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A Traditional Cultural Landscape in Transformation

The Quest for Sustainable Development Options in the Apuseni Mountains, Romania

Changes in the economies, societies and politics of Europe and across the globe that have taken place since 1990 have started to impact upon 'transition countries.' People in the mountainous regions of Eastern Europe have begun to face completely new economic and ecological problems. The increased incorporation of rural subsistence economies into the world market will inevitably lead to socioeconomic change. Decision makers at the national and regional levels promote this process to a certain extent; yet they are in part also forced to simply follow its course. This is inducing major alterations to landscapes, brought about by increasing farm sizes and greater specialization, mechanization, and intensification on more fertile soils. Existing conflicts between over-exploitation of resources and sustainable land use await resolution. This can be achieved through the creation of new economic perspectives and with the participation of stakeholders, including politicians, government, and local people. A traditional cultural landscape in the Apuseni Mountains of Romania, its land use systems, and future perspectives for sustainable development were analyzed in the context of the Proiect Apuseni, an inter- and transdisciplinary bi-national project based in Romania and Germany. The aim of the project was to investigate the transformation processes, to identify and evaluate development strategies, and to make recommendations for sustainable regional development in participation with the local people and Romanian politicians.

Traditional land use and landscape patterns

The Apuseni Mountains, situated in northwestern Romania, culminate in the Curcubăta Mountain (1880 m). Villages and scattered farmsteads are found up to about 1300 m. They are linked with administrative centers in the valleys and utilize mountain pastures for summer grazing and timber harvesting, in a transhumant system (Figure 1). To this day, subsistence production is the basis of people's existence: dairy farming, combined with a large variety of other activities including crafts, trade, and forestry, are their basic means of survival. Inhabitants have adapted their practices to the natural environment and have formed landscapes rich in structures, vegetation types, and species. The forests provide timber for construction and boards, firewood, wood pasture, berries, and mushrooms. The open land is dominated by meadows and pastures. Hay meadows are found on deeper soils. These are fertilized with manure and harvested manually using a scythe. Unfertilized grassland occupies the steeper and less fertile soils, mainly providing pasture.



FIGURE 1 Landscape near Ocoale and Gheţari (1100–1300 m) in the Apuseni Mountains, characterized by dispersed settlements, grassland, and forest. (Photo by Albert Reif)

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Transformation: changing society, economy, and land use

The change of political system in 1989 also impacted the social and economic conditions in the Apuseni Mountains. The previous (low-standard) welfare systems eroded and pensions were devalued by inflation. The market for vessels—the traditional wood product of the region—recently collapsed, replaced by the sale of timber and boards. Simultaneously, less governmental control and skepticism about future policies and weak forest administrations since the 1990s led to increased utilization and unregulated over-exploitation of forest resources. Driven by the need to secure and improve livelihoods, a rush towards timber extraction began. In many villages, recently obtained electricity and circular saws enabled those farmers with horses to extract timber from the public forest without regulation, and to sell the boards produced on the market. Small households, eg those of elderly people or widows, were unable to benefit from this new source of income. Subsistence production remains their only support, leading to a drastic increase in poverty. At present, people's livelihoods in these mountain villages differ substantially.

The outcome of the severe over-exploitation of forests is that the timber resources will last only a few more years. One must assume, therefore, that once this happens incomes will decline significantly. The economic future of the next generation of farmers remains uncertain.

On 1st January 2007, Romania became a member of the EU. Further radical economic and ecological changes are likely to occur in the coming years. In Eastern European mountain ranges, economic pressure on rural households will trigger processes of increasing farm size, specialization, mechanization, and intensification on the more productive soils. The number of people living on farming will be much lower than is the case today. Agricultural use of marginal sites has been decreasing since 2006 and may be abandoned completely. The vegetation on these sites will change through succession and afforestation. Such processes have taken place elsewhere in Europe in recent decades, with negative consequences for livelihoods, biodiversity, and landscape patterns.

Searching for new strategies

The problems arising from unsustainable land use and long-term economic and ecological insecurity are recognized by most stakeholders, but no solution has been found to date. New strategies for sustainable development are needed, especially in light of the political, socioeconomic, and ecological changes that have occurred during the transition process. As an EU country, Romania has committed to adopting EU legislation and biodiversity conservation priorities. The existing potential offered by the landscapes and the cultural heritage should be preserved and carefully developed. This can only be successful if new forms of cooperation and participation with local people are put into place and if environmental education, adequate

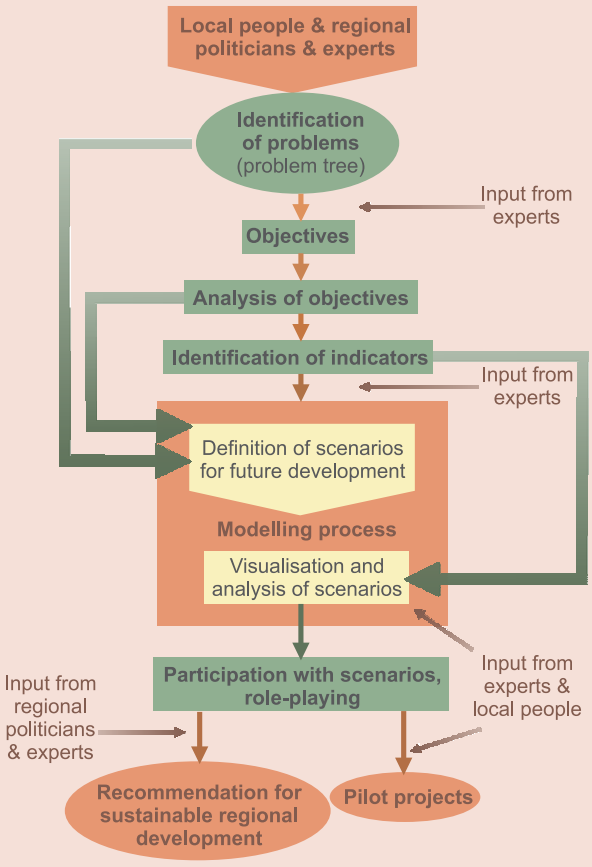


FIGURE 2 Process of objective-oriented project design and system of management used for developing scenarios, implementing pilot projects, and elaborating recommendations for regional development. (Diagram by authors)

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FIGURE 3 "Planning for real:" Gheţari pupils display their 3-dimensional vision of their village in the future. This model served as a tool for further discussion with their parents and other stakeholders. (Photo by Albert Reif)

financial instruments, and better marketing strategies are implemented. Successful regional development will be the most convincing argument in the transfer of results to other rural mountain regions of Eastern Europe.

Previous unsuccessful attempts

Bottom-up approaches to discussing and remedying unsustainable land use practiced locally in the Apuseni Mountains have been unsuccessful until now. Even those farmers who recognize that uncontrolled exploitation of forests is unsustainable decide to take part in timber harvesting because everyone has increasing needs and is competing for income under present market conditions. Such situations, where individual and common objectives with respect to the use of a resource collide, are known as the "dilemma of the commons."

Top-down approaches, whereby land use is regulated by law and government, have also proven unsuccessful. For centuries, the life of rural people in Eastern Europe was dictated by hierarchical structures, economic pressure, and political uncertainty. To this day, people tend to mistrust governmental institutions. The farmers of the Apuseni Mountains are particularly skeptical of such institutions, and their behavior is highly individualistic: they have developed an aversion to all forms of association and cooperation. A number of farmers who received land in the first phase of forest privatization in 1992 immediately harvested the trees and converted the forest to pasture, because they did not believe that the promises made by the government would last.

A new approach

In order to determine strategies and methods for sustainable management in the Apuseni Mountains, an interdisciplinary team worked on the development of an objective-oriented project design and system of management. Starting with a stakeholder analysis, the central problems faced by the local actors were analyzed (Figure 2).

The problems of the region were identified through personal interviews with farmers, experts, and local politicians, and through questionnaires. During a workshop with experts the problems identified were transformed into objectives for future development with the specification of key indicators. The majority of the problems singled out by the local stakeholders were of a social or economic nature; only very few were ecological.

Additionally, participatory methods such as "planning for real" were implemented. This was done with pupils in the local school, who articulated their personal wishes with regard to future development. The resulting model was used in broader discussions (Figure 3).

As a case study, future development trends and scenarios were defined by experts for the mountain village of Gheţari for the next 15 years, based on 3 "action strategies," representing 3 different political stratagems:

1. Uncontrolled continuation of traditional land uses (*traditio* scenario);
2. Sustainable land use in the foreseeable future, with moderate investment of own capital, including a reduction of timber harvesting and incomes in

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TABLE 1 Intensity and forms of participation.

Information and motivation	Participation	Cooperation
• Public relations start-up meeting • Flyers, leaflets, info-sheets • Lectures, discussions, private conversations • Public announcements in the village and local pub • Public festival to mark project conclusion • Final congress in Bucharest	• Interviews with local people and experts • "Activating inquiry" • "Planning for real" • Thematic groups, workshops, consultancy • Role playing	• Establishment of a steering committee (mayor, community council and Proiect Apuseni members) • Founding of local rural development association, visit to Germany of mayor and representative of Gheţari • Pilot projects as forms of implementation

the short term, but more or less stable conditions in the future (*evolutio* scenario); and

3. Large-scale investment by an external investor, with construction of roads and tourist facilities (*capitalinvestitio* scenario).

Forms of participation

The initial stakeholder analysis provided the basis for the integration of local, regional, and national actors: local people, experts, politicians, and institutions (action research). The concept behind the participatory approach employed in Proiect Apuseni was based on gradual involvement of stakeholders, with varying forms of participation adapted to each group. Apart from "planning for real," several methods of participation were practiced at different intensities and in different forms (Table 1). Due to language barriers and different educational backgrounds, both verbal and non-verbal communication was used. According to the intensity of cooperation and communication, 3 levels of involvement were distinguished: information and motivation (most important at the beginning), participation, and cooperation towards the end. The quality of the participatory action process was continuously monitored.

TABLE 2 Bottom-up approach to transdisciplinarity and regional development in the Apuseni Mountains: practical measures in the form of pilot projects.

Pilot project	Practical measures and implementation
Rural tourism	Training for farmers Construction of new boarding houses and huts Establishment of a tourist information center Restoration of a traditional farmhouse
Medicinal plants	Collection, drying, and processing of medicinal plants: WWF–UK and Darwin Foundation project for sustainable collection and improved marketing of *Arnica montana* (http://www.arnica-montana.ro)
Water supply	Feasibility study for domestic water supply
Animal rearing and husbandry	Construction of stables according to modern standards Systematic animal husbandry
Farming	Optimizing of mowing time and hay quality Optimizing treatment and use of manure Improved pasture management to avoid overgrazing Crop farming (new crop varieties and cultivation techniques)
Forest use and wood supply	Seminars with foresters and local stakeholders, including politicians

Practical implementation on a local scale

The most successful aspect of the project proved to be the transdisciplinary and common practical actions carried out within "pilot projects" (Table 2). These were selected using the following criteria: 1) significance for sustainable development, 2) sustainability after termination of the project, 3) possibility of rapid success, and 4) realization during the project period.

These pilot projects 1) symbolize the aims of regional development and enhance knowledge within the region; 2) represent a cooperative strategy in a local and regional network of different part-

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ners; 3) provide opportunities for "learning by doing" and encourage the creativity and engagement of stakeholders; 4) result in concrete actions and exemplary results; and 5) promote changes in existing structures. Promising approaches were implemented in the fields of tourism, water supply, and medicinal plants. No immediate success was achieved in the case of animal rearing, new farming techniques, forest use and wood processing.

Sustainable regional development

The experiences garnered through Proiect Apuseni revealed the strengths and weaknesses of this mountain region from the perspective of experts, local people, and other stakeholders. These were used to formulate recommendations for regional development during a workshop based on the sustainable livelihood approach. The participants agreed that the traditional landscape should be carefully developed and maintained. However, the continued existence of this unique landscape depends mainly on measures for improving economic conditions for farmers. Given the unclear economic perspectives, the participants concluded that the economy of households, villages and the region should be based not only on one sector, but on combinations of forest use, farming, crafts, marketing, and rural tourism.

The sustainable development of remote mountain regions requires time, a strategy implemented at several levels, and—most importantly—cooperation. The search for a remedy has to combine multilevel solutions and include the economic and societal needs of the people in a way that is sustainable in the long term. Successful approaches, therefore, should be based on and strive for transdisciplinarity, which implies participatory action research involving the stakeholders (local population, experts, administration, and politicians), and joint practical implementation of research findings. Conceptual approaches and legislation enacted at the national and regional levels need to be combined in a coordinated strategy for sustainable regional development. New and untried techniques and marketing options are a basis for practical measures and implementation at a local scale. These serve to demonstrate to stakeholders that sustainable, long-term land use *can* be achieved, providing sufficient income while also reducing conflicts that exist, for example, between local farmers and the forest administration.

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