

For our Environment

Umwelt 
Bundesamt

COM Conference „Soil and the SDGs: challenges
and need for action “ November 25, 2019

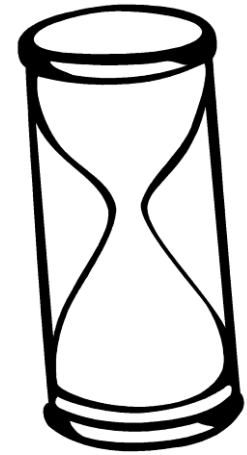
Experiences with land degradation neutrality in Germany

Kirstin Marx

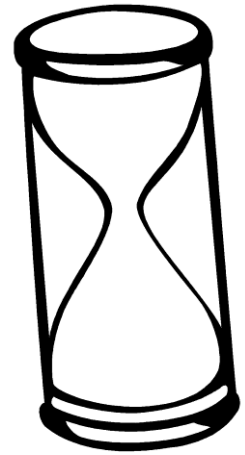
German Environment Agency

Soil Quality and European Soil Protection

Time to act



2030 Agenda: bold, forward looking and ambitious



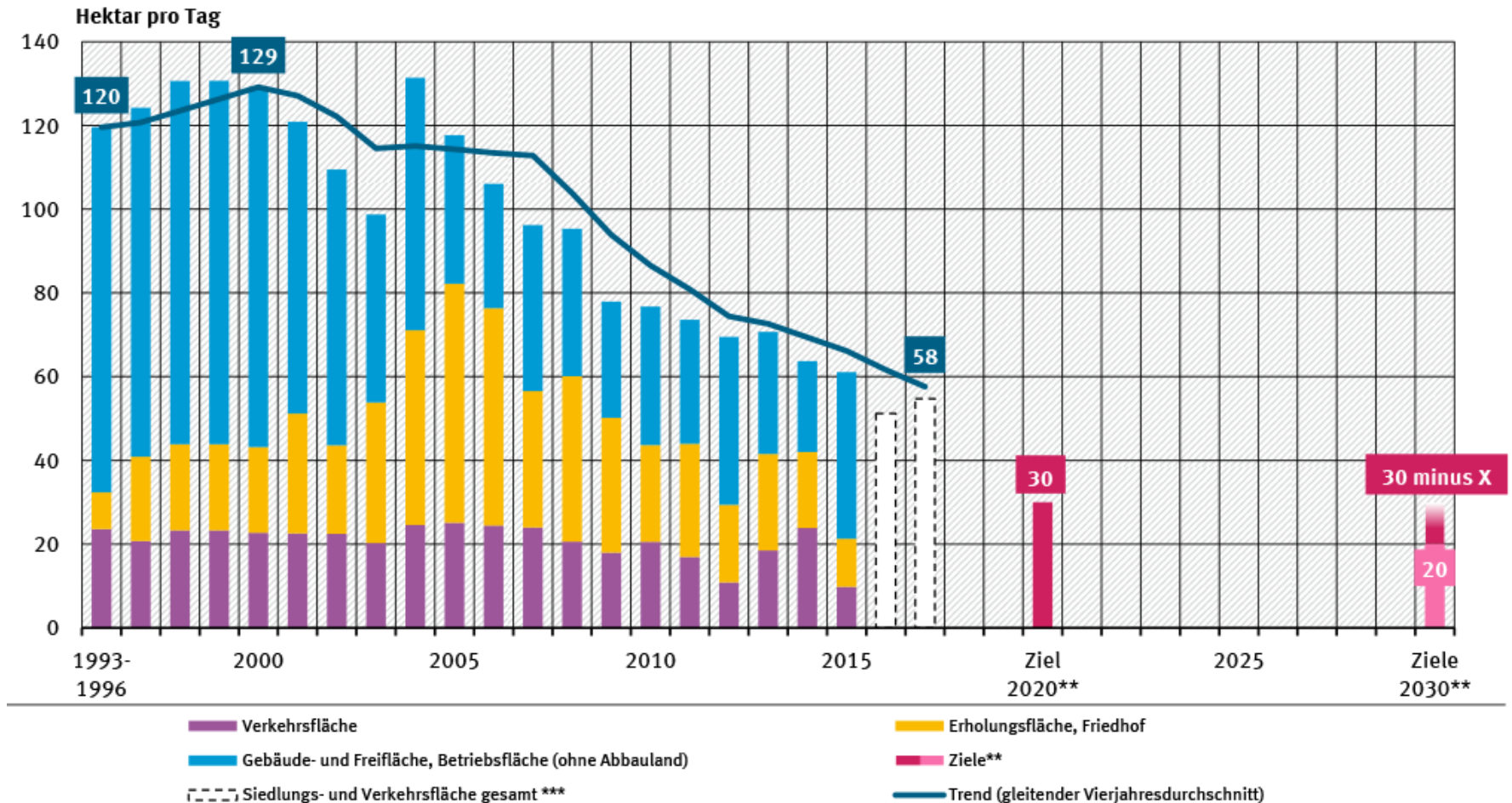
Time to act

2015: First transnational publication on Soil State in Germany



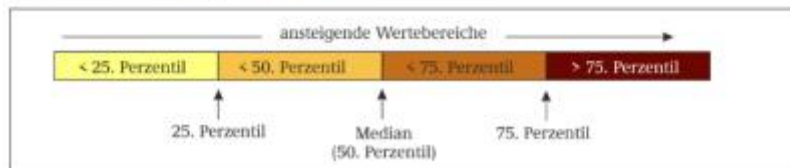
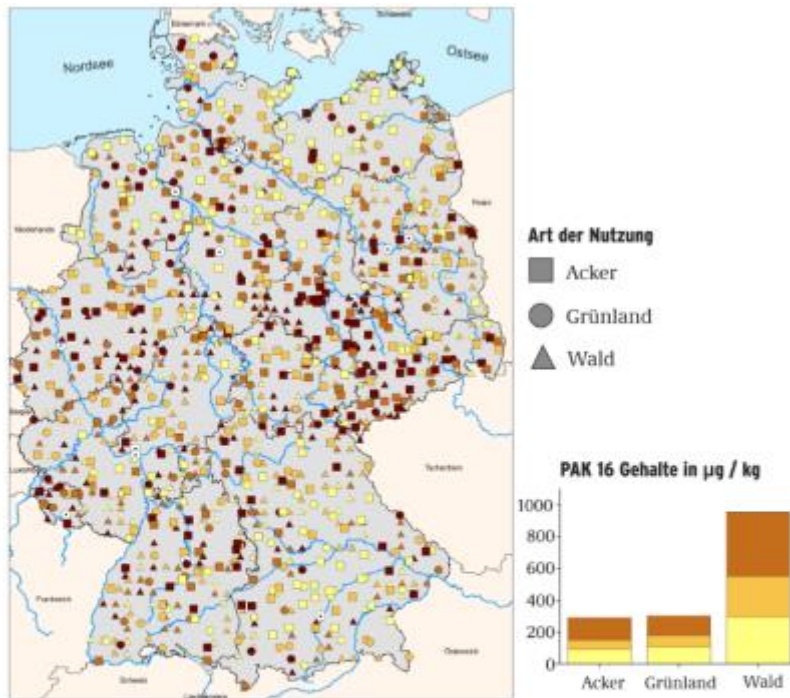
Soil Threat: Increase in land use for housing and transport

Efforts to limit soil sealing

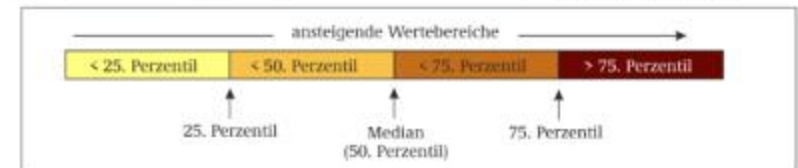
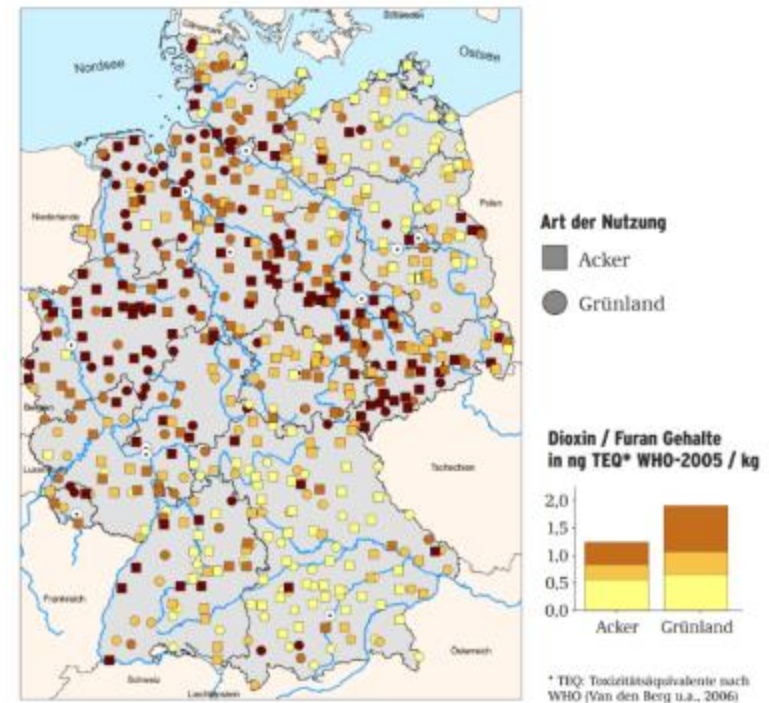


Source: UBA 2019

Soil Threat: Polycyclic aromatic hydrocarbons and dioxins



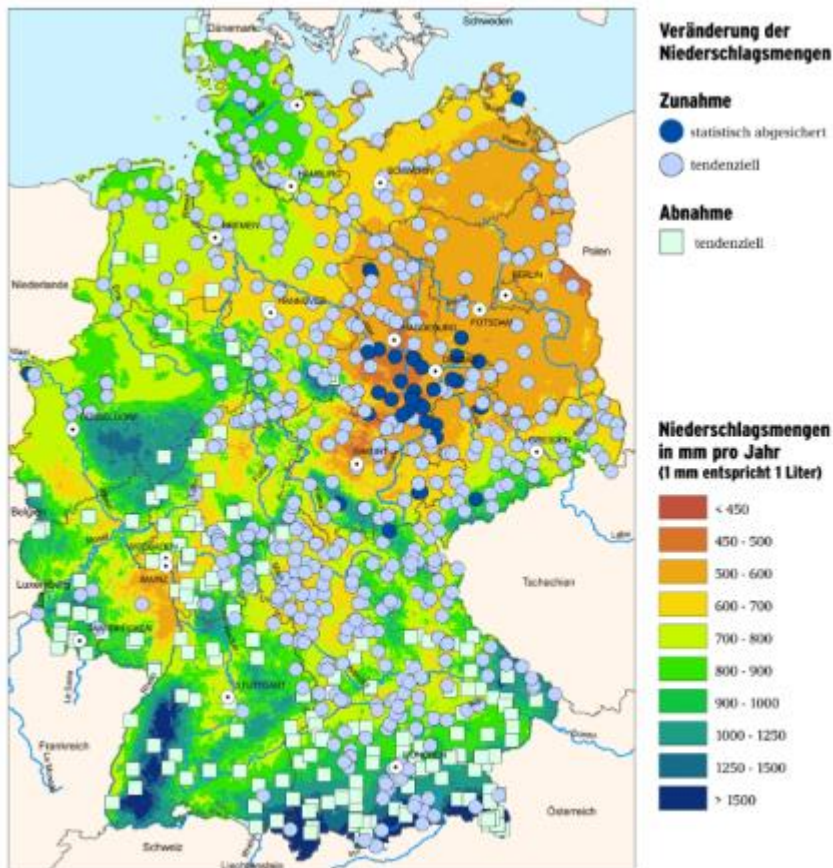
Quelle: Umweltbundesamt, 2014 unveröffentlicht
Geoinformation: Bundesamt f. Kartographie und Geodäsie (www.bkg.bund.de)



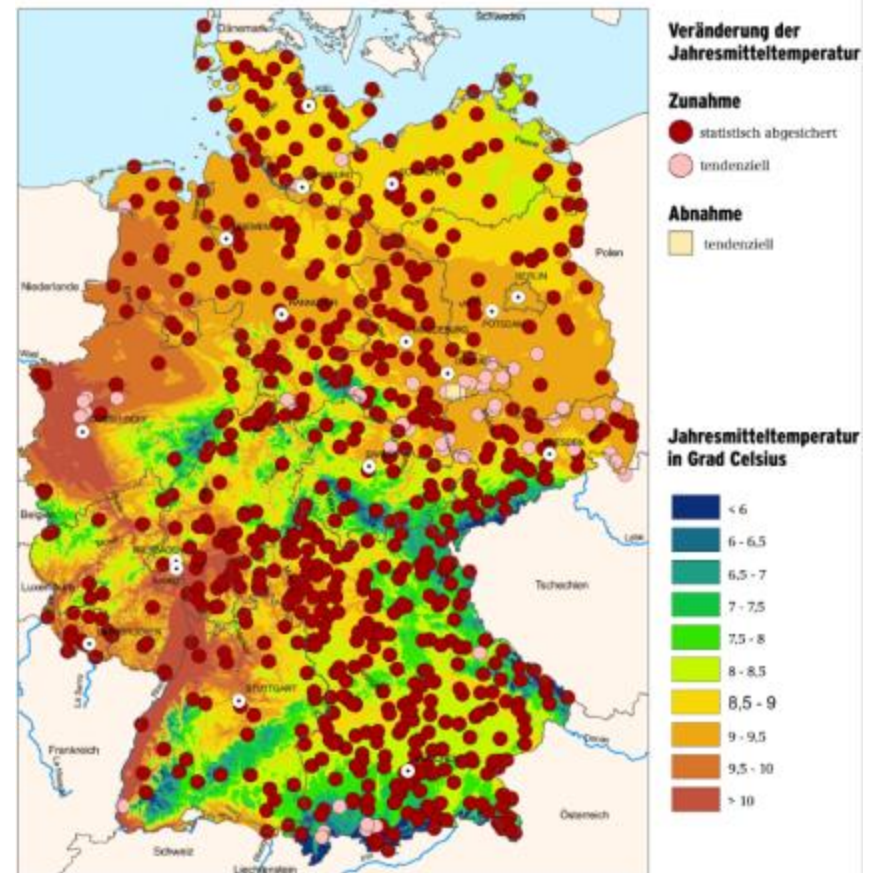
Quelle: Umweltbundesamt, 2014 unveröffentlicht
Geoinformation: Bundesamt f. Kartographie und Geodäsie (www.bkg.bund.de)

Source: UBA 2014, unpublished

Soil Threat: changes in precipitation and its seasonal distribution and increasing temperatures



Quelle: DWD, Auswertung Marx, M. u. Schilli, C., 2014, unveröffentlicht
Geoinformation: Bundesamt f. Kartographie und Geodäsie (www.bkg.bund.de)



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Source: UBA 2014, unpublished

Soil Threats: We are well aware of the problems and issues



Source: Hans von der Beele / Thinkstock

Soil Threats remain topical

► UBA Data and Scientific results give us at UBA the insight that Soil Threats remain highly topical

- ▶ sealing due to land-use changes, urban and transportation development
- ▶ changes to the soil structure – compaction and erosion
- ▶ loss of organic matter (mineral soils and esp. organic soils)
- ▶ contamination (including diffuse pollution)
- ▶ nutrient overload/ agricultural nitrogen surplus

Time to act

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Questionnaire (03/2019 with deadline: 06/2019)

SLS-SDGs

➤ **Study on land and soil SDGs** of DG ENV (replies to Saskia Keesstra)

- UBA (among others) got the invitation to fill in the Questionnaire
- Germany delivered on June 21 (via BMU Unit N II 6 – Soil and peatland conservation)

➤ **Background: DG ENV funded project „Providing support ... SDGs at EU level“**

(& the results of the Questionnaire to the SEG)

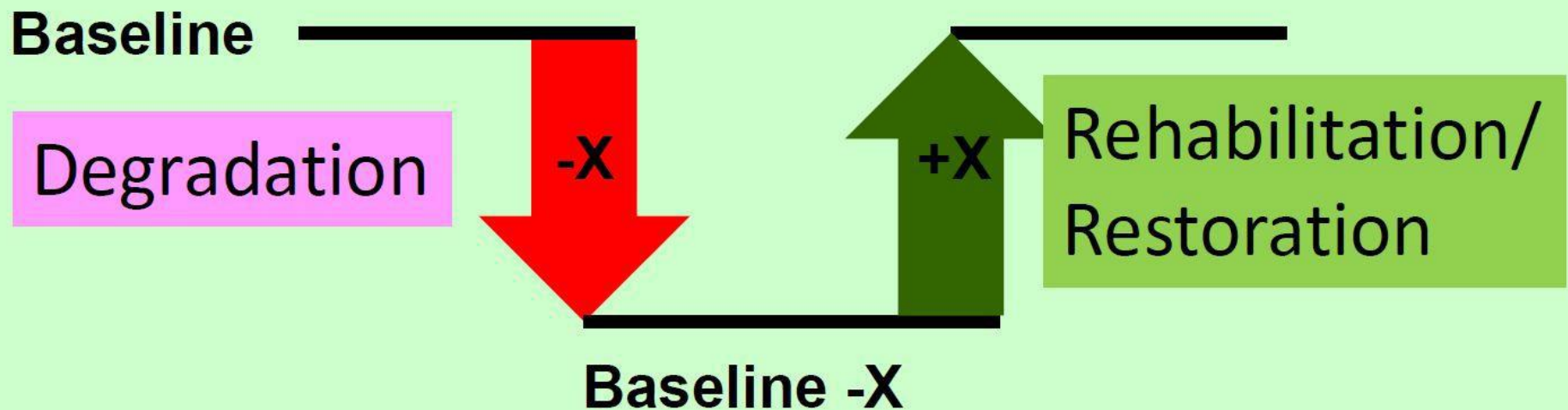
02/2018 SEG

Definition Land Degradation and LDN

UNCCD

- ▶ Land Degradation is the **reduction or loss of the** biological or economic **productivity** and complexity of rain fed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes **arising from human activities**
- ▶ LDN is 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 ('Ankara definition' of LDN)

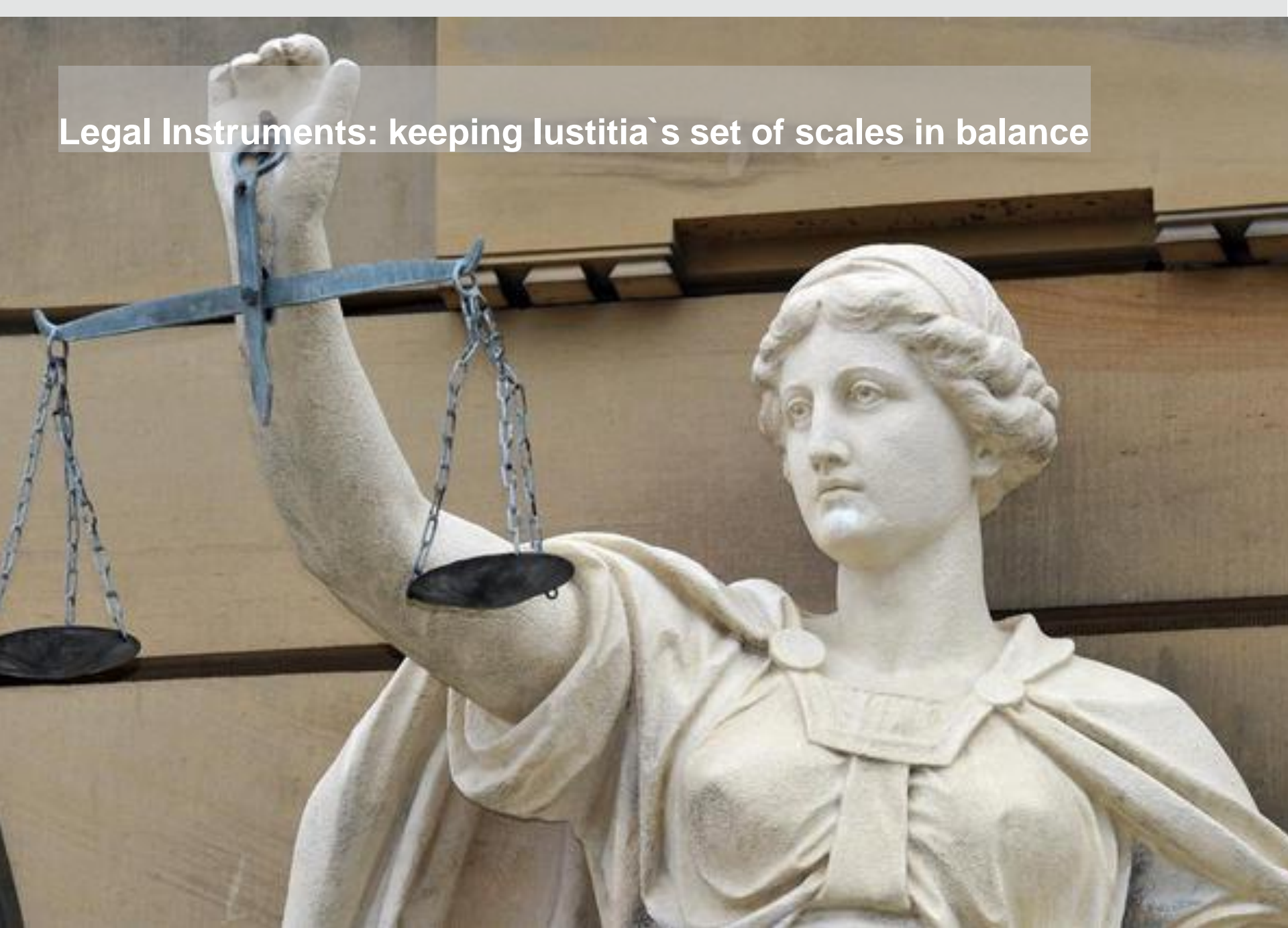
The concept of Land Degradation Neutrality (LDN)



The concept: Degradation has to be minimized. Unavoidable degradation has to be offset by regeneration and restoration efforts.

Source: Ehlers 2015, IIsn 44/24, I/13

Legal Instruments: keeping Iustitia's set of scales in balance



Legal Instruments (1)

➤ **Federal Nature Conservation Act (Jul 2009, BNatSchG)**

Conserve soil and restore sealed land areas no longer in use (or allow succession)

- protection of valuable landscapes against urban sprawl
- landscape planning: interventions/compensation and substitution measures
- prohibition of burning off soil cover

➤ **Federal Soil Protection Act (Mar 1998, BBodSchG)**

Protect or restore soil functions on a permanent sustainable basis

- prevention of harmful soil changes
- rehabilitation of contaminated sites
- precautions against negative soil impacts

Legal Instruments (2)

- **Federal Building Code (23 Jun 1960, BauGB)**
- **Federal Land Utilization Ordinance (26 Jun 1962, BauNVO)**
- **Specific agricultural law, e.g. legislation of fertilization and plant production products** (*Regulations and Ordinances, Common Agricultural Policy and the German implementation*)

How to assess land use change on a local scale



➤ Federal Nature Conservation Act

- landscape planning: interventions/compensation and substitution measures
- placement and arrangement of mitigation and compensation measures
- local scale: urban land use planning, local development planning

➤ Intervention provisions: very important to safeguard biological diversity, ecosystem productivity and functionality of nature and landscapes which the Federal Nature Conservation Act seeks to achieve.

To date, there is an ongoing process to simplify and accelerate communal urban land-use planning through the early accumulation of plots of land for compensation measures (currently only at the planning stage: Compensation Ordinance).

Time to act

Background: Further soil use



Laying of underground cables in Raesfeld (district of Borken, 30 km east of the Dutch border), NW

Source: amprion 2019

Overall approach in Germany

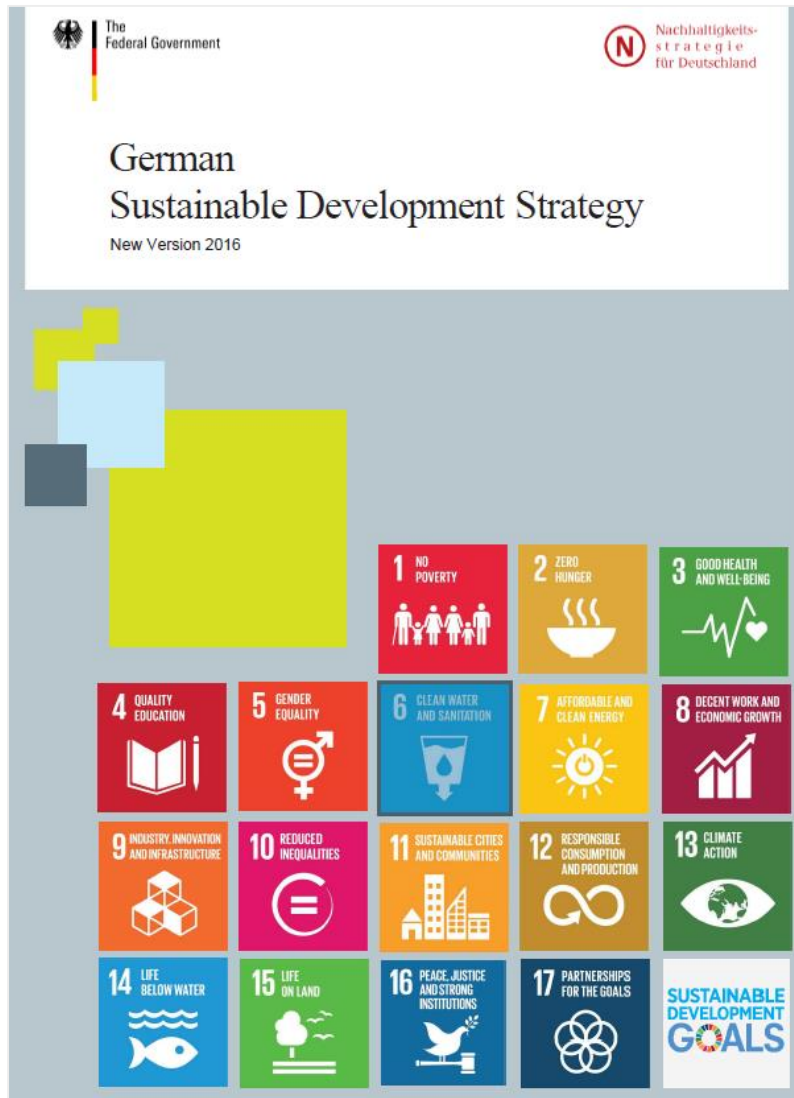
➤ Rio+20 Outcome: Input for 2030 Sustainability Agenda

- ▶ SDG indicator 15.3.1 is a binary – degraded/not degraded – quantification based on the analysis of available data for three sub-indicators to be validated and reported by national authorities:
 - ▶ Trends in land cover,
 - ▶ Land productivity and
 - ▶ Carbon stocks

➤ Science based Implementation

- ▶ Scientific work on indicators
- ▶ Soil specific indicator for German Sustainable Development Strategy

Determining the course of sustainable development in Germany



Individual approaches



- Competing soil functions
- Funding initiative BonaRes
- R&D projects
- Cooperation CH and D
- Use of remote sensing data
- Supporting the LDN Initiative of the Group on Earth Observations (GEO-LDN)

WIP 

The concept of sustainability has become more important in all policy fields.

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