

IDENTIFICATION OF ECOLOGICAL, ECONOMIC AND SOCIAL POTENTIALS FOR SUSTAINABLE LAND-USE AND REGIONAL DEVELOPMENT IN EASTERN EUROPE: CASE STUDY IN THE APUSENI MOUNTAINS, ROMANIA

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Abstract. Eight german and nine romanian scientific partners cooperate since one year in an inter- and transdisciplinary land use project in the Apuseni mountains, Romania. Using a participatory approach a concept for sustainable land use will be developed.

1. INTRODUCTION

An interdisciplinary and international research project co-ordinated by the University of Freiburg, Germany, investigates potentials and options of sustainable development of a traditional landscape in the Apuseni mountains, Romania. Co-operations exist with 8 German and 9 Romanian partners (figure 1). The project, supported by the German Ministry of Education and Research (BMBF Bundesministerium für Bildung und Forschung, FKZ 0339720) began in September 2000 and will last until March 2003.

2. AIMS

Aims of the project are:

- to analyse the genesis of the present traditional landscape, its species and ecosystems; the land-use techniques in agriculture and forestry; the economical base, social and political structures;
- to evaluate the environmental situation, the impact of different land-uses upon nature conservation and the economic situation;
- to compare different scenarios of future development under varying economic and political frameworks and constraints;
- to recommend strategies for environmentally sound, sustainable land-use systems;
- to develop a concept for sustainable land-use for the region (but also with the possibility of transfer into other regions in Romania or Eastern Europe).

3. PROJECT STRUCTURE

The project is financed by the German Ministry of Education and Research (BMBF; fig. 1). It is directed and managed by the two institutes of “Silviculture/Vegetation Science” (Prof. Dr. A. Reif) and “Landscape Management” (Prof. Dr. W. Konold) of the Forestry Faculty, University of Freiburg. Scientific co-ordinators are Dr. E. Ruşdea (Freiburg) and Dr. I. Povară (Bucharest). The 13 disciplinary research institutions co-operate with local and regional participants and NGO’s. The disciplinary analyses, evaluations and planning steps can be classified into four sections. The result will be a concept for sustainable land use (fig. 2).

4. METHODOLOGICAL PRINCIPLES

The research project is based on 5 methodological principles (figure 2).

(1) Scaling up from a detailed investigation of one village (Gheţar, com Gârda) towards the analysis of the district and region in study at different levels of intensity and using different methodological approaches.

- The main activities of the project will be investigating the interrelations between abiotic conditions and human uses in the **village of Ghetar** and its surrounding landscape. Ghetar represents a typical mountain village, having a high component of subsistence production (animal production for meat, milk, cheese; draught-horses; medicinal plants), of forest uses (fuel-wood and timber production; grazing, berries, mushrooms), rural crafts, and marketing. “Disciplinary” studies investigate
 - the history of the landscape and its settlements;
 - habits, traditions, and knowledge of the rural population;
 - the architecture and function of buildings;
 - the sites, species composition, and structures of meadows, grazing land, and forests;
 - the techniques of land use in the past and present;
 - the potential of sites and their options for alternative uses (“site classification”);
 - the economic situation of households, the village, and the region;
 - sources of environmental pollution.
- The sub-alpine region of **Călineasa** with its large **summer grazing areas** is an integrated part of the land use system. A second focus of research will be on these ecosystems. We investigate
 - the sites, species composition, and structures of grazing land and forests;
 - the techniques of land use;
 - the potential of sites and their options for alternative uses (“site classification”);
 - the economical contribution of upland grazing and related activities to households, the village, and the region;
- Until today, large forested areas are publicly-owned, and managed by the governmental forest administration ROMSILVA. Site-related inventories will reveal the present status of the forest, and give a base for evaluations for nature conservation and economy.

(2) Interdisciplinary studies between the disciplines of natural sciences, land-use management, economics, policy and social sciences (figure 2).

- Pedological, meteorological, ecological inventories, descriptions of the techniques in agriculture and forestry provide a basis for quantifying the impact of land use in terms of economy and nature conservation.
- Analyses of economy and landscape characteristics are needed for creating scenarios of alternative land uses, e.g. marketing products, tourism.

(3) Participatory research centered on the active participation of local people and key players will allow for trans-disciplinary components.

(4) Based on the analysis of the situation, followed by evaluation and development of scenarios for the further development, some exemplary implementations will result:

Knowledge of alternative land use options give the base for first practical implementations. Exemplary model projects developed in co-operation with the rural people will be:

- Production and marketing of cheese;
- Rural tourism, including new perspectives for traditional architecture and landscape patterns;
- Sustainable use of medicinal plants (for sale and local use);
- Improved, more efficient use of manure;
- New plants and techniques in gardening.

(5) Intercultural co-operation between German and Romanian partners, between the researchers and the local participants will contribute to the transfer of understanding, knowledge and techniques between the two cultures.

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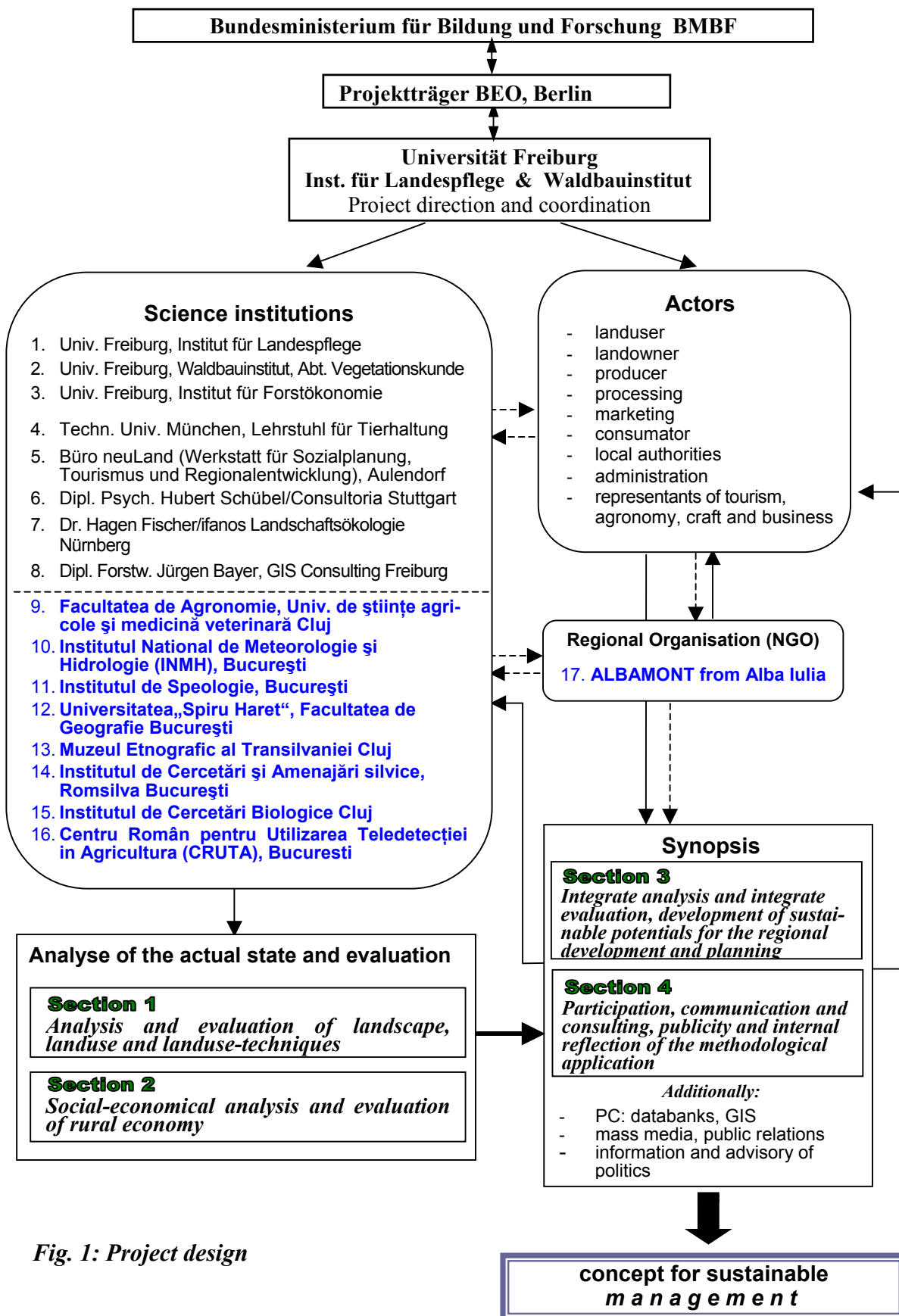


Fig. 1: Project design

Fig. 2: Trans-disciplinary structure of the project

