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TECHNISCHE  
UNIVERSITÄT  
DRESDEN

ADVANCING A **NEXUS APPROACH**  
TO THE SUSTAINABLE MANAGEMENT  
OF **WATER, SOIL AND WASTE**



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INTERNATIONAL  
KICK-OFF WORKSHOP

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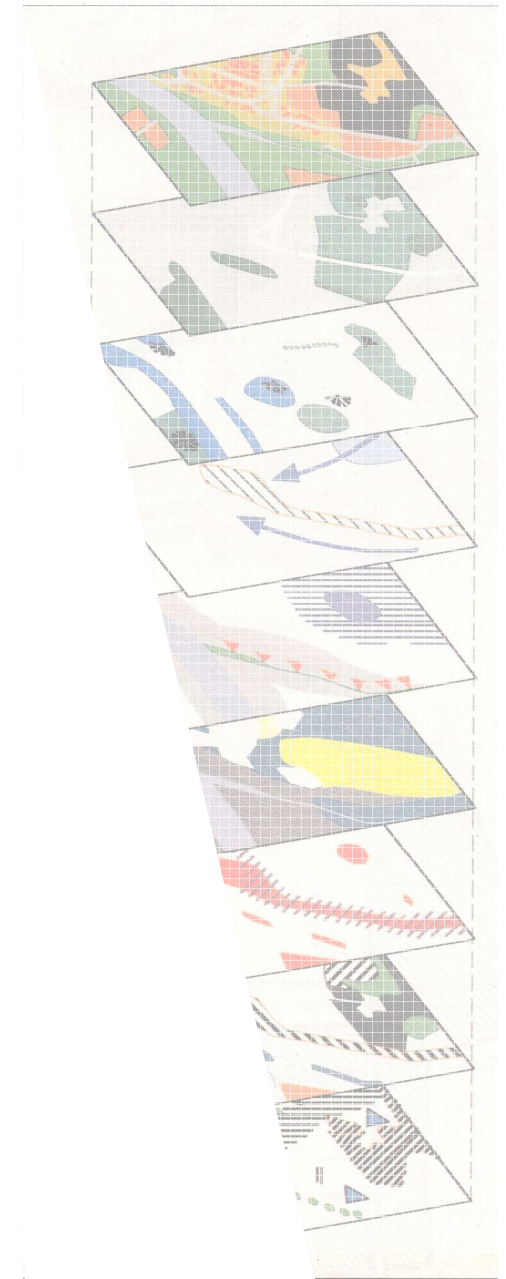
11-12 NOVEMBER 2013  
**DRESDEN, GERMANY**

# Strategies for soil ecosystem services and landscape planning

**UNU FLORES**

**International Kick-off Workshop 11./12. Nov. 2013**

**Prof. Dr. Wolfgang Wende**



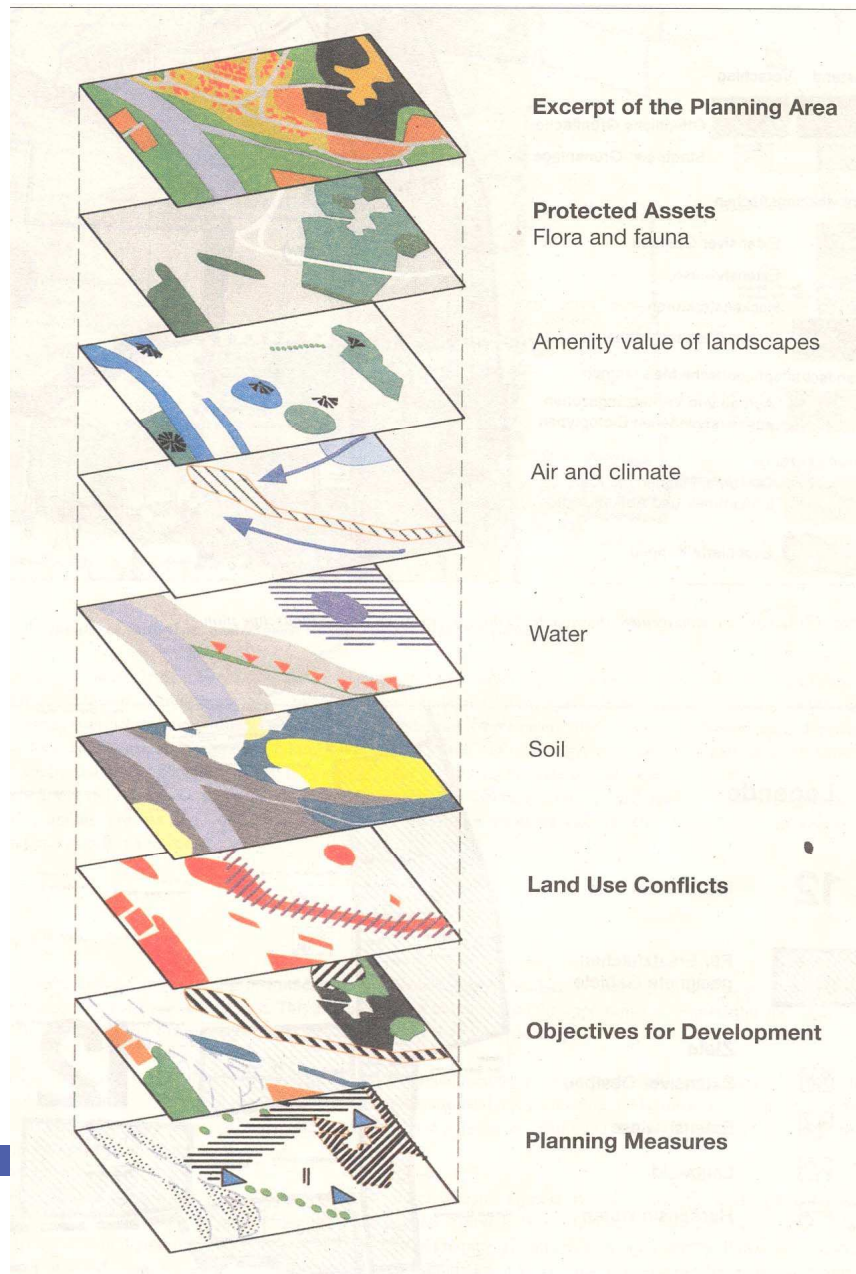
# Structure

- Introduction landscape planning
- Assessing soil ecosystem functions and services in landscape planning
- Key questions

# Introduction landscape planning

- What is landscape planning?
- It refers to the European Landscape Convention
- Article 6 – E Implementation: „To put landscape policies into effect, each Party undertakes to introduce instruments aimed at protecting, managing and/or planning the landscape.“

# Introduction landscape planning



- 1) Baseline analysis
- 2) Assessment
- 3) Objectives and vision
- 4) Planning measures

(BfN 1999)

# Introduction landscape planning

- Biotic regulation and regeneration functions (especially habitat value with regard to biodiversity, species and habitats)
- Groundwater recharge, the functions of surface waters, runoff regulation
- Yield and decontamination functions, resistance of soils to water and wind erosion (the productive and regenerative functions of soils)
- Air quality and microclimatic balancing functions, noise abatement functions
- Recreation functions, including aesthetical values of landscape



# Assessment of soil functions in a landscape master plan (1:50.000)



← Wind erosion



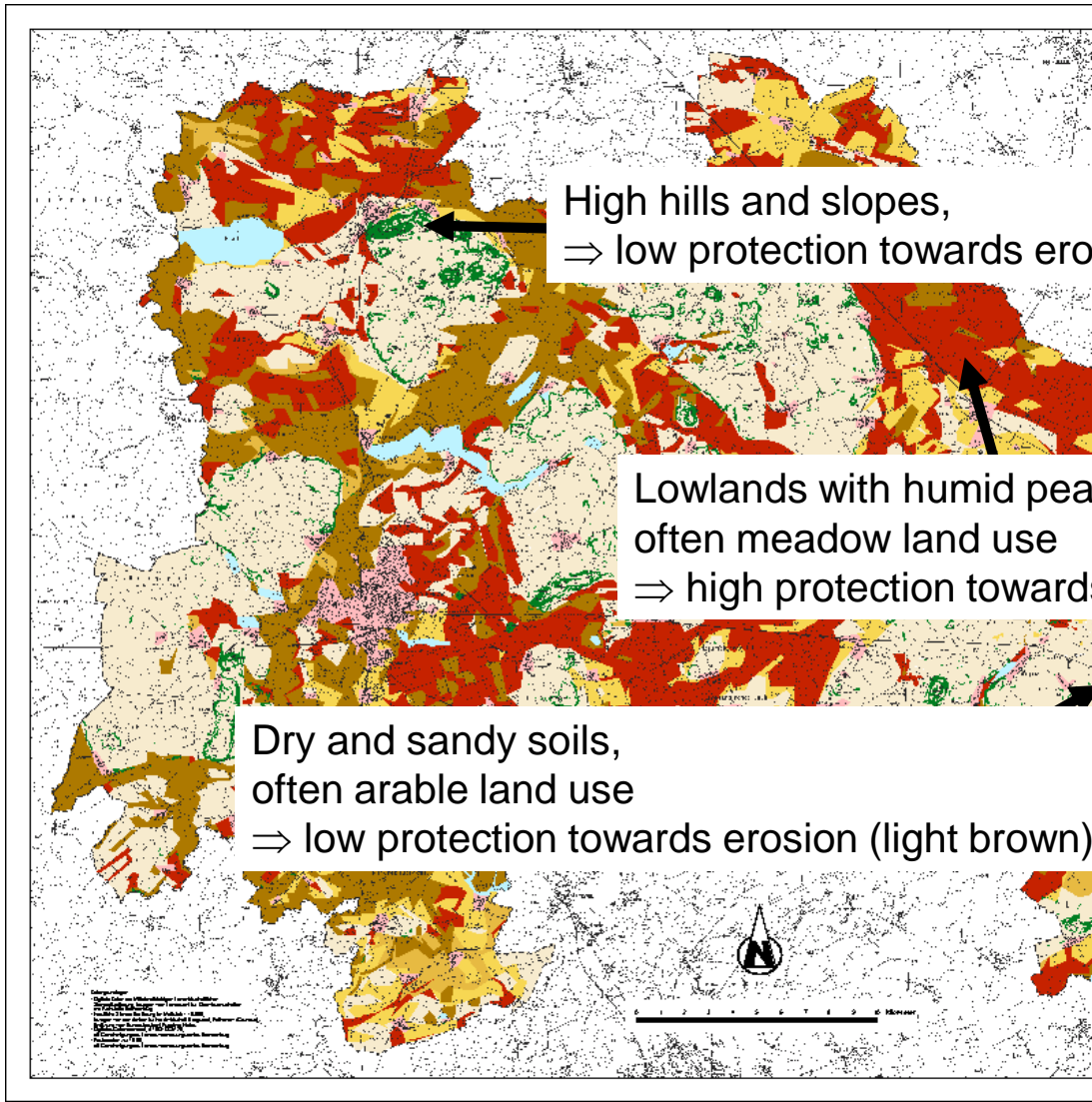
Wind erosion effects  
(1993)



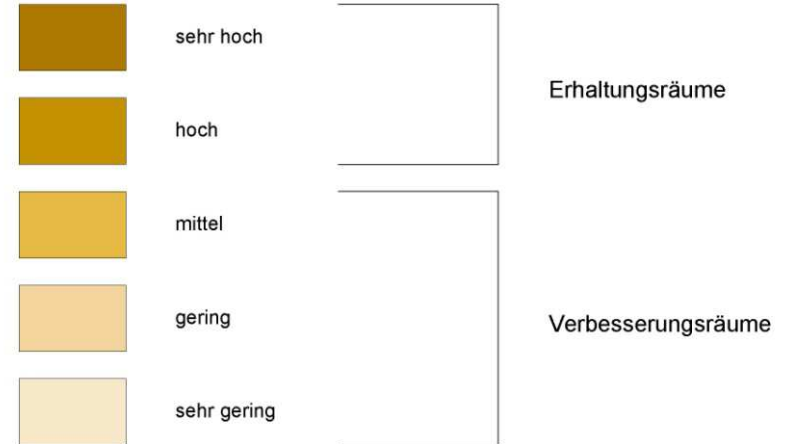
# Assessment of so



Die Erosionswiderstandsfunktion beschreibt das Leistungsvermögen des Naturhaushaltes, einer über das natürliche Maß hinausgehenden Abtragung des Bodens durch durch Wasser, Wind oder mechanische Prozesse entgegenzuwirken.



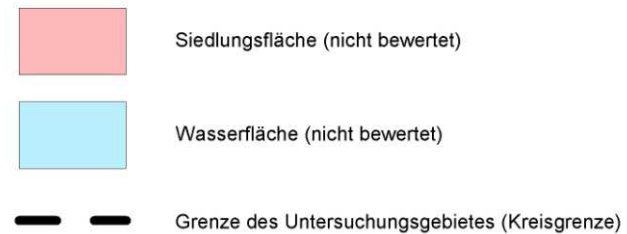
## Widerstand gegen Winderosion



## Widerstand gegen Wassererosion

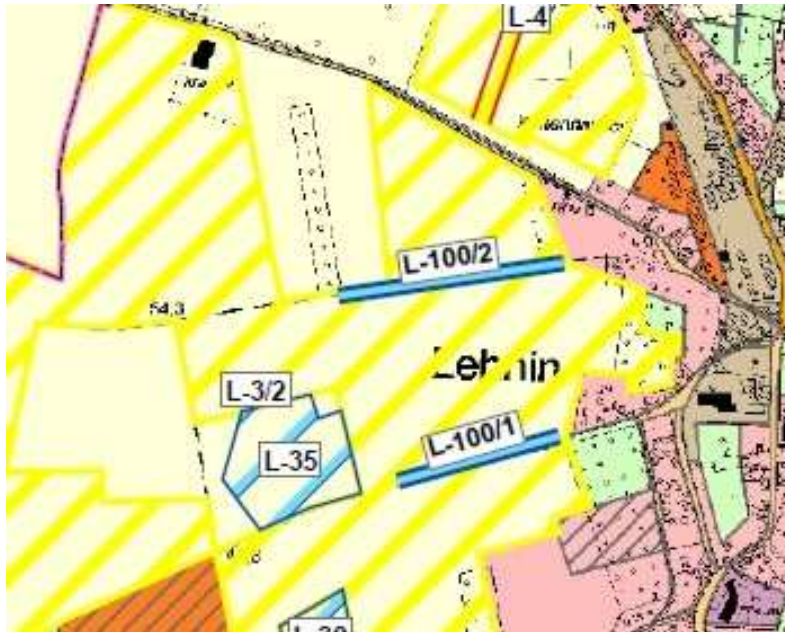


## Sonstiges





# Designing and implementing measures to preserve, maintain and develop nature and landscape (landscape plan)



## Umgesetzte Maßnahmen:



Abb. 5: Trockenrasen, umgesetzte Maßnahme L35 (eigene Fotoaufnahme)



Abb. 6: Benjeshecke bei L 100/2 (eigene Fotoaufnahme)



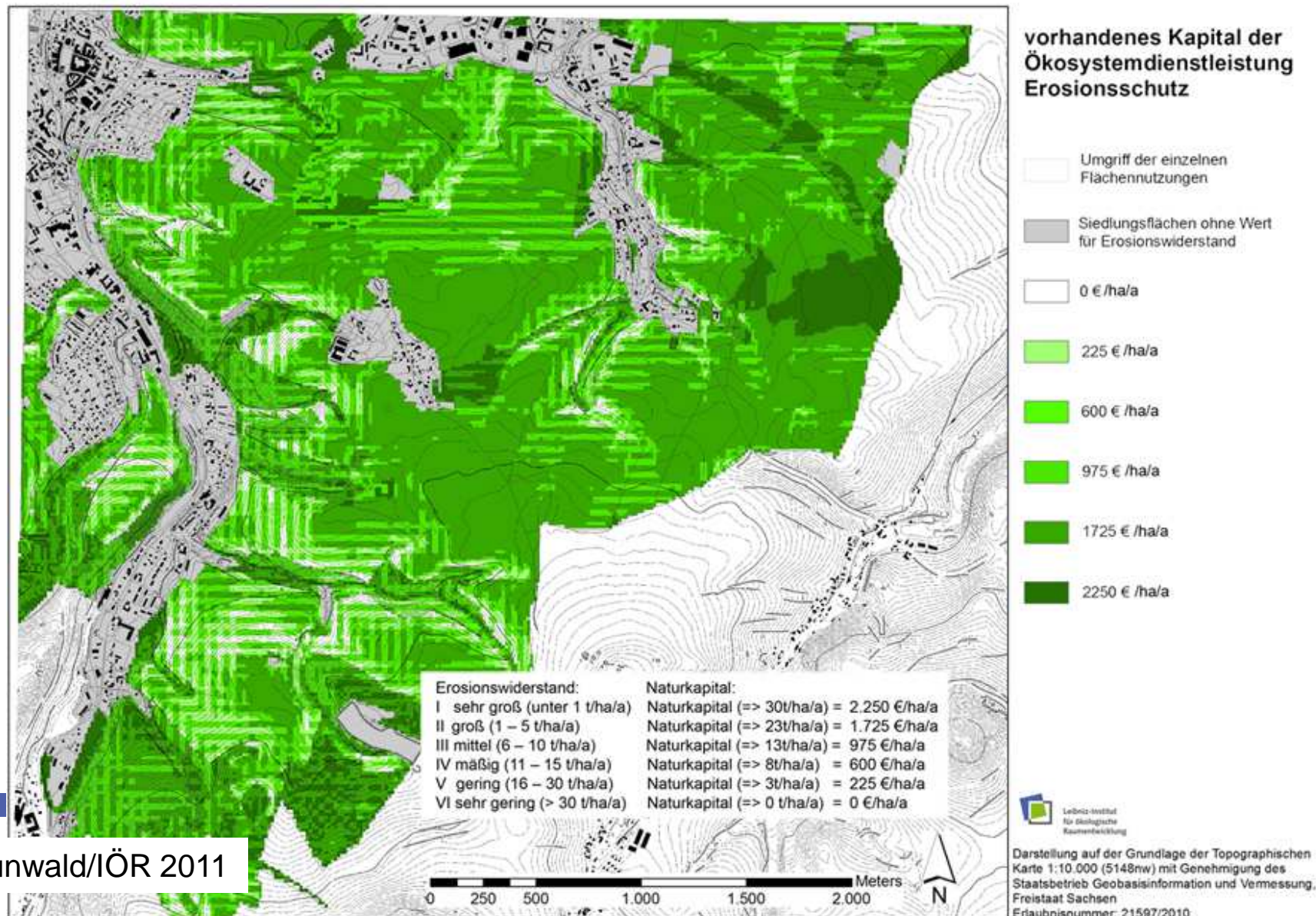
Abb. 7: lineare Heckenpflanzung, umgesetzte Maßnahme L 100/1 (eigene Fotoaufnahme)



Abb. 8: lineare Heckenpflanzung am Wegesrand, umgesetzte Maßnahme L 100/1 (eigene Fotoaufnahme)



# Soil ecosystem services as an innovative part of a landscape plan



# Key questions

- What are the advantages of a centralized vs. a decentralized (top down/bottom up) approach to implementing integrated management strategies?
  - Centralized and top down = legally binding and mandatory structure is an advantage; clear policy framework
  - Decentralized and bottom up = ensuring integration of local knowledge and acceptance by the local residents (farmers) is an advantage; raises the planning effectiveness in practice

# Key questions

Which institutional structures and mechanisms have proven helpful for implementing integrated and cross-sectoral management strategies?

## Planning implementation depends

1. not only on basic landscape-ecological investigations, or the “technical”, methodological or administrative factors of planning, but the integration of stakeholders / leadership
2. on the communication with and the integration of land users and property owners
3. on how to address land owners, and raise their acceptance towards nature conservation measures
4. on social ecological factors which help affect the implementation quota of landscape plans positively



# Thank you for your attention!



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Wende, W. et al. (2012): Putting the plan into practice: Implementation of proposals for measures of local landscape plans, *Landscape Research*, 37:4, pp. 483-500.

Grünwald, A.; Wende, W. (2013): Integration des Ökosystemdienstleistungs-Konzeptes in die Landschaftsplanung. In: Grunewald, K.; Bastian, O. (Hrsg.): Ökosystemdienstleistungen - Konzept, Methoden und Fallbeispiele. Berlin: Springer Spektrum, 2013, S.177-185.