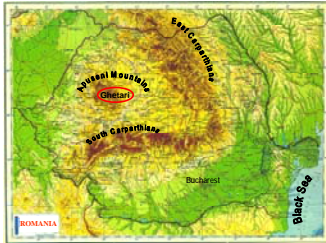


Sustainable development of a traditional landscape in the Apuseni Mountains, Romania



A traditional land-use system in the Apuseni mountains, Romania and its potentials of sustainable development is investigated by an interdisciplinary, intercultural and participatory research project coordinated by the University of Freiburg, and financed by BMBF-BEO. Co-operation exists with eight German and eight Romanian partner institutions. The duration of the project is between October 2000 and March 2003.

The research project is based on 5 methodological principals:

- ❶ **Interdisciplinarity** between nature sciences, land-use management, economy and policy;
- ❷ **Transdisciplinary components:** Active participation of local people and key actors;
- ❸ **Intercultural co-operation** between German and Romanian scientific partners and local actors will contribute to transfer of understanding, knowledge and techniques between the two cultures;
- ❹ **An analysis of the present state, evaluations and scenarios** of further development will result in exemplary implementations in form of **model projects**;
- ❺ **Scaling up** from a detailed inventory of one village towards the analysis of the region and the country with different study intensities and methodological approaches.

Results from the different fields of research are implemented in exemplary model projects:

- ❶ Development of **rural tourism**
- ❷ Sustainable use of **medicinal plants**
- ❸ New plants and techniques in **gardening**
- ❹ Improved **livestock husbandry** and **grassland management**
- ❺ Basic research and proposal of a **water supply** project for the region
- ❻ Increase in sustainability in **forest use**: Wood processing by craftwork

Project aims and scientific approach:

- Analyses of the the landscape, its species and ecosystems; the land-use techniques in agriculture and forestry. This will be performed by analysing the area around Ghetari, a representative village of the region. Environmental and vegetation data are collected in disciplinary approaches, and stored and analysed using GIS („**landscape model**“).
- Using general statistical data, the households of the village are divided into four categories. Based upon this stratification, representative households are studied in detail („**household model**“). Aim of the analysis is to balance the households, their different types of work during the year, the invested money and/or material, and the products.
- Both models are part of the „**general model**“ of the community Ghetari. Central link between the „**landscape model**“ and the „**household model**“ are the parcels. All boundaries between parcels will be defined, each piece of land attributed to an owner and/or user. Each parcel of the complete landscape around Ghetari will be evaluated with regards to nature conservation, production potentials, present land-use, and future options under various socio-economic conditions. Each household will be analysed in respect to input and yield of each parcel it uses.
- The upscaling of households to the village, and from the village to the landscape will give a regional model („**bottom-up-approach**“). These results can be compared with regional socio-economic balances deriving from general statistic data and indirect indicators („**top-down-approach**“).
- Three **scenarios of future development** of households, village and landscape are applied and discussed under two concepts of economical and political frameworks and constraints.
- Strategies for environmental sound, sustainable land-use systems will be recommended.



Model project „Gardening“

Because of the montane climate, gardening is a marginal landuse. Supply with vegetables is problematic, risky, and confined to a short summer season.

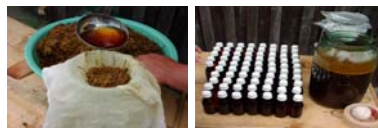
Participatory experiments with propagating frames and new varieties were started in 2001. The young plants were distributed to all interested families, their success and opinions will be evaluated.



Model project “Medicinal plants” - Arnica montana

Aims are the identification and analysis of the social and commercial potential of medicinal plants. *Arnica montana* as a key species is investigated in terms of yield, of local processing, of its contribution to local income, and sustainability of use (population biology studies).

The data will provide a management concept for an improved use of medicinal plants.



Model projects “Improved livestock husbandry” and “Grassland management”

The local animal breeds, the techniques of husbandry are described. Improvements of milk production may be achieved after founding an association, dealing with artificial insemination and a common stud bull (cooperation with GTZ). A guideline for building new stables should meet animal-adapted demands and integrate architectural traditions.

Fertilization experiments (left) compare the effect of manure and artificial fertilizer upon yield and species composition. A comparison of three major soil types is made, including a “productive parabraunerde” and a “marginal rendsinic lithosol”. Valid answers will be obtained only after some years. Aspects of economy (increase of yield) and nature conservation (rarity and diversity of plants) will be evaluated.



Model project “Rural tourism”

The landscape and the caves of the Apuseni mountains have a high touristic potential (left). Rural tourism provides the opportunity of diversification and increase of monetary incomes.

Aims of the project are the development and the marketing of an extended touristic offer, including more beds and improved food supplies. First steps were transforming a traditional blockhouse barn into a visitor center in may 2002 (right), and initiating and founding in august 2002 a “village development association”.

