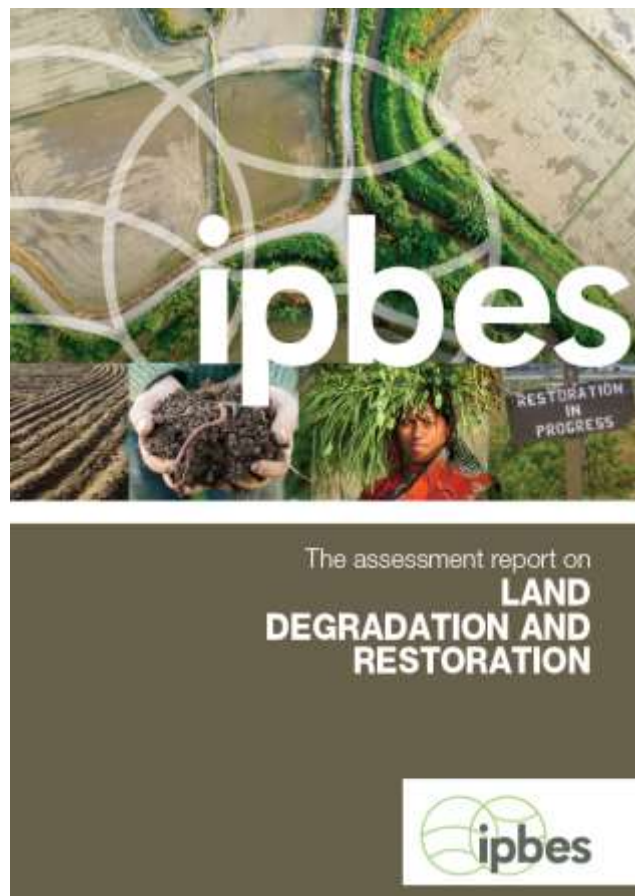# Land Degradation and Restoration Assessment

Major findings in the Summary for Policymakers

- There are instances of land degradation in virtually **every ecosystem type in the world**, and in every country.
- The severity and consequences vary, depending on the **social** and **ecological context**, and **when** the degradation took place.
- The problem is **ongoing and worsening**, rather than improving, as the demands we place on land increases and its capacity to satisfy them is progressively and persistently weakened.
- Present efforts to address the problem have demonstrated that it is **possible to make a difference**, but the current level of effort is far below that required.

What are the underlying causes of land degradation globally?

- **Over-consumption of ecosystem-derived goods,** partly driven by continued population growth, but mostly by growth of demand per capita

- **De-coupled consumption – production systems,** especially at global scale

- **Failure to perceive land degradation as a key issue,** and arguments about its definition and causes

- **Fragmented policy responses** & negative incentives

- **Worsening climate change**

Land degradation is a pervasive, systemic issue

- Negatively impacts the well-being of 3.2 billion people

- Only 25% of the Earth's land surface is substantively free of human alteration

- Cropland, managed forest, grazing lands, habitation and infrastructure occupy the other 75%.

- By 2050, less than 10% will remain free of human impact.

Halting land degradation and restoring degraded land is an urgent priority

- Degradation of the Earth's land surface through human activities is among the main factors contributing to biodiversity loss

- By 2010, 34% of global biodiversity had been lost with a projected increase to 38-46% by 2050

- Degradation costs about 10% of annual global gross product in lost ecosystem services

Land degradation is a major contributor to climate change. Climate change can exacerbate the effects of land degradation

- Between 2000-2009, land degradation was responsible for annual global emissions of up to 4.4 billion tonnes of CO_2

- Deforestation alone = 10% of all human-induced greenhouse gas emissions.

- Halting and reversing land degradation can provide more than 1/3 of the most cost-effective greenhouse gas mitigation activities to keep global warming under 2°C

- The combination of land degradation and climate change projected to reduce global crop yields by 10% (up to 50% in some regions) by 2050, forcing up to 700 million people to migrate

Investing in restoration makes sound economic sense

- **Benefits of restoration exceed the costs by an average margin of 10:1**

  - Studies show **multiple benefits** : increased employment, increased business and household spending, improved gender equity, and increased local investment in education among others

  - In drylands (home to 2.7 billion people or 38% of global population) investing in restoring degraded land = decrease in violent conflict.

    - Ex: years with extreme low rainfall => increase of up to **45% in violent conflict**

Proven options exist

- **Improve monitoring and verification systems**

- **Coordinate policies between different authorities with an interest in the land**

    - **integrate the agricultural, forestry, energy, water, environment, infrastructure and service agendas;**

- **Eliminate 'perverse incentives' that promote land degradation**

    - **and promote incentives that reward sustainable land management.**

The multiple scales of intervention

Global treaties

Regional bodies

National governments

Local governments

Land custodians

Chapter 8
policies, decision support, regulatory and economic measures, trade certification schemes, consumer awareness etc.

Chapter 6
Proven, situation-specific restoration practices

Thank you!

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BACKUP SLIDES

Land Degradation and Restoration Assessment

- Requested in 2015 by over **100 countries and 80 participating organisations** of IPBES

- **169 leading international experts** from 55 countries over three years

- More than **4,000 publications** (scientific papers, Government reports, indigenous & local knowledge and other sources)

- Refined by over **7,300 comments** from external reviewers, scientific bodies, and Governments

The assessment report on
LAND DEGRADATION AND RESTORATION

ipbes

MEP & IPBES EXPERTS

Some LDRA conceptual innovations

1. Defining degradation as a **persistent loss of productivity, services and biodiversity**

2. Enlarging the assessment scope beyond drylands – degradation occurs in **all ecosystems**, in all countries

3. Reframing land degradation as having important **international** causes and consequences, as well as local ones

Five LDRA conceptual innovations

1. Defining degradation as a **persistent loss of productivity, services and biodiversity**

The key elements of this definition can be traced to the Millenium Assessment:
- the notion of persistence; ie poor reversibility, not swiftly self-correcting
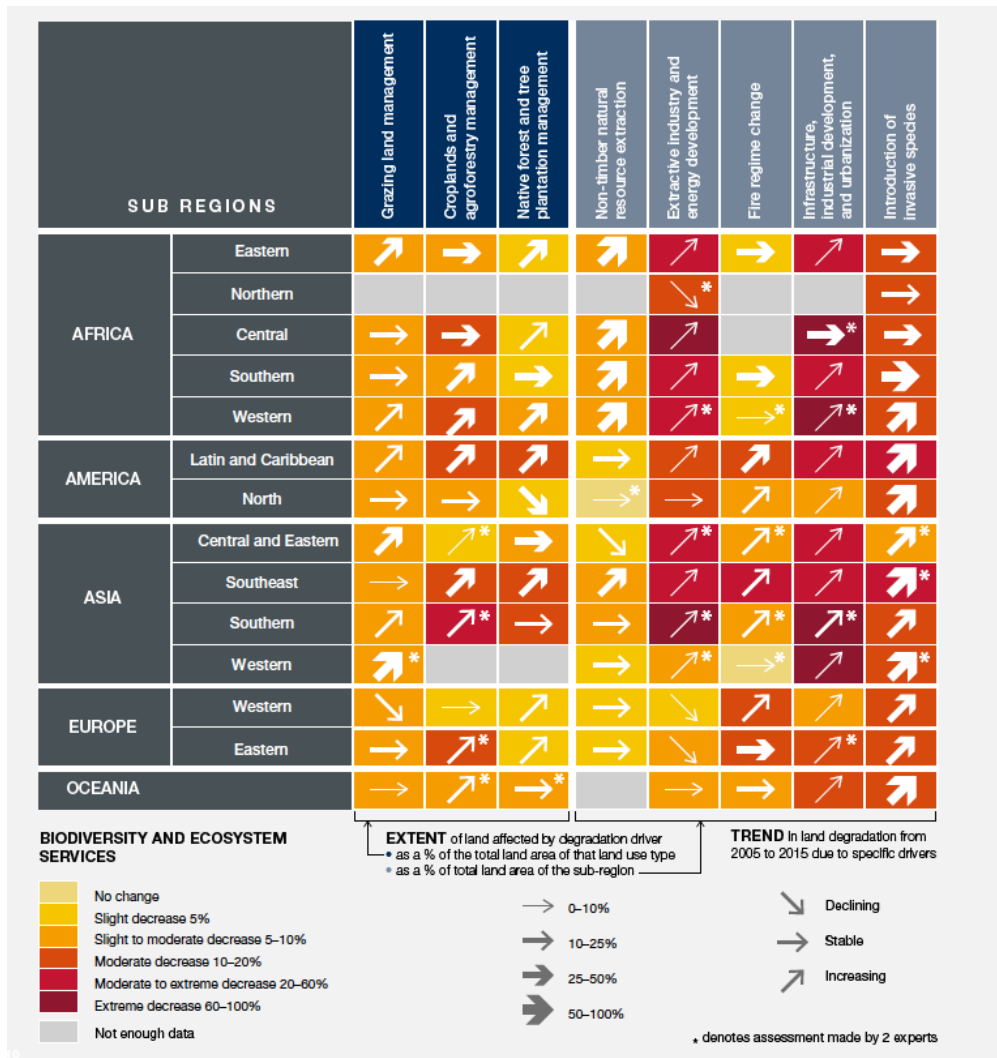- the link to reduction in ecosystem services, 'the benefits people derive from Nature'

It is *highly aligned* with the UN Convention on Combatting Desertification definition, which talks of 'sustained productivity loss'

The addition of biodiversity in the IPBES definition potentially introduces ambiguity
- It frequently happens that a desired service increases, but biodiversity decreases (or vice versa)
- If the definition is interpreted as .OR., then the whole world is degraded
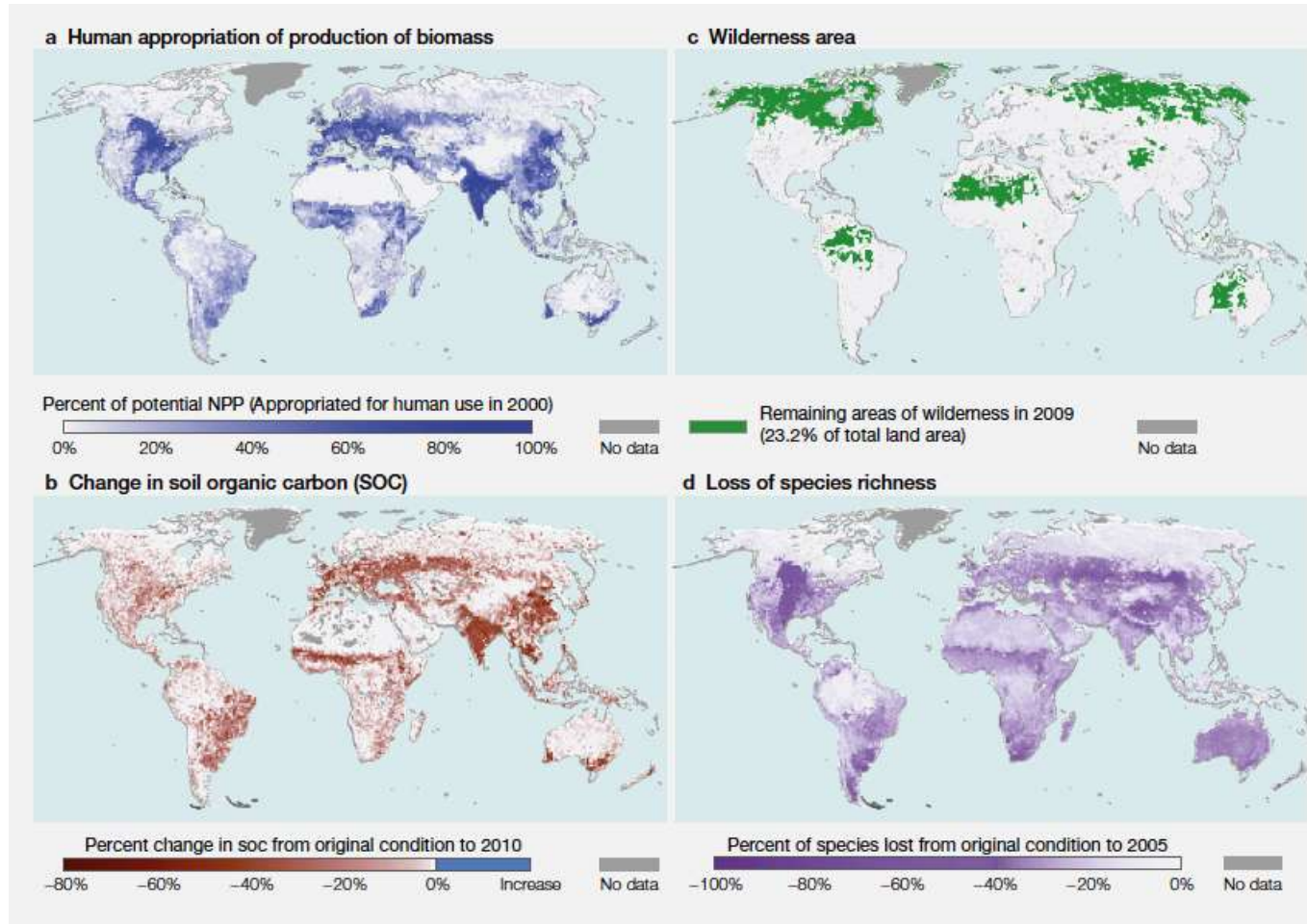
This ambiguity can be removed by being explicit: 'With respect to X, the land is degraded'

Status, trend and extent of direct drivers of land degradation across subregions globally

Human activity has changed the surface of the planet in profound and far-reaching ways.
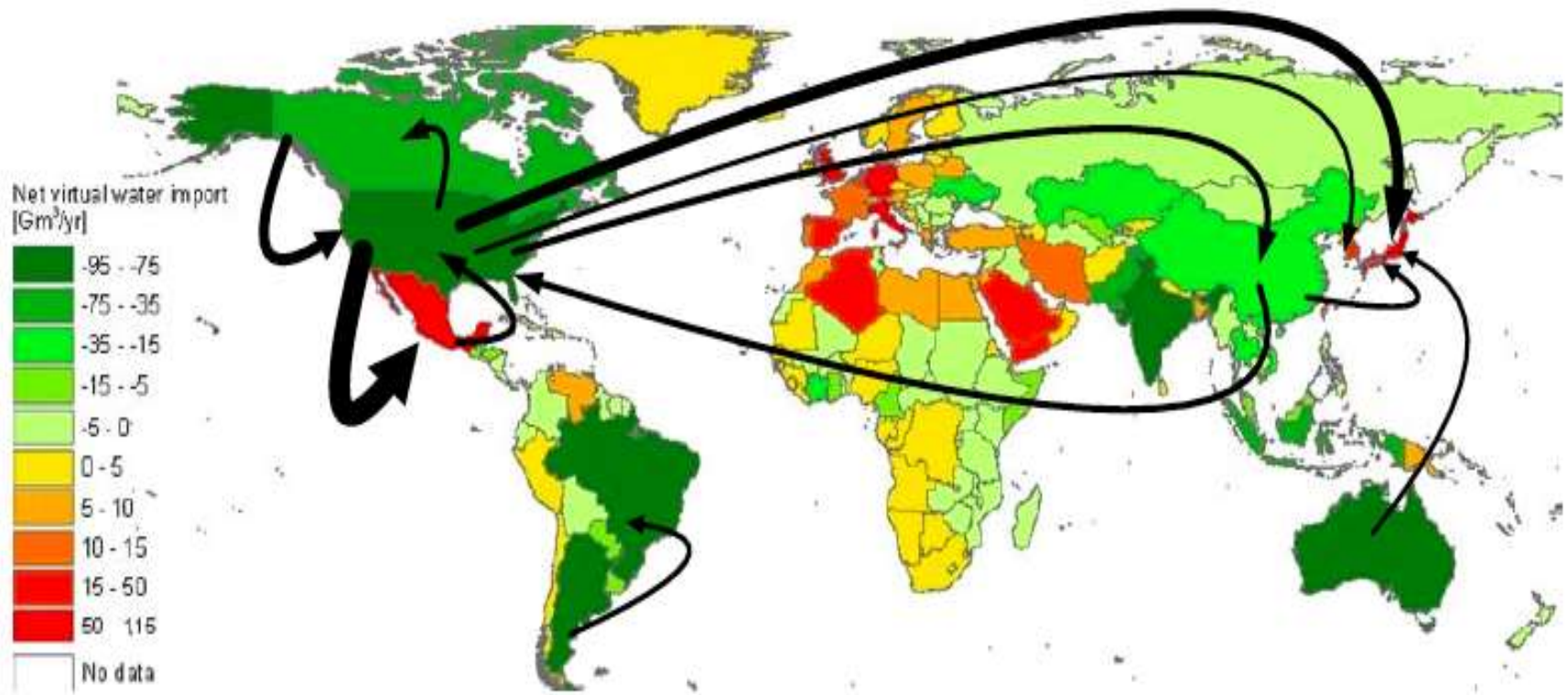

a Human appropriation of production of biomass

Percent of potential NPP (Appropriated for human use in 2000)
0% 20% 40% 60% 80% 100% No data

b Change in soil organic carbon (SOC)

Percent change in soc from original condition to 2010
-80% -60% -40% -20% 0% Increase No data

c Wilderness area

Remaining areas of wilderness in 2009 (23.2% of total land area) No data

d Loss of species richness

Percent of species lost from original condition to 2005
-100% -80% -60% -40% -20% 0% No data

High and rising per capita consumption & food demands met by global supply chains instead of local producers

- Between **¼ - ½ of the environmental impacts** of consumption are felt in parts of the world OTHER than where the consumption occurred

- Diets high in meat consumption = higher competition for land + up to 15 times more water (L) requirement / kg than grain-based diets
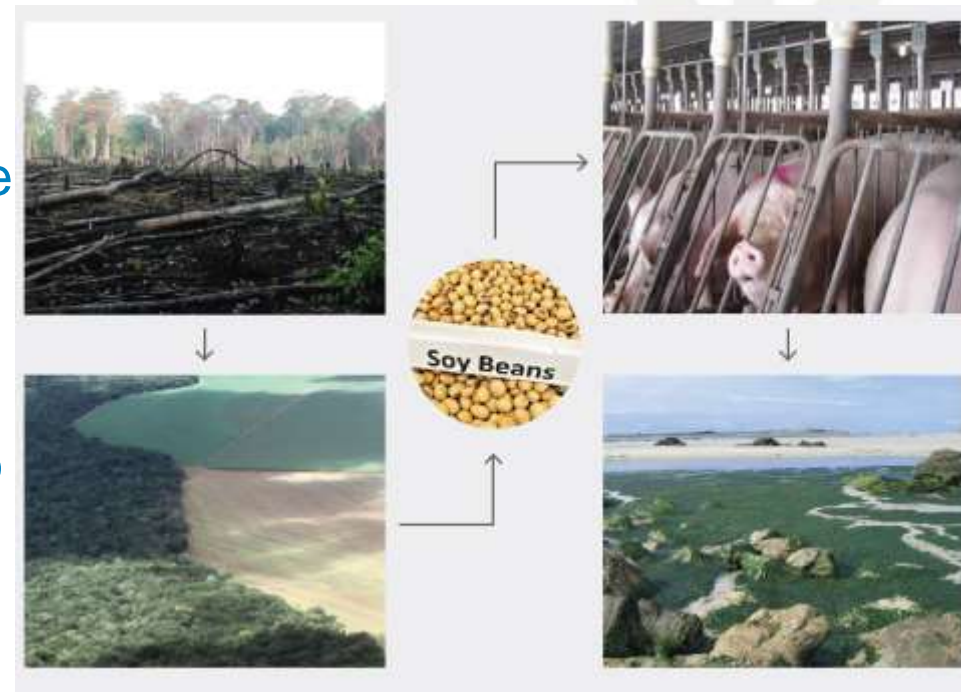
Virtual water flows due to trade in agriculture and industrial products

Net virtual water import [Gm³/yr]

- -95 – -75
- -75 – -35
- -35 – -15
- -15 – -5
- -5 – 0
- 0 – 5
- 5 – 10
- 10 – 15
- 15 – 50
- 50 – 115
- No data

Relevance of the LDRA to CBD

1. Land degradation is accompanied, in almost all cases, by a reduction in the populations of wild organisms, and frequently by a loss of species.

2. Losses occur not only at the species level but also in genetic diversity of individual species.

3. The distribution of declines is not geographically uniform; losses are greater in some land cover and land use types than in others:

4. The main causes of biodiversity loss are habitat loss and fragmentation, overexploitation of species by humans, pollution and the impact of invasive species and diseases of wild organisms.

5. The type and intensity of degradation drivers determines the magnitude of biodiversity loss, as well as options for restoration.

6. Restoration of vegetation cover following degradation is possible and often successful, but seldom attains, the pre-degradation levels of ecosystem function or compositional biological diversity.

Successfully addressing the Sustainable Development Goals requires simultaneously halting and reversing land degradation.
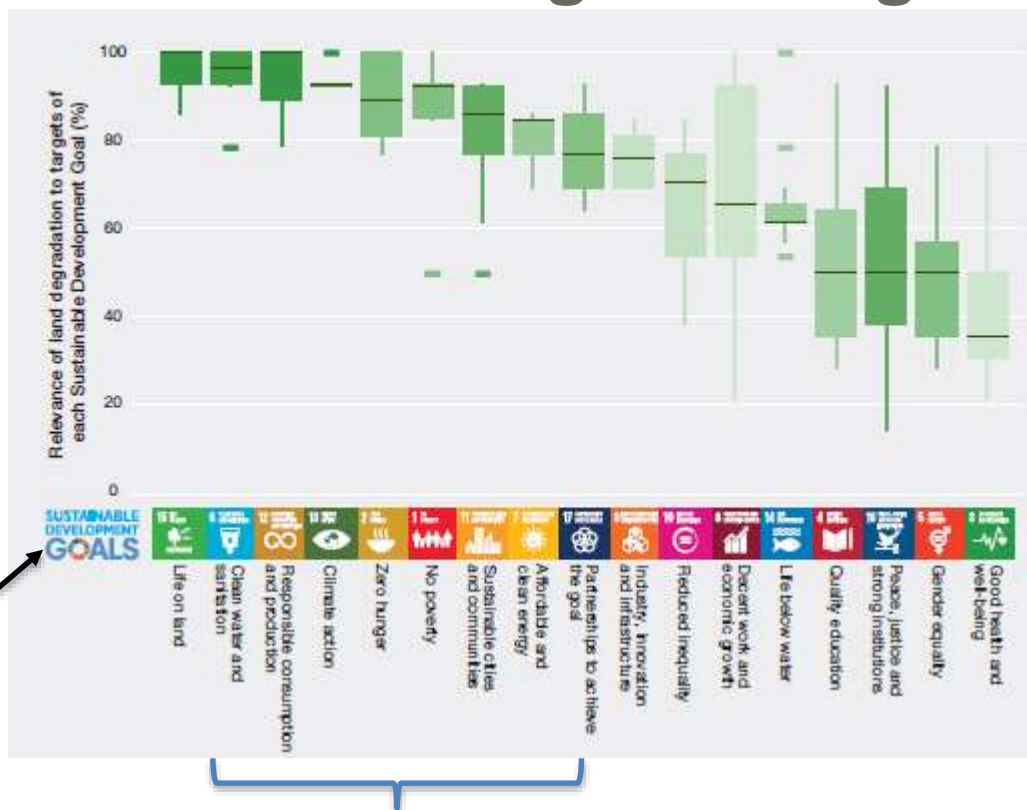
Goal 15

But also, to a huge degree, goals on **water, consumption,climate, hunger, poverty and cities**