## Personal data

Michael Lütz

Date of birth	13 January 1972 in Erfurt, Germany
1988 - 1991	Vocational training as a skilled worker for plant production (agriculturist); final qualification for university entrance (Abitur)
2 Sept. 1991 - 1 Nov. 1992	Thuringian Centre for Nature Conservation: Nature protection and landscape conservation (alternative service in lieu of military service)
Winter semester 1992 - summer semester 1996	Leipzig University of Applied Sciences, Dresden University of Applied Sciences: Graduate Engineer for Agricultural Economics, focused on agroecology  Diploma thesis: Potentials and importance of cattle in the landscape management including the consideration of the specifics of extensive grazing on selected sites
Winter semester 1996 - summer semester 2000	Dresden University of Technology, Graduate engineer for environment protection and regional planning; focused on nature protection and landscape conservation (postgraduate studies)  Diploma thesis: Integration of nature conservation objectives into the agrarian land use - an example from the Moritzburg small-hill landscape

## Work experience

Placement	Thuringian Centre for Nature Conservation Consulting engineers for landscape planning Dr. Loske & Sauer GmbH, State Environment Agency of Brandenburg, Centre for Nature Conservation Buckow
July 2000 - August 2000	Dresden University of Technology "Scale Dependent Monitoring of Non-Timber Forest Resources"
	Scientific assistant in the working group "Natural Balance and Regional Characteristics" of the Saxon Academy of Sciences and Humanities in Leipzig
since Apr 2001	General topic: Long-term investigation of landscape changes  Development and testing of discovery and evaluation methods for report and forecast of status, functionality and carrying capacity of landscape in different scales
	Goal: Analysis and evaluation of effects of human influences on structure and functions of landscape. Main targets are determination of ecosystem health and landscape performance indicators, landscape functions and nature potentials.

## Focus on work

- Landscape ecological indicators and their thresholds
- Development of landscape ecological visions (Leitbild)
- Driving forces of landscape alterations and their effects on landscape and land use
- Development, monitoring and evaluation of agri-environmental measures and programmes

## **Finished work**

### The AEMBAC- Project

(term 2001 to 2004)

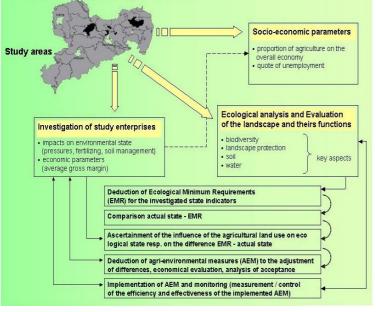
"Definition of a common European analytical framework for the development of local agri-environmental programmes for biodiversity and landscape conservation" (AEMBAC)

To suggest a methodology for the identification, development and evaluation of agrienvironmental measures. These should be:

- Scientifically based
- Locally targeted
- Contributing to biodiversity and landscape conservation
- Economically effective

#### Strategy - "Holistic approach"

- Consideration of ecological, social and economic aspects
- Involvement of different stakeholders: e.g. scientists, farmers, public administrators;
- Evaluation of environmental goods and services



# **Current projects**

#### 1. Landscape visions

(Synonyms: leitbild, targets, goals, principles, objectives, guidelines)

Definition: A leitbild is a target system describing the aspired state of a spatial unit completely, taking into consideration the relevance of the diverse objectives (coordinating the partial goals). (Bastian and Steinhardt)

Contributing to the publication "Handbook of Landscape visions" of the German Academy of Applied Geography (Deutsche Akademie für Landeskunde e. V.)

Development of a methodology for the deduction of landscape visions

- Sustainability (social, economical and ecological)
- Consideration of former, current and expected driving forces of landscape alteration (e.g. change in GAP, shrinking processes in population) → scenarios
- · Evaluation of landscape functions (goods and services)

### 2. Thresholds

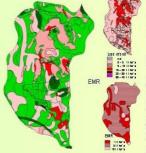
(Synonyms: carrying capacity, sustainability, SMS, EMR)

Definition: Ecological discontinuities can be defined as a sudden change in any property of an ecological system as a consequence of smooth and continuous change in an independent variable. Ecological discontinuities imply critical values of the independent variable around which the system flips from one stable state to another, that is, ecological thresholds. (Muraclian 2001)

Doctoral thesis: Deduction of landscape ecological management schemes as conclusion of the discussion of the ecological load capacity and the leitbild concepts

#### Approaches:

- Ecological functions and natural potentials, evaluation of natural goods and services, internalisation of extern coots
- Carrying capacity in terms of ecological and economic thresholds (sustainability)
- Transformation of monofunctional approaches into multifunctional approaches to evaluate sustainable landscape development
- Influence of driving forces, comprehension of stakeholders



and Enfivalues in the study area Dorbicht ditch, Grosse Roeder river basin, Germany Relation erosion / EMR

Relation erosion / EMR
-10 - -5 int / hafa
-5 - 0 int / hafa
0 - 5 int / hafa
5 - 10 int / hafa

Evaluation of soil erosion (right at the top): method by Schmidt in Marks et al. (1992)

EMR-Values for different soils types (below, right)

Soil class and EMR: Soils which can be regenerated from an inexhaustive bedrock or sediment basis --> 10 t/ ha\*a

Soils on thick bedrock/sediments (Loess soils, sandy loess soils, soils in floodplains, all sedimentary soils thicker than 80 cm) -> 5 t/ha\*a

(Thin loess soils, thin sandy loess soils umbric gleysols, bogs, all other soils < 80 cm covering rocks and sediments 1 t/ha\*a