



# VITAL LANDSCAPES

**VALORISATION AND SUSTAINABLE DEVELOPMENT  
OF CULTURAL LANDSCAPES USING INNOVATIVE PARTICIPATION  
AND VISUALISATION TECHNIQUES**

**Edited by Jan Těšitel, Burkhardt Kolbmüller and Gernot Stöglehner**



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**VITAL  
LANDSCAPES**  
CENTRAL EUROPE Project

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## **PREFACE**



Cultural landscapes in Central Europe are of great value as evidence of our natural and cultural heritage and part of our common history. They are an important precondition for human well-being, quality of life and regional identity for residents and visitors alike. The economic and tourism potential of landscapes forms a source of sustainable regional development. With this in mind, the European Landscape Convention highlights in its preamble: “The landscape has an important public interest role in the cultural, ecological, environmental and social field, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation. (...) The landscape contributes to the formation of local cultures and (...) is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity.”<sup>1</sup>

However, landscapes are endangered due to a lack of awareness, insensitive development and rapid change. Given the need to upgrade the technical infrastructure and to foster the economy, the sensitive development of the landscape is often neglected in practice. In addition, many rural areas suffer from population decline due to negative demographic trends and the outward migration of young people.

Further problems include the sectoral treatment of landscape issues and the poor coordination of different policy areas (especially agriculture, nature conservation, and economy). Regional approaches combining economic development and landscape protection, e.g. by involving decision makers and stakeholders from different sectors, are still quite rare in Central Europe. Simultaneously, inhabitants are only rarely involved in the development of ‘their’ landscape.

To say it unmistakable: Every single day we are loosing landscapes, their beauty and diversity, their cultural and biological diversity. We are destroying an important part of our common heritage, grown over centuries and urgently needed to shape the future.

VITAL LANDSCAPES ([www.vital-landscapes.eu](http://www.vital-landscapes.eu)) was born out of a desire to overcome some of these deficits. Starting in April 2010 and lasting until March 2013,

the Project was a joint initiative by eight project partners from seven CE countries with the common aim of promoting and supporting the sustainable development of cultural landscapes in Central Europe. The Project was largely financed by the European Regional Development Fund (ERDF) as part of the CENTRAL EUROPE Programme ([www.central2013.eu](http://www.central2013.eu)).

VITAL LANDSCAPES aims to contribute to preserving the quality, diversity and beauty of cultural landscapes as required by the European Landscape Convention and the Territorial Agenda of the EU. To enhance the potential for their future economic and social development, the Project introduced cross-sectoral regional strategies and new technologies for visualizing and moderating landscape changes. To achieve these aims, the Project provided knowledge and motivation to local actors and regional stakeholders to support the sustainable development of landscapes by creating regional networks, stimulating local dialogues and implementing pilot actions in all participating regions.

Of course, three year of project activities with a limited number of partners may not change the challenging situation of Central European landscapes fundamentally. However, VITAL LANDSCAPES developed a number of tools and introduced a series of best practices that may be of general interest. The present final publication describes in detail the lessons learned, focussing on practical activities that might be applied by additional partners, regions, and projects. Further details are available on the Project Website [www.vital-landscapes.eu](http://www.vital-landscapes.eu).

So we hope contributing to raise attention for urgently needed activities everywhere in Central Europe and to activate decision makers as well as local people, according to our common message: Vitalize your landscape! We are all part of our landscape and its development. The face of our future landscapes depends on us!

The editors

Magdeburg/Ceske Budejovice/Wien, March 2013

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<sup>1</sup> European Landscape Convention, Florence 2000, p.3



## **INTRODUCTION**



# I. VITAL LANDSCAPES – MAIN ACTIVITIES AND OUTPUTS

*Burkhardt Kolbmüller*

*Salve.consult (Weimar)*

The Vital Landscapes project activities have been carried out in five Work Packages that followed a clear internal philosophy, based on the shared responsibility of all partners. The following section is based on, respectively contains excerpts of the core outputs of the project which are listed in the reference-section and are freely available on the Vital Landscapes project website ([www.vital-landscapes.eu](http://www.vital-landscapes.eu)). Apart from the Project management and coordination (WP1) that ensured a sound day-to-day project and financial management according to internal and external requirements, the following main activities have been carried out.

## 1. WP2: Communication, PR and dissemination

Cultural landscapes are a common Central European value. However, they are continuously neglected and destroyed due to missing consciousness of their value and the lack of willingness or imagination to consider alternatives. Thus, information about the existing values, communication of the challenges and losses and the dissemination of project outputs how to link sustainable economic development and preservation of landscapes is a core element of the whole project.

Against this background, an important aim of the Vital Landscapes project was to develop a joint strategy and practical recommendations how to communicate the topic of sustainable development of cultural landscapes in Central Europe to the media and to the public, ready to apply for other users as well. During the lifetime of the project, a wide range of media relevant activities have been carried out by the partners. Some of the activities applied rather traditional tools like press journeys or newspaper information campaigns. However, the approach to focus on landscape and regional development was new and caused multiple benefits. Moreover, the project developed a series of innovative tools like production of movies, web based photo exhibitions together with regional newspapers and geo-referenced databases of cultural landscape elements.

A summarizing media strategy introduces the experiences and best practices of the Project in communicating cultural landscapes and provides practical recommendations and examples, ready to apply for other users as well (e.g. governmental and non-governmental organisations dealing with cultural landscape protection and development; local, regional and national administrations; managers/authorities responsible for protected areas; people engaged in ELC implementation; local/regional/national media). The strategy is available at the project website and shall encourage and enable these

target groups to use the media more intensively and more professionally to sensitise ordinary people, regional stakeholders and decision makers to the topic – one key precondition to ensure sound and more conscious landscape management in future.

## 2. WP3: Innovative visualisation and participation techniques

Regarding the ongoing damages of Central European landscapes, three closely connected main problems have been identified:

1. Regional stakeholders, decision makers, politicians and inhabitants do not realize, sometimes even do not know the values of ‘their’ cultural landscapes.
2. Landscapes change fast and often without reflection about alternative solutions. The actors involved mostly are not willing or able to imagine the impact of interventions (e.g. new constructions) on landscape.
3. There is a lack of mutual communication and understanding amongst different landscape relevant actors on all levels, e.g. between nature protection and regional (economic) development.

Against this background, WP3 focused on the development and/or adaptation of innovative tools and procedures of visualisation and participatory moderation of landscape development scenarios. Starting with the evaluation of existing knowledge and deficiencies and based on the joint definition of landscape quality objectives, WP3 designed regional development scenarios, using modern moderation techniques and advanced visualisation tools. In detail, the following activities have been undertaken:

### 2.1. Evaluation of previous projects and activities

To include existing approaches and advanced knowledge, the Vital Landscapes project started with an analysis of existing experiences by evaluation of 15 previous projects in landscape and regional development in the partner regions. A summary report identifies factors of success and failure, compared successful approaches and collected good practice.

The evaluation showed that getting a holistic picture on a “vital landscape” is a complex matter: Not only aspects of contents of a vision and development strategy of a vital landscape are relevant, but especially procedural aspects of landscape development make a landscape “vital” and vivid. Social processes related to participation, identity, value of landscape features, ownership of development

strategies are as important success factors than the sound science-based elaboration of landscape plans, management plans for (protected) areas, natural and cultural heritage mapping or many other methods and aspects of the knowledge base that may be associated with landscape protection, management and planning.

Even in good practice as represented in this case study comparison, not all relevant issues are covered in the same depth so that a Central European standard for processes of “vital landscapes” cannot be identified within the selected cases. Yet, the survey showed that the set of criteria developed and applied in the case studies proofed to be useful not only to carry out evaluation tasks, but also to be applied as a checklist of issues to be elaborated on in any development process that shall develop scenarios and visions for a “vital landscape”.

## **2.2. Screening of national/regional spatial planning systems in Central Europe**

Spatial planning systems are quite different in Central Europe. Some countries have obligatory rules and measures for landscape planning implementation while the others have no such solution prescribed by law. Since the legal framework constitutes an essential precondition of landscape development in general and for the scope of participation in particular, at the beginning of the Vital Landscapes project an overview about planning systems in the participating countries tried to define some special conclusions about landscape planning in Central Europe.

The summary report provides a general overview with a comparison of planning systems focusing on how they support landscape development, thus enabling to better understand the background of the common work of the project partners. The report explains the formal structure that is supporting the landscape development in each country and explains the rules about how it is working, if it is efficient, and why. Besides better understanding the formal driving forces behind landscape practice and policy in each country, this research contributed to the development of a common project language as well.

## **2.3. Case studies how to link landscape and Agenda 21**

Sustainable development of landscapes can be achieved by actively, jointly and collaboratively working on landscape, so that “ownership” of this topic arises within the public, administrations and organisations which consists of ownership of values and concepts of landscapes, ownership of techniques and processes for landscape development as well as ownership of outcomes of landscape development processes. This ownership of landscape values is a necessary precondition in order to enforce and implement objectives and measures of landscape protection, planning and management: Only an appropriate place of landscapes in the societal value systems can create the readiness of society to devote the appropriate resources as well as to shape and apply

effective instruments for governing the development of cultural and natural landscapes.

These bottom-up features of landscape development can be implemented within the Local Agenda 21 (LA21) scheme in combination with spatial planning. Therefore, the Vital Landscapes project carried out a survey focusing on the bottom-up and participatory issues of landscape development, which might be appropriately accommodated in LA21. A selection of 21 Austrian LA21 strategies (vision statements and action plans) on the local and regional level was surveyed. The respective report is structured in the following parts: In Chapter 2 the Agenda 21 frameworks in Austria are introduced, Chapter 3 briefly characterized the materials and methods, Chapter 4 presents the results of the survey which are then discussed in Chapter 5. Chapter 6 contains conclusions. The report is supplemented by an extensive Annex with brief descriptions of the case study municipalities and regions as well as evaluation questionnaires for the case studies.

## **2.4. Joint definition of CE landscape quality objectives / landscape quality guidance**

Landscape quality objectives shall answer questions like: “Which landscape do we want to have in future? What are the core elements of our future natural, cultural and social environment? What are indicators of sustainable development?” Processes that lead to “vital landscapes” are participatory in nature and close the cycle from landscape identification and assessment to landscape quality objectives and action plans (including landscape planning, management and protection), which may influence the landscapes in a way that landscape characteristics change and the process starting from landscape identification has to be undergone again. For the Vital Landscapes project the following vision was important to reach in each process dealing with landscape quality:

- High quality of life for satisfied people living in the landscape
- High diversity of nature, landscape, culture, tradition, economic approaches, living conditions, development scenarios, different societies living there...
- Functioning technical, social, cultural infrastructure
- Strong regional economies including e.g. in energy and food supply, regional economic cycles, social networks
- Environmental sustainability (responsible use of the environment, low CO<sub>2</sub> emissions, low pollution of soil, water and air...)
- Preserved historic cultural landscapes and landscape elements by use and modest adaptation to 21st century living conditions (as part of our common memory and identity), nature/landscape/heritage protection
- Balanced development (of urban, sub-urban and rural regions), link between the protection and development
- High, regionally diversified landscape quality

- Low levels of risks and damage because of fragmentation of landscape
- Capitalised regional resources, e.g. regional products/branding, cultural tourism, regional knowledge management
- Bottom-up and long-term approaches.

Against this background, the Vital Landscapes project developed a set of landscape quality objectives addressing both the protection of environmental heritage and the direction of development of socio-economic human activities in order to improve quality of life and to reduce negative impacts on landscapes. Specific landscape quality objectives, aiming at the future state of certain landscapes or landscape elements according to the definition above can hardly be generated on the larger spatial scales than local or regional.

Therefore, it is important to determine such objectives on the local and regional level with active public involvement. This involvement, and the elaboration of landscape quality objectives cannot be separated from the landscape identification and assessment and has to be carried out in participatory and collaborative processes between the public, local and regional authorities and landscape planners.

Consequently, the Vital Landscapes project established a set of criteria to identify a “vital” landscape (landscape quality guidance). These criteria comprise environmental, social and cultural, economic, participation, implementation and spatial criteria. In order to deal with landscape quality objectives from the aspect of content, environmental, social (including cultural) and economic criteria have been transferred in questions that should be answered in each local or regional planning process.

## 2.5. Development/adaptation/use of innovative technological tools

The main goal of the Vital Landscapes p Project was contributing to preserve the quality, diversity and beauty of cultural landscapes in Central Europe. To enhance the potential for their future sustainable development, the Project developed and adapted amongst others the following new (digital) technologies for visualizing and moderating landscape changes:

- Specific 3D visualisation software solutions
- Community based knowledge management
- GIS based decision support system
- New visualisation channels
- Geo referenced database
- Digitised historic maps

What is the benefit of such digital tools? Since landscapes are very complex systems with many actors, who have generally different levels of knowledge and various attitudes towards landscape development processes, visualisation of landscapes, landscape changes, landscape history as well as present and future scenarios are very relevant options to increase public understanding of

landscape development and planning. Furthermore, these platforms help to find a common language, to increase the knowledge about landscape and to encourage public participation in landscape management and planning. A final summary describes the strong and weak points of the different visualisation tools as developed and applied by the Vital Landscapes project in detail.

## 3. WP4: Realisation of exemplary pilot projects

To avoid only theoretical reflections without practical relevance, the Vital Landscapes project included pilot actions in all participating regions that implemented the tools developed in WP3, thus providing practical experiences and useful feedbacks by regional networks and relevant stakeholders. All partners in each country collaborated with one pilot project area. The selection of case studies was based on several criteria. First, the selection of case studies represents the main focus of the partners on the Vital Landscapes objectives and issues. Germany and Austria focussed on participation in planning processes for the establishment of regional development scenarios and landscape quality objectives. The focus was on the elaboration and testing of moderation and participation techniques in order to involve the broad public in strategic issues of landscape development. The Hungarian and Polish pilot projects dealt with innovative visualisation and communication tools in order to support local discussions about possible landscape developments. Compared to the first two case studies, the second group of case studies is more computer technology oriented. Finally, the third group of projects in the Slovak Republic, the Czech Republic and in Slovenia focused on awareness-raising for landscape development of the general public and the involvement of local people and regional stakeholders in projects dealing with conflicts of land use with nature and landscape preservation issues.

Furthermore, the case studies were selected in a way that diverse spatial and landscape structures and land uses as well as planning approaches could be covered throughout the Vital Landscapes project partnership. In Germany, a rural area in the Lower Saale Valley, facing shrinkage and major demographic change, was in the focus of the case study. In the area landscape damage is on-going, that can be connected to a lack of awareness for landscape values and an unbalanced development of economic and environmental issues. In Austria, a rural area, the Mühlviertler Kernland, with 18 municipalities representing both growth and shrinkage was selected, so that landscape development spanning from suburbanisation, vital small town development to peripheral rural subareas could be covered. A culture of participation and rising interest in landscape development, but missing regional landscape development scenarios and landscape quality objectives were further selection criteria.

In Hungary, visualisation techniques for the discussion of landscape quality objectives were applied to a rural region that faces out-migration due to a low quality of life and weak economic development, the Nagyberék Region at the lake Balaton. Tourism offers some development potentials. In Poland, problems related to economically weak and shrinking rural areas were addressed in the community of Mściwojów, showing conflicts between economic development and landscape and heritage preservation. Furthermore, issues of weak public involvement in local decision making processes were tackled.

In the Slovak Republic, the focus was on landscape preservation and awareness-raising of landscape values in the context of significant suburbanisation in the surroundings of Bratislava. Demographic and social changes and their impact on landscape development were discussed in the light of rapid growth. In the Czech Republic conflicts between nature protection, economy and local people in a protected area, the Šumava Biosphere Reserve, and weak regional cooperation in landscape development processes were tackled. Last but not least, in Slovenia a protected rural area in the immediate surroundings of Ljubljana was used as a case study to work on the closing of the gap between nature conservation and regional (economic) development, on gaining experience in participatory landscape development and on increasing the awareness of development opportunities connected to specific and outstanding landscapes.

The selection process aimed for a great variety and diversity of case studies and model areas to examine as many different challenges for landscape development as possible. The case studies represent areas of different spatial, natural, economic and social contexts and cover a great variety of Central European rural and suburban cultural landscapes. The experiences of the pilot projects have been transformed into a strategy on innovative methods of landscape management through visualisation and communication of development scenarios.

A final summary presents and describes all pilot projects in detail, highlighting the strategies of their implementation, describing factors of success and failure, thus enabling further actors in Central Europe and beyond to apply strategies and tools developed by the Vital Landscapes project. Thus, the implemented strategies will become easily understandable to the readers, and further interested partners beyond the partnership may better understand the value of the respective approach to their own activities. The sense and specific value of this approach is its diversity: There is no “one perfect strategy” that fits to all regions and requirements. Solutions and strategies of sustainable landscape management will differ from region to region, depending on the regional situation, national laws and regional stakeholders. For more details, please see the following chapter.

## **4. WP5: Dissemination, education and exchange of know-how**

Finally, the results and findings have been communicated to a broader public by a series of workshops, conferences and study tours. To build the ground for future developments, WP5 also comprised educational activities for different target groups and the elaboration of curricula that will make successful approaches to all partner institutions and beyond available. In detail, the following activities have been undertaken:

### **4.1. Creating and maintaining regional dissemination and communication networks**

To support the successful implementation of project activities, to support the communication and dissemination of outcomes and to safeguard the sustainability of the results in a long term perspective, WP5 started with creating and maintaining regional networks of regional key actors and stakeholders, communicating the activities to communities, regional stakeholders and local people from the very beginning. Depending on the local situation these networks involved regional and local administrations, NGOs in the field of nature / landscape / heritage protection, regional development agencies, regional agriculture and tourism associations, local action groups (LEADER) and administrations of protected areas.

To qualify the work of the regional networks, public field trips (thematic excursions) and regional workshops communicated activities, results and best practices to the regional stakeholders. Additionally, conferences and public information events supported the communication and dissemination of outcomes on the regional level.

### **4.2. Educational activities**

To build the ground for future developments, the experiences of WP3 and WP4 have been transferred to curricula for vocational and university training, thus supporting the training of landscape related professions, e.g. in landscape architecture, agriculture, forestry, and gardening. An important goal was a stronger inclusion of landscape issues into academic education by improving existing and establishing new curricula at the universities involved. The different approaches and curricula for vocational and university training have been summarised in a final core output that describes experiences and recommendations how to reach young professionals at the beginning of their career.

A further activity was the training of cultural landscape guides, such as enabling professional guides, tourist organisations, NGOs in the field of heritage and nature protection, administrations of protected areas and others to explain the details of landscapes to different target groups. Two different curricula have been developed and tested in the German pilot region.

### 4.3. International dissemination of outcomes, trans-national exchange of know-how

To support the trans-national exchange of know-how and to build the ground for a closer cooperation and cohesion in CE, the Project realized a series of trans-national study tours, involving not only the partner organisations but different regional and national stakeholders, decision makers and associated partners. The experiences made by these study tours have been excellent – they created a real benefit not only for the participants of the tours, but also for the projects and people that hosted the foreign guests who provided recognition of their activities and further motivation for the future.

Finally, the results and findings as well as best practices and open questions have been communicated and disseminated to a broader public by a series of international workshops and conferences, particularly the Vital Landscapes half-time conference on 22/09/11 in Ljubljana/SI and the final conference on 14/02/2013 in Vienna/AT.

## 5. References

- Jombach, S. (2013): Vital Landscapes. Addressing young professionals. European Regional Development Fund (ERDF), European Union.
- Kolbmüller, B. (2013): Vital Landscapes. Joint media strategy. Tools and experiences to communicate the values of Central European cultural landscapes. European Regional Development Fund (ERDF), European Union.
- Kolbmüller, B., Kranjc, U. and Simoneti, M. (2013): Strategies on innovative methods of cultural landscape management through visualisation and communication of development scenarios. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G., Stoeglehner, G., Freyer, J. and Kolbmüller, B. (2011): Vital Landscapes. Evaluation report of existing practice. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G. and Stoeglehner, G. (2011): Vital Landscapes. Collection of good practice. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G. and Stoeglehner, G. (2012): Vital Landscapes. Central European landscape quality objectives. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G. and Stoeglehner, G. (2012): Vital Landscapes. Landscape as topic of Agenda 21 – an analysis of Austrian case studies. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G. and Stoeglehner, G. (2013): Vital Landscapes. Landscape Quality Guidance. How to generate landscape quality objectives in participatory planning processes. European Regional Development Fund (ERDF), European Union.
- Simoneti, M. and Kranjc, U. (2012): Vital Landscapes. Overview of spatial planning systems in PP countries with focus on landscape development and public participation. European Regional Development Fund (ERDF), European Union.
- Simoneti, M. and Kranjc, U. (2013): Compendium of pilot projects focussing on local people and regional stakeholders with a selection of papers from Vital Landscapes midterm conference. European Regional Development Fund (ERDF), European Union.
- Szabó, A., Jombach, S., Mitka, B., Pijanowski, J.M. and Zygmunt, M. (2013): Vital Landscapes. Innovative visualisation. Description and materials for new tools. European Regional Development Fund (ERDF), European Union.



## II. THE CONCEPT OF VITAL LANDSCAPES

*Gernot Stöglehner, Georg Neugebauer and Lukas Löschner*

*University of Natural Resources and Life Sciences Vienna,  
Institute of Spatial Planning and Rural Development*

The term landscape is a complex issue connected to various meanings that can be distinguished according to two different approaches (Steinhardt, 2000). On the one hand the concept of landscape is considered as a material reality (Neef, 1967), on the other hand, landscape can be interpreted as a social construct (Burckhardt, 2006). This strict separation in tangible reality and social construct is overcome when defining landscape as “an area, as perceived by the people, whose character is the result of the action and interaction of natural and/or human factors” (European Landscape Convention (ELC) Art. 1 lit. a). Similarly, Tress et al. (2000) argue that “physical processes and human activities, taken together with human attitudes toward them, shape and create the landscape”.

In accordance with the latter definitions, the framework of the “Vital Landscapes” project applies a holistic view of landscape. Closely linked to the concept of sustainable development laid out in the Rio Declaration on Environment and Development (United Nations, 1992), “vital landscapes” are determined by the three pillars of sustainability (economic development, social development and environmental protection). Additionally, participation should be added as the fourth pillar of sustainable development as “landscape is an issue which affects the whole population and care for the landscape requires collaboration between a wide range of individuals and organisations” (ELC Art. 5; CoE, 2000).

“What is a vital landscape?” In order to clarify the meaning of the term “vital landscape”, an analytical framework of criteria representing “vital landscapes” (Neugebauer et al., 2011) was elaborated in an expert workshop with all project partners by applying the “Group InVention Method (GIVE)” (Stöglehner et al., 2006). The criteria reflect a holistic view on sustainable landscape development and include the following thematic areas (Neugebauer et al., 2011):

- environment and nature (7 criteria);
- social issues and culture (6 criteria);
- economic issues (5 criteria);
- participation (5 criteria).

### 1. Environment and nature

Vital landscapes fulfil environmental criteria by valuing **natural capital/heritage**. In this way, “ownership” of landscape values by the population shall arise and contribute to the understanding of landscape protection, management and planning (Neugebauer et al., 2011). According to the “egg of sustainability” (Busch Lüty et

al., 1990; Birkmann, 2000), social and economic developments have to take place within ecosystem boundaries. Therefore, sustainability can only be developed within **ecological carrying capacities**.

In accordance with the ELC (Art. 3) which aims at promoting “landscape protection, management and planning”, further criteria for vital landscapes comprise the balance between **landscape preservation** and **landscape development**. In addition, the resource base must be maintained by creating and closing **regional resource cycles**, as further described in the economic criteria (see below). The use of **renewable energies** allows tapping the full potential of regional landscapes and contributes to the reduction of greenhouse gas emissions. Measures of **climate change adaptation / mitigation** impose challenges on future landscape development considering intergenerational responsibility.

### 2. Social issues and culture

With regard to the social and cultural criteria of vital landscapes we have to consider landscapes “as a key factor in individual and social well-being” (Déjeant-Pons, 2006) and their role in affecting and enhancing the **quality of life** for people. As human communities are intrinsic parts of the landscape (Linehan and Gross, 1998; Matthews and Selman, 2006), vital landscapes have to deal with **social capital** expressing interrelations between different groups and individuals within societies (OECD, 2001; World Bank o.J.), which is a prerequisite for vital communities who shape and make use of landscapes. Furthermore, **cultural capital/heritage** represents an essential criterion for vital landscapes, as “landscape contributes to the formation of local cultures” (ELC Preamble) and represents “a basic component of the European natural and cultural heritage” (ibid). Challenges for vital landscapes inter alia arise due to **demographic change**, i.e. an ageing population, low birth rates, changing family structures and migration (EC, 2011) as well as the juxtaposition of shrinkage and growth phenomena. **Consciousness/awareness of landscapes** is a further criterion for vital landscapes, as people attribute landscapes with values and landscapes form an important part of **local and regional identities** (Meier et al., 2010; Lanninger and Langarová, 2010).

### 3. Economic issues

Vital landscapes meet economic criteria within the third pillar of sustainable development. They value the **economic capital** by striving for economic self-sufficiency within ecological carrying capacities (see

above). Vital landscapes can be associated with **multifunctional agriculture** which provides for complementary functions beyond the production of food and fibre (e.g. landscape preservation and management, rural employment, building of local identity, tourism development). The economic use of **regional resources** and the products that can be generated in a sustainable way comprise a potential for endogenous regional economic development in vital landscapes. Vibrant local economies strengthen **regional labour markets** in giving “access to employment without damaging the environment” (Aalborg Commitments). Finally, the creation and closure of **regional economic cycles** connects the social, economic and ecological dimension of sustainable development and contributes via **regional income generation** to the preservation, management and development of vital landscapes.

## 4. Participation

Participation criteria are important for the concept of vital landscapes as sustainable development requires active community contribution. Public participation presents an issue of great significance as landscape quality influences quality of life and the regional and local identity (Jones, 2007; Sevenant and Antrop, 2010). **Creation and supporting of networks** is a main factor to ensure that an appropriate level of involvement of the general public can be achieved (including young people, women, migrants, local and regional actors organised in civil society, local and regional stakeholders as well as decision makers). Broadly accepted, long-term oriented and successful processes account for **bottom-up oriented participation methods / approaches** where participation can be realised on different levels. For instance, within the Austrian LA21 process the minimum requirements comprise the first three levels (see Fig. 1).

Especially, on the project level it is sensible to achieve the superior levels of participation comprising **bottom-up decision making**, so that under predefined conditions people are also involved in decision-making (for instance, to decide about the use of budgets for LA21 implementation). Vital landscapes rely on **bottom-up implementation** of projects/processes that are initiated and sustained by “burning souls”, i.e. actors, who take responsibility as “stewards of landscape” and motivate others to take part. Finally, to achieve continuation in the implementation of landscape protection, management and planning **bottom-up monitoring, evaluation and adaptation strategies** should be applied when striving for vital landscapes.

## 5. Applying the Vital Landscapes concept

Throughout the project the “Vital Landscapes concept” was used as tool for analysis and as structure and checklist for defining visions and measures for landscape development. First of all, the criteria were transferred into analytical questions to examine ex-post case studies of existing projects of landscape development that were perceived as good practice by the partners. *Table 1* shows the results of this survey, where the matrix indicates which criteria were addressed in which project (Neugebauer et al., 2011). Via the explanatory statements to each question factors of success and failure were identified and successful approaches compared.

A similar analysis was carried out for a selection of 21 Austrian LA21 strategies (vision statements and action plans) on the local and regional level. The aim was to answer the question, if and how landscape issues are considered in LA21 visions and action plans. As the survey proved that many aspects of a “vital landscape” according to the project framework are already dealt with in LA21 – although only few processes consciously address landscape as an issue and devote a chapter in the LA21 strategy to it –, LA21 was used as role model to draft a participatory process design for discussing landscape quality with local people, that was further developed and implemented in some of the pilot area activities.

The Vital Landscapes concept was also included in a “landscape quality guidance” (Neugebauer and Stöglehner, 2013) and utilized as checklist to work on landscape quality formation in local and regional participatory processes. *Table 2* shows the questions for landscape quality formation dealing with social issues and culture.

Already these brief insights in the project activities show that the Vital Landscapes concept did not only help to develop a common perception of this complex issue within the project partnership but also governed action during the project. The Vital Landscapes concept also guided pilot area activities throughout the partner structure, some of the activities addressing all issues, some focussing on certain aspects of a “vital landscape”, as can be seen from the pilot area reports contained later in this publication.

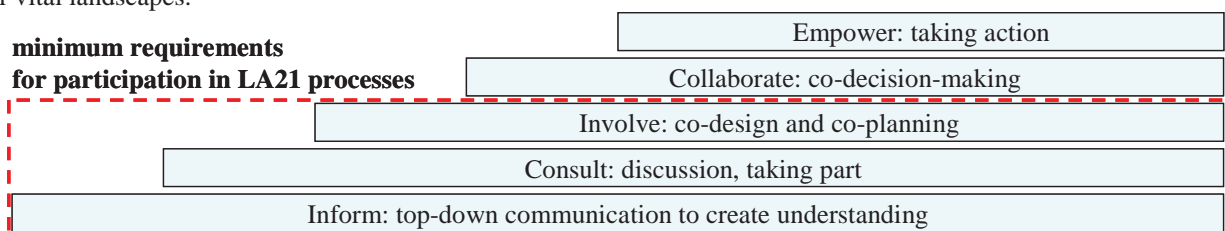


Fig. 1: Five levels of participation

|                         |  | PP1 LEADER Unteres Saaleetal Petersberg | PP1 ObstNatur in aller Munde | PP1 Integrated Direct Marketing | PP2 Dübener Heide | PP3 Regional Agenda 21 Mühlviertler Alm | PP4 INTERREG PANET 2010 | PP4 INTERREG Carpathian Project | PP5 LEADER Center for non-profit sector in Malenice | PP5 INTERREG PANET 2010 | PP5 UNEP-GEF | PP6 Nature Parc Vertös | PP6 TEKA Project | PP7 INTERREG Culture Landscapes | PP8 Green Belt | PP8 L.O.T.O. |
|-------------------------|--|---|------------------------------|---------------------------------|-------------------|---|-------------------------|---------------------------------|---|-------------------------|--------------|------------------------|------------------|---------------------------------|----------------|--------------|
| Environment & nature    | A1 natural capital/heritage                                    | N                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | Y                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | A2 ecological carrying capacity                                | N                                       | Y                            | N                               | N                 | Y                                       | Y                       | Y                               | Y   | Y                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | A3 landscape preservation                                      | N                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | Y                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | A4 landscape development                                       | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | N            | Y                      | Y                | Y                               | Y              | Y            |
|                         | A5 regional resource cycles                                    | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | N                      | Y                | Y                               | Y              | Y            |
|                         | A6 renewable energy sources                                    | Y                                       | N                            | N                               | N                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | N                      | N                | Y                               | N              | N            |
|                         | A7 climate change adaptation and/or mitigation                 | N                                       | N                            | N                               | N                 | Y                                       | Y                       | Y                               | Y   | N                       | N            | Y                      | Y                | N                               | N              | N            |
| Social issues & culture | B1 quality of life   | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | N            | Y                      | Y                | N                               | Y              | Y            |
|                         | B2 social capital  | Y                                       | Y                            | Y                               | Y                 | Y                                       | N                       | Y                               | Y   | Y                       | Y            | N                      | Y                | N                               | Y              | Y            |
|                         | B3 cultural capital / heritage                                 | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | N                      | Y                | Y                               | Y              | Y            |
|                         | B4 demographic change  | Y                                       | N                            | N                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | N            | N                      | N                | N                               | N              | Y            |
|                         | B5 consciousness / awareness of landscape                      | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | N                      | Y                | Y                               | Y              | Y            |
|                         | B6 local / regional identity                                   | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
| Economic issues         | C1 economic capital  | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | C2 multifunctional agriculture                                 | Y                                       | N                            | N                               | N                 | Y                                       | N                       | Y                               | Y   | N                       | N            | Y                      | Y                | N                               | Y              | Y            |
|                         | C3 regional resources  | Y                                       | Y                            | Y                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | C4 regional labour market                                      | Y                                       | N                            | N                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | Y                      | Y                | Y                               | Y              | N            |
|                         | C5 regional economic cycles / regional income generation       | Y                                       | Y                            | Y                               | Y                 | Y                                       | Y                       | Y                               | Y   | N                       | Y            | Y                      | Y                | Y                               | Y              | N            |
| Participation           | D1 creation & supporting of networks                           | Y                                       | Y                            | Y                               | Y                 | Y                                       | N                       | Y                               | Y   | Y                       | Y            | Y                      | Y                | Y                               | Y              | Y            |
|                         | D2 bottom-up oriented participation                            | Y                                       | N                            | Y                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | N                      | Y                | Y                               | Y              | Y            |
|                         | D3 bottom-up decision making                                   | Y                                       | N                            | N                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | N                      | Y                | N                               | Y              | Y            |
|                         | D4 bottom-up implementation                                    | Y                                       | Y                            | Y                               | Y                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | N                      | Y                | Y                               | Y              | Y            |
|                         | D5 bottom-up monitoring, evaluation & adaptation of strategies | Y                                       | N                            | N                               | N                 | Y                                       | N                       | Y                               | Y   | N                       | Y            | N                      | Y                | N                               | Y              | Y            |

**Tab. 1:** Case study comparison

| Social issues and culture   |
|---|
| <p>What are the pillars of our <b>quality of life</b> in ten years? How can we implement them in a sustainable way?</p> <p>What is the level of <b>social capital</b> we want to reach? How can we enhance and utilise our social capital?</p> <p>Which regional/local quality of <b>cultural capital / heritage</b> shall be achieved? How can we preserve, utilise and develop it?</p> <p>What does <b>demographic change</b> mean in our region? Which adaptation measures are necessary?</p> <p>What elements of the <b>consciousness / awareness of landscape</b> shall be raised? How can we increase consciousness / awareness of landscape and utilise it for landscape development?</p> <p>What does <b>local / regional identity</b> mean for us? How can we strengthen it?</p> |

**Tab. 2:** Questions for landscape quality formation dealing with social issues and culture. Source: Neugebauer and Stöglehner, 2013

## 6. References

- Birkmann, J. (2000): Nachhaltige Raumentwicklung im dreidimensionalen Nebel, UVP-Report, 14 (3), pp. 164-167.
- Burckhardt, L. (2006): Warum ist Landschaft schön? Die Spaziergangswissenschaft. Martin Schmitz Verlag, Kassel.
- Busch Lüty, C., Dürr, H.P. and Langer, H. (Eds.) (1990): Die Zukunft der Ökonomie: Nachhaltige Wirtschaft. Politische Ökologie. Sonderheft 1. München.
- CoE – Council of Europe (2000): European Landscape Convention – Explanatory Report.
- Déjeant-Pons, M. (2006): The European Landscape Convention. *Landscape Research* 31 (4), pp. 363-384.
- EC – European Commission (2011): Demography Report 2010. Older, more numerous and diverse Europeans. Luxembourg: Publications Office of the European Union. ISBN 978-92-79-17603-6
- ELC - European Landscape Convention. Council of Europe. European Treaty Series – No. 176.
- Hunziker, M. (2010): Die Bedeutungen der Landschaft für den Menschen: objektive Eigenschaft der Landschaft oder individuelle Wahrnehmung des Menschen?, *Forum für Wissen* 2010, pp. 33-41.
- Jones, M. (2007): The European Landscape Convention and the Question of Public Participation. *Landscape Research* 32 (5), pp. 613-633.
- Lanninger, S. and Langarová, K. (2010): Landscape and Identity – Theoretical Considerations for the Advancement of Landscape Assessment. In: *GAIA*, 19/2, 2010, pp. 129-139.
- Linehan, J.R. and Gross, M. (1998): Back to the future, back to basics: the social ecology of landscapes and the future of landscape planning. *Landscape and Urban Planning*, 42, pp. 207-223.
- Matthews, R. and Selman, P. (2006): Landscape as a Focus for Integrating Human and Environmental Processes. *Journal of Agricultural Economics*, 57(2), pp. 199-212.
- Meier, C., Bucher, A. and Hagenbuch, R. (2010): Landscape, landscape awareness, and landscape identity as potentials for regional development – an empirical case study in Southern Glarus, Switzerland. In: *GAIA*, 19/3, 2010, pp. 213-222.
- Neef, E. (1967): Die theoretischen Grundlagen der Landschaftslehre. VEB Hermann Haack, Leipzig.
- Neugebauer, G. and Stöglehner, G. (2013): Vital Landscapes. Landscape quality guidance. European Regional Development Fund (ERDF), European Union.
- Neugebauer, G., Stöglehner, G., Freyer, J., Kolbmüller, B. (2011): Vital Landscapes. Evaluation report of existing practice. European Regional Development Fund (ERDF), European Union.
- OECD (2001): The Well-being of Nations. The role of human and social capital. Education and skills. available online: <http://www.oecd.org/site/worldforum/33703702.pdf>. [last access: 20 March 2013]
- Rössler, M. (2006): World Heritage cultural landscapes: a UNESCO flagship programme 1992 – 2006. *Landscape Research* 31, pp. 333-353.
- Sevenant, M. and Antrop, M. (2010): Transdisciplinary landscape planning: Does the public have aspirations? Experiences from a case study in Ghent (Flanders, Belgium). *Land Use Policy* 27 (2), pp. 373-386.
- Steinhardt, U. (2000): Mensch und Natur – Gedanken zum Landschaftsbegriff und zum Umgang mit Landschaft. In: *Internationale Zeitschrift zur Theorie der Architektur*, 4. Jg., Heft 2, Februar 2000.
- Stöglehner, G., Mitter, H., Jungmeier, P. (2006): Adult Education as a Key Factor of Sustainable Rural Development. In: Subai, C., Ferrer-Balas, D., Mulder, K.F., Moszkowicz, P. (Eds.): *Engineering Education in Sustainable Development*, 4.-6.10.2006, Lyon, ISBN: 978-2-905015-63-1.
- Tress, B., Tress, G., Naveh, Z., Kostinskiy, G., Bastian, O. (2000): Recommendations for Interdisciplinary Landscape Research. Workshop No.1: “The landscape – from vision to definition” (second draft). In: Brandt, J., Tress, B., Tress, G. (Eds.) (2000): *Multifunctional landscapes: Interdisciplinary Approaches to Landscape Research and Management*, Roskilde, pp. 151-156.
- United Nations (1992): Agenda 21: Earth Summit, The United Nations Programme of Action from Rio, United Nations Publications: Rio de Janeiro, Online available at: <http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf> [last access: 27 March 2013]
- World Bank (o.J.): Social Capital. Online available at: <http://go.worldbank.org/C0QTRW4QF0>. [last access: 20 March 2013]

## **CASE STUDIES**



# I. COMPENSATION MEASURES FOR IMPACTS ON LANDSCAPE – FACTOR OF REGIONAL DEVELOPMENT (Unteres Saaletal, Germany)

*Jörn Freyer and Ines Pozimski*

*Landgesellschaft Sachsen-Anhalt mbH*

## 1. Introduction

Ongoing building and construction projects, whether they concern living, industry or transport lead to a rapid change of our landscapes. In Germany, every day 77 hectares of open space (most often farmland, but also bush land and less often forests) turn into settlement or traffic area (*Destatis, 2010*).

To minimize negative effects of impacts on nature and landscape, the German nature protection law requires compensation measures. Compensation of impacts is to be realized in one of the following approaches (*BNatSchG, 2010*):

- Compensation in a spatial and functional context: The limited function of the ecosystem is improved by another measure at the same spot soon after the very impact. An example is road construction, which reduces groundwater enrichment. In direct surroundings an old road of the same size will then be removed. Thus the same amount of groundwater could drain away.
- Compensation by non-functional but comparable measures in a spatial context, in difficult cases not in a spatial context. Example: After road construction there is no old road next to the new one. Thus, new trees are planted next to the new road or further way, or an old road further away is removed respectively.

In practice, very often the causer of the impact (who is in charge of organizing the compensation) cannot access the properties interesting for compensation measures. The causer is then allowed to use compensation areas and compensation measures which are centralized in a compensation pool (*Spang and Reiter, 2007*). There are different kinds of them (*ibid.*):

- Areas interesting for compensation measures are centralized in cadasters. In this case suitability and availability are checked in advance. But there are no precise steps regarding the implementation of the measures. A spatial connection of the areas is not essential.
- Areas suitable for compensation measures are secured e.g. by land agencies in order to enable complex nature protection actions on connected areas.

Today there are numerous land agencies which develop pools for compensation measures. One of these is VITAL

LANDSCAPES lead partner Landgesellschaft Sachsen-Anhalt mbH (LGSA).

Even if compensation measures follow nature protection goals at first, their effects are much broader (*LGSA, 2012*): Potential measures such as sheep grazing or wild herb planting can also be of added value for

- agriculture (production and selling of local products),
- residents identity (preserving typical landscape),
- tourism and
- education (informing kids and adults from near and far on compensation measures).

Therefore, a functional diversity of their effects makes compensation measures to be a very interesting tool for integrated regional development.

## 2. The pilot area – Unteres Saaletal Nature Park

“Unteres Saaletal” Nature Park offers a rich collection of cultural heritage. Along its ca. 50 km long way through the area, the lower course of Saale river is not only the dominating landscape element (*Fig. 1, 2*), but also an important anchor for regional identity. The nature park stretches across 408 km<sup>2</sup> and is inhabited by around 45.000 people. The land is mainly covered with loess soil which is in arable use. The river valley is ca. 50-100 meters below the surrounding plateau. On the slopes you can find solid rock from lower trias and upper carboniferous (*StaLA LSA, 2012*).

Situated between the largest cities and economic centers of the state Saxony-Anhalt, Magdeburg in the north and Halle/Saale in the south, the Saale valley itself is - apart from the city of Bernburg - a rather peripheral and structurally weak area.

A great challenge regarding a regional development strategy and coordinated actions in this respect is the fact that “Unteres Saaletal” Nature Park stretches across parts of four regional administrative districts: Salzlandkreis, Saalekreis, Mansfeld-Südharz, Stadt Halle (Saale). In all of these units, except Salzlandkreis, the area is located at the border rather than in the very centre. The regional administrations concentrate on parts outside the Nature park area when it comes to regional development potentials. At this point it is important to mention that in Germany, areas of the category “nature park” not only protect and conserve biotopes and natural biodiversity.

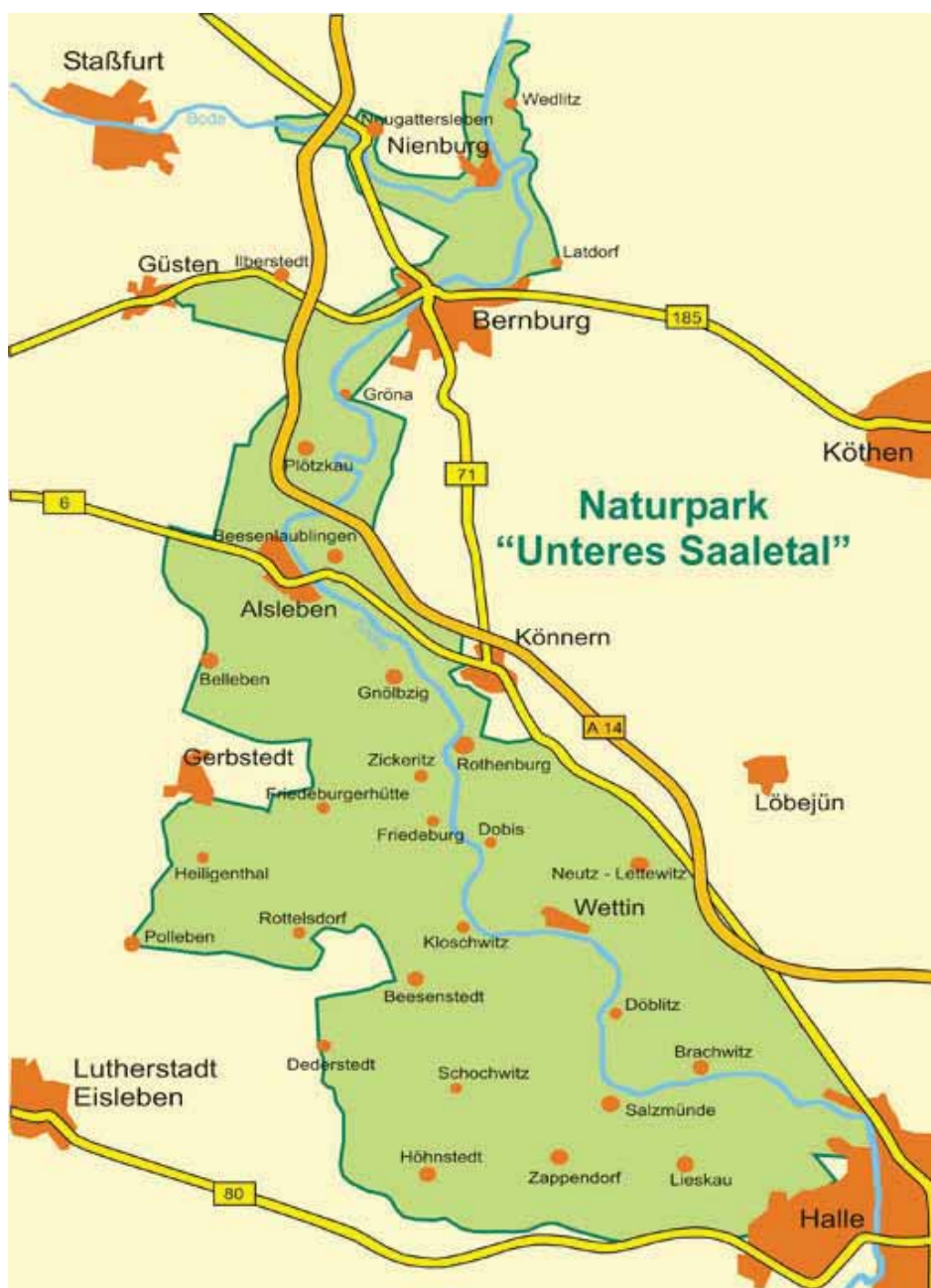
They also explicitly aim to develop environment-friendly tourism and other sustainable land-uses which are of economic value (*BNatSchG, 2010*).

Coordinated actions across administrative borders and thus a common approach in regional development is something that needs to be improved in the “Unteres Saaletal” region, as our experiences show. The Nature park administration itself provides the ideal platform for a regional dialog across district borders.

The main goal of the regional activities carried out by LGSA was to bring the loose idea of a compensation pool to a status ready for implementation. Once in action, such areas cluster numerous small scale compensation measures of infrastructure projects at one single spot. By

doing so such an area gets rather large and therefore unfolds a higher impact in terms of nature protection and landscape conservation, and, finally, it contributes more relevantly to a vital landscape in “Unteres Saaletal”.

To involve regional stakeholders in the preparation of a compensation pool is not very common up to now. Typically, there would be only three parties involved in the preparation of that sort of projects (*Wagner, 2007*), the investor as causer of the impact, the owner or the operator of the respective area and nature protection authorities. A greater regional participation should be then encouraged as it allows a cross-thematic discussion on chances and potentials for the region beyond nature protection. Additionally, a wider participation might lead to higher regional acceptance of such measures.



**Fig. 1:** Location of Nature park “Unteres Saaletal”



**Fig. 2:** View across Wettin and the Saale valley (by Ines Pozimski)

### 3. Activities realised

#### 3.1. Regional participation process

During an information event in the city of Bernburg (Saale) in June 2010, the LGSA introduced the “Vital Landscapes” approach of developing a compensation pool in “Unteres Saaletal” Nature Park to the regional public. We visualized the chances of clustered compensation measures in the region and encouraged the audience to bring in own ideas.

In the following two and half years, the Nature park administration as well as regional nature protection authorities, and stakeholders from agriculture, landscape conservation and regional development were included in the process. During regular work group meetings we collected ideas related to the content-wise implementation and identified suitable areas for a compensation pool. Detailed analyses (see the following sections: cost-benefit analysis and landscape development scenarios later in this article) were carried out for selected measures and areas that turned out to be realistically implemented. The results of these analyses were discussed within the work group and partly already with the site operators that later would care about the implementation of the measure.

In addition to the mentioned institutions, LGSA gained input from local municipalities and their populations. In order to reach the local administrations, LGSA

implemented a survey addressing all eleven municipalities in the pilot region. We asked for information on rising anthropogenic land use, descriptions of the areas concerned (e.g. current use, contamination, ownership), on the goal behind developing the area and desired effects. To get additional feedback from the inhabitants, we presented and discussed our project approach during VITAL LANDSCAPES community workshops organized by the “Cultural Heritage Association Saxony-Anhalt” (see *Schneider-Reinhardt et al. later in this book*).

#### 3.2. Building of a knowledge base

Supported by quarterly work group discussions, a municipality survey and feedback from community workshops, LGSA together with involved partners identified and analysed thirty one suitable sites for large scale compensation measures (*Fig. 3*). Six of them were situated in the river valley, ten along the slopes and fifteen on the arable land of the plateau. The size per area differs between 1.0 and 31.0 hectares with an average of 9.7 hectares. The property of five sites was available for implementation, and regarding compensation concepts, the sites were fully developed. Nine additional sites were in an advanced status – meaning the concept was elaborated completely while the property situation was only partly clarified. In total, compensation areas of 30 hectares had ready concepts, and the property availability was at least partly clarified.

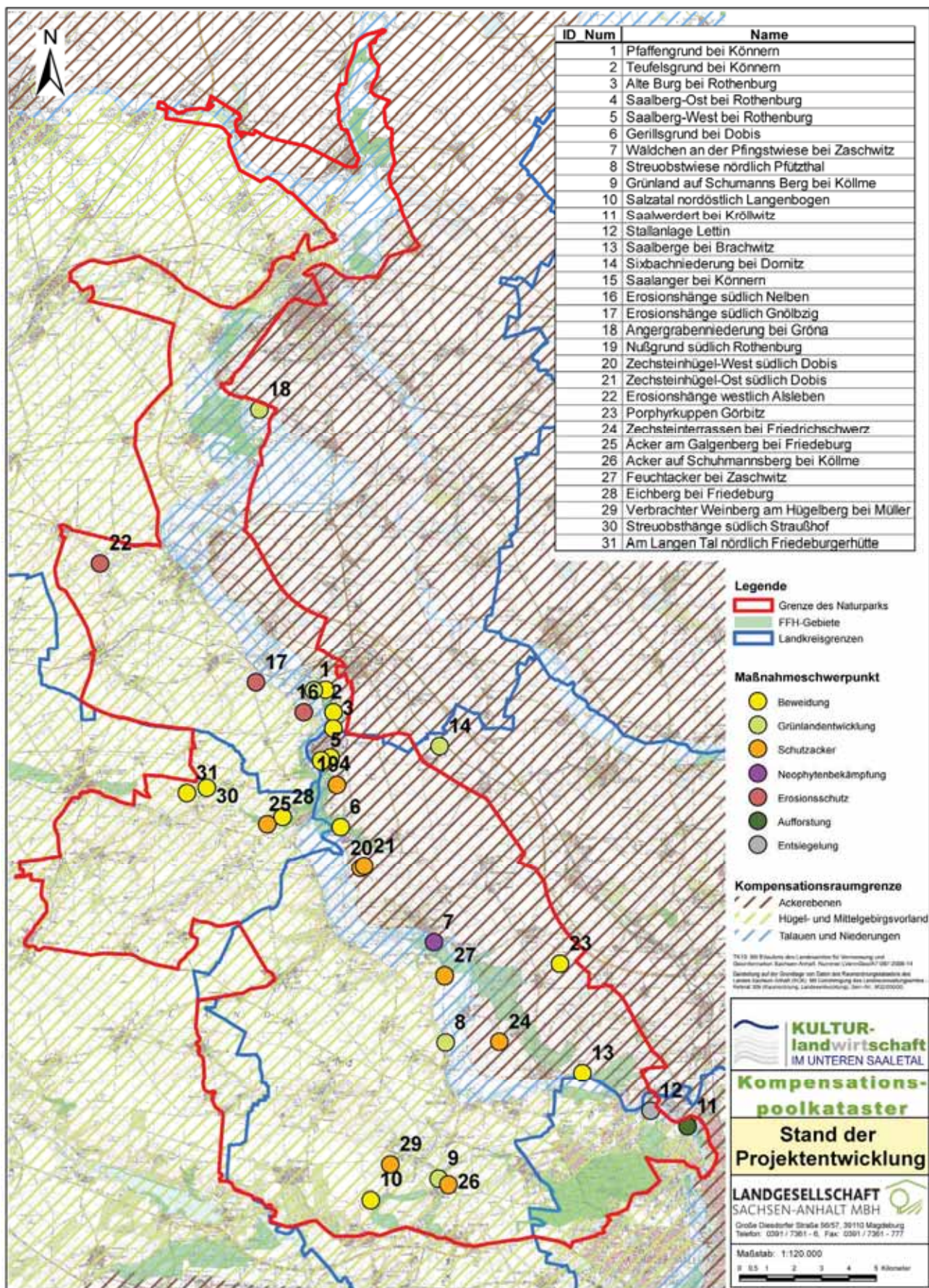


Fig. 3: Location of identified compensation measures and sites

The valorization effects of potential compensation measures carried out on the above mentioned sites were differing. While effects on biotopes were categorized as “high” (rather than “middle” or “low”) on twelve of thirty one areas, high effects on soil, water and climate were seldom awaited. The effects on the protection subject landscape were considered as “high” in five of the thirty one sites. After all, three sites plus the respective measure would cause high effects on at least three of the five listed subjects of protection.

The gathered information on all thirty one potential compensation sites was put into a database whose metadata is provided in *Tab. 1*. The complete database is available within a web-based Geographical Information System ([http://www.vital-landscapes.eu/front\\_content.php?idcat=1949](http://www.vital-landscapes.eu/front_content.php?idcat=1949)). Its goal is to provide knowledge of suitable sites

- to investors who need to organize a compensation for their building activities and
- to nature protection authorities who need to provide such sites.

But also others have got access to the online cadaster which is linked to the regional sub-page of the VITAL LANDSCAPES website.

The started process is supposed to continue beyond the project lifetime. After the launch of the online cadaster the nature park administration will update the provided information. The people involved in the working process are aware that the success of this online platform depends on ongoing involvement and legwork of everyone.

| Category                      | Parameter  | Parameter value   |
|-------------------------------|--|---|
| <b>Basic data</b>             | Name of area   | [text]  |
|                               | Key number   | [digit]   |
|                               | Status   | Search area / Project idea / Project scheme / Project coordinated                                     |
|                               | Protection status  | NSG / FFH ...   |
|                               | Comments   | [text]  |
| <b>Local information</b>      | Landscape type   | Rolling country / Valley floodplain / Farmland plains   |
|                               | Size in ha   | [value]   |
|                               | District   | HAL, MSH, SK, SLK   |
|                               | Township   | [text]  |
|                               | Flur   | [digit]   |
|                               | Flurstück  | [digit]   |
| <b>Estate availability</b>    | Status   | Un-known / Preliminary vote / Available   |
|                               | Comments   | [text]  |
| <b>Measure information</b>    | Compensation measure                                     | 1aa) extensive farmland use<br>:<br>:<br>5c) further water relevant measures<br>[36 options to chose] |
|                               | Short description  | [text]  |
| <b>Measure evaluation</b>     | Habitats   | Low / medium / high   |
|                               | Soil   | Low / medium / high   |
|                               | Water  | Low / medium / high h   |
|                               | Climate / air  | Low / medium / high   |
|                               | Appearance of landscape                                  | Low / medium / high   |
|                               | Protection of species                                    | [text]  |
|                               | Quantitative evaluation according to habitat value model | [scores]  |
|                               | Evaluation of additional efforts                         | [text]  |
| <b>Additional information</b> | Contact  | [Name, adress, contact data]  |
|                               | Attachments  |   |

**Tab. 1:** Compensation database - collected parameters

### 3.3. Cost-benefit analysis

During the regional participation process it turned out that mainly two kinds of compensation measures were most appropriate to be realized in the “Unteres Saaletal” Nature Park, namely

- goat grazing on the rocky valley slopes (lower trias and upper carboniferus),
- planting of wild herbs on the plateau (loess soil) (Fig. 3).

According to the existing theoretical analysis and practical experiences, the planting of wild herbs within a legal compensation measure could be implemented in a cost-effective way. To get an idea if goat grazing could be operated cost-effectively too, the LGSA together with Landschaftspflegeverein Saaletal e.V. (LPVS, Association for Landscape Maintenance Saaletal) carried out a cost-benefit analysis. The example showed that goat grazing (Fig. 4) in the region was hardly cost-covering. The necessary expenditures contained purchase of animals, fodder supply in winter, water supply around the year, shed maintenance, fencing, supervision, insurances and property rental. Income were generated through project grants (e.g. from ELER funds), through agricultural grants inside/outside Natura 2000 areas and through legal compensation measures. Compared to the other possibilities the latter aspect was rather easily accessible.

Without payments in the framework of the compensation measure approach, the operation of goat grazing sites in the pilot region is an in-deficit business. The small-section landscape in the valley itself and the steep slopes do not allow more efficient larger and connected fields.

To include grazing projects into the compensation pool it is essential that the costs are appropriate to the valorization effects. The valorization effects on potential compensation sites are quantified in value points per square meter (VP/m<sup>2</sup>). On habitats with high valorization potential, the costs for the compensation measures are above the price level of the established impact regulation under nature protection law.

To combine a large number of demands on different forms of land-use, it is recommended to include habitat development areas into compensation measures:

- **Nature protection:** Enlargement of development options of hot-spot areas outside Natura 2000, continuation of land-use structures within Natura 2000.
- **Agriculture:** Reduction of area losses of high-quality arable land, inclusion of agriculture into creation of value.
- **Regional development:** Preservation and development of landscape variety.



Fig. 4: Goat grazing on Saale slopes (by Ines Pozimski)

### 3.4. Landscape development scenarios

With regard to five of the aforementioned twenty nine identified compensation sites, LGSA elaborated scenarios that visualize the local landscape development with and without the suggested measures foreseeing ten years ahead. All areas concerned were situated at the Saale valley slopes: Salzatal, Gerillgrund, Eichberg Pfaffengrund west and Pfaffengrund south.

The visualizations built on current abiotic location factors influencing the vegetation growth as well as the historical land use since the 19th century. To specify the scenarios we documented different succession stages of vegetation on neighboring land and on sites with comparable conditions.

The initial landscape scenery was fixed in August 2012, the visualized scenario 0 (landscape development without compensation measure) and scenario 1 (landscape development supported by compensation measure) refer to August 2022.

Photographs of the current situation served as basis for visualized scenarios, historical photographs were included as far as they could be detected. Scenarios 0 and 1 were elaborated by applying software CAD6, Canon Photo Stich 3.1 and Corel Draw X6.

#### 3.4.1. Example Salzatal

- **Location:** ca. 1.5 km north-eastern of Langenbogen in Saalekreis district.
- **Relief:** Narrow, steep V-shaped valley and terraced southeastern exposed slopes.
- **Soil:** Thin weathering soil on sandstone and claystone alternating with soil influenced by loess resp. by colluvial clay.
- **Hydrological balance & climate:** Distinctive exposition climate, negative hydrological balance because of high insulation and physical soil characters.  
In the V-shaped valley higher humidity and more balanced temperatures.

- **Historical land use:** Former hollow way in the V-shaped valley, slopes secondary formed by quarry activities, fruit tree orchards on the southeastern exposed terraces.
- **Current situation:** Abandoned and scrubby fruit tree orchards, small wood successions, partly goat grazing. In the V-shaped valley compact wood stock (mainly robinia), ca. 40-60 years old.

Within scenario 0 it is assumed that dry wood stock will be dominant increasingly. Scenario 1 is based on the following compensation measures: removing the wood stock on the terraces, partly removing the wood on the secondary rock formations, regular grazing of parts of the area by sheep and goats, regular removal of growing wood stock.



Fig. 5: Salza slopes northeast of Langenbogen – situation 1992



Fig. 6: Salza slopes northeast of Langenbogen – current situation, 2012



Fig. 7: Salza slopes northeast of Langenbogen – scenario 0



Fig. 8: Salza slopes northeast of Langenbogen – scenario 1

## 4. Conclusions

The web-based database which is accessible via ([http://www.vital-landscapes.eu/front\\_content.php?idcat=1949](http://www.vital-landscapes.eu/front_content.php?idcat=1949)) provides detailed information, meaning maps, analysis, photographs and cross-thematic data, on sites suitable for integrated compensation measures in “Unteres Saaletal” Nature Park. The circle of engaged people, especially nature protection authorities, agricultural associations and stakeholders from landscape conservation are convinced of the advantages of large scale compensation measure(s) and its positive effects not just in nature protection but also regarding regional development issues. With optional support of LGSA, the nature park administration will update the database constantly and furthermore will clarify the land tenures in order to have more sites ready for implementation.

Notably, stakeholders representing the agriculture underline that the realization of those projects shall not demand valuable farmland, as the major amount of open space that turns into settlement area and infrastructure area is agricultural land. Even if not convinced earlier, the members of the working group recognized the need to save agricultural areas. This was considered in the selection process of ideas and areas regarding the compensation pool.

The work group meetings included cross-sectoral stakeholders from four different regional administration units. The fact that “Unteres Saaletal” Nature Park is stretching across this large amount of districts and, thus, being very peripheral in three of four cases makes positive decisions rather complicated. Most administrations simply have other parts of their district in mind when discussion is about concentrate regional development. Regular work group meetings turned out to be a good opportunity to strengthen a common spirit for the good of the nature park area rather than thinking and acting only in own administrative borders. That is why regional partners agree that the ongoing dialogue shall be managed by the nature park association. This institution represents the need and the potential of connecting people with different thematic and spatial background best. Despite the very limited staff capacity the nature park administration is going to approach this task in a sustainable manner.

One example for non-profit engagement within the topic of compensation measures in “Unteres Saaletal” Nature Park is the work of LPVS, an association with the goal to maintain the Saaletal landscape. Among others, the association organizes eco-education events for kids and their parents. Furthermore, they operate traditional orchards and grazing areas for goats and sheep. Fences,

water supply, sheds, rent, insurance and man power are partly co-financed by public funds. Still the major part is paid by own resources. The compensation pool is perceived as a one suitable tool helping to reduce the gap between expenses and income to an acceptable amount.

The maintenance of our cultural landscapes only will succeed if we continuously bring a broad range of people together in order to find common strategies. Additionally to the pilot project we passed on numerous interesting examples to our regional partners on how our international project partners and their regional networks contribute to vitalizing our European landscapes.

## Acknowledgements

The authors would like to thank the regional stakeholders involved in the pilot process such as “Unteres Saaletal” Nature park administration, Landkreis Mansfeld-Südharz, Salzlandkreis, Saalekreis, Stadt Halle (Saale), Anhalt University as well as regional farmers associations and landscape maintenance associations. The cross-sectoral composition of the group led to interesting exchange and valuable results. We also thank the Ministry of Regional Development and Traffic in Saxony-Anhalt which supported the process in content and finance.

## 5. References

- BNatSchG – Bundesnaturschutzgesetz (2010), § 21, 30.
- Bock, S., Hinzen, A., Libbe, J. (Hrsg.) (2011): Nachhaltiges Flächenmanagement – Ein Handbuch für die Praxis. Ergebnisse aus der REFINA-Forschung.
- Destatis (2010): GENESIS online. <https://www-genesis.destatis.de/genesis/online>
- Europäische Union (2006): Richtlinie 2006/105.
- LGSA – Landgesellschaft Sachsen-Anhalt (2012): Dokumentation Workshop 1.2.2012.
- Spang, W. D., Reiter, S. (2007): Ökokonten und Kompensationsflächenpools in der Bauleitplanung und Fachplanung, Erich Schmidt Verlag, Berlin, p. 37.
- StaLa LSA - Statistisches Landesamt Sachsen-Anhalt (2012): Webstatistik.
- Wagner, S. (2007): Ökokonten und Flächenpools. Die rechtlichen Grundlagen, Möglichkeiten und Grenzen der Flächen- und Maßnahmenbevorzugung als Ausgleichsmethoden im Rahmen der Eingriffsregelung im Städtebaurecht, Berlin, p. 142.

## II. LOCAL ASSOCIATIONS AND THEIR ROLE IN STRENGTHENING LOCAL CONTROL OVER LANDSCAPE MANAGEMENT (Unteres Saaletal, Germany)

*Annette Schneider-Reinhardt, Bernd Reuter, Diane Gerth and Henrik Hass*

*Landesheimatbund e.V., Saxony-Anhalt*

### 1. Introduction

Saxony-Anhalt as an East German country has to face several challenges, related to the “demographic change”, the danger of the old-age poverty, the ongoing decay of the real estate (and their values) outside the regional conurbations, the rapidly progressing reduction of the biodiversity and the floral and faunal populations in the rural area, the drain of the finances from the regions, the eroding public supply structures (above all of the public transport and the decentralized supply with goods and services) etc. (MLU, 2011).

To solve these problems many tasks and tools are required (MLU, 2011):

- improvement of the economic power in rural areas by creating and preserving jobs in craft, trade and services; support and strengthening of existing enterprises as well as founding new establishments;
- support of sustainable agriculture and forestry supporting environmental protection and nature conservation as nature conservation with the people; use of renewable primary products; reduction of the surface consumption; soil conservation and problem site renovation;
- water pollution control and flood control;
- understanding of culture and nature as resources; education and qualification;
- strengthening of the municipal supply structures in rural areas (protection of the basic care of the rural population), stabilization of local school education, development of the cultural potential.

In order to master these challenges and to strengthen, besides, the influencing control of the citizens, the strengthening of civil associations is urgently required. The work of the Landesheimatbund e.V. of Saxony-Anhalt aims for the support of the civil engagement by spreading of knowledge, experiences and skills, by interlinking of people and associations as well as by lobby work.

By our work the Landesheimatbund serves to strengthen the connection of the people to their native country. In this way, the increasing separation of the villages and their surroundings should be counteracted, and the influence of the village communities on the creation of their natural and regional life sphere be increased. Moreover, the preservation of the biodiversity which is

going along with it, the erosion protection, the beauty and characteristic as well as the natural energy resources in the agrarian scenery is a future-oriented way for the protection of the natural soil fertility of the best grounds of Europe.

The Landesheimatbund e.V. of Saxony-Anhalt being a civil association works with the people on-site. The “Vital Landscapes” project provided the base for goal-oriented work in the project area: for example connecting activities and activists by holding workshops and supporting local associations as well as spreading knowledge about the cultural landscape via a database and training programmes. Moreover the “Vital Landscapes” project ensured the quality standard needed.

### 2. The pilot area: the nature park “Unteres Saaletal” (Lower Saale River Valley)

The pilot project is located in the nature park “Unteres Saaletal” (Lower Saale River valley). The nature park which covers an area of 40,800 hectares (408 km<sup>2</sup>) spreads from the city of Halle along the Saale River (Fig. 2) up to the town of Nienburg. The area accommodates a huge number of regional specific geological features and an interesting flora and fauna. Numerous smaller protected areas (nature reserves, protected biotopes, natural monuments) form a complex in the nature park.

Geologically, the so-called “Hallesche Porphyrukuppenlandschaft” (porphyry hilltop area of Halle) is situated in the eastern part. The western part of the area is characterised by the Mansfelder depression and the “Halle-Hettstedter-Gebirgsbrücke” (mountain bridge of Halle and Hettstedt), which is trenched by the Saale River along its course to the north. The rustcoloured, precipitous rock slopes and hollow-like side valleys with their special flora contribute to the special charm of the scenery. Decisive for the landscape development are also the historical mining activities.

The Fuhnetal, which is located in the north-east of the nature park, presents itself as a humid meadow depression that clearly contrasts the cleared field scenery of the surroundings. Backwaters, swampy meadows and woods along the winding Saale River course are characteristic for the landscape. More than 30 archaeological sites testify the long settlement tradition in the project area (*Halle n.d., modified*).



Fig. 1: Location of the nature park “Unteres Saaletal”, base map Lencer and NordNordWest 2008



Fig. 2: The nature reserve “Unteres Saaletal” – overlooking the Saale River

The foundation of the nature reserve goes back to civil engagement in the best sense; from the work of a citizens' initiative shortly after 1989 an association evolved, on whose incentive in 2005 the nature reserve became declared as a protective area (*Fig. 1*).

The nature park “Unteres Saaletal” was selected as a pilot's area for several reasons: (1) Here the national problems and settings of tasks condense. The variety of the places causes a large number of different duties. A re-orientation of the area must occur through the serious changes of the economic structures during the last 25 years between the economic locations Halle, Bernburg and Hettstedt and Bitterfeld. Work should be done also off the beaten track. (2) Moreover, the area is not really perceived – in contrast to other regions – by the inhabitants as a coherent whole. This perception is complicated among other things by the cutting of the area by the Saale River and the highway A14. Up to now, the relatively young nature reserve status could produce this identification only to some extent.

The number of duties, together with the search for identification – a special subject for civil engagement – brought the persons responsible for the Vital Landscapes pilot project preparation to select the nature reserve Unteres Saaletal as project area.

### 3. Activities realised

#### 3.1. Workshops and activities induced

Within the scope of the Vital Landscapes project seven workshops were held which were organized by the Landesheimatbund of Saxony-Anhalt. These workshops turned out to be an essential instrument for civil participation. The workshops were carried out at the following places in the project area “Unteres Saaletal” (Lower Saale Valley): Nienburg, Gerbstedt, Wettin, Löbejün, Rottelsdorf (*Fig. 3*), Zappendorf and Neugattersleben. A criterion for the choice of the places was the idea, that each of the three administrative districts of the nature reserve should be represented. Therefore, the workshops were carried out in the different administrative districts, because new large municipalities have originated from an administrative reform that has taken place recently. The communities within the new municipalities must grow together now. These challenges were also addressed in the workshops as problems.

As a method of the collection of suggestions and ideas during the events, the Group InVention Method (GIVE ©) of the SPES Akademie (educational society and study society mbh., Schlierbach, Austria) came in use. By this method it was possible to find out the interests of the participants rather effectively and to process and structure them for further elaboration.

The GIVE method works as shown below (*Stoeglehner et al., 2006*):

1. Answer of a central question written down on a paper sheet with a headword / to a short sentence by every

participant; moreover, every participant connects single answers (own and foreign) with arrows together and with the main question;

2. Valorisation of the single participant sting points by individual assignment of value points (per participant up to three points per sheet);
3. Discussion about the most important points in small groups;
4. Image of the results in front of the other participants.



**Fig. 3:** Workshop in Rottelsdorf, March 2012

In the “Vital landscapes” project workshops several independent activities could be developed, many of which ongoing. From the varied plans to be continued by the associations and interested individuals, whom the Landesheimatbund Sachsen-Anhalt e.V. supports, the following three are exemplarily mentioned:

From the first workshop, carried out within the scope of the project in Nienburg, different activities with the focus on the man-made landscape originated. The Landesheimatbund e.V. could start an initiative for the “cultural landscape of Nienburg”. On the occasion of a regional-historical conference “1050 years Nienburg -A town in the change of time” which was held in June, 2011 in the historical minster the association network Nienburg was formed with support by the Landesheimatbund e.V. Here different associations of the new large-scale municipality, in which nine communities are incorporated, have united to co-ordinate and to structure their activities. Besides, the development of Nienburg town including the incorporated villages and the surrounding scenery forms an important field of work of the associations. At the same time a connection with the federal project “Cohesion by participating” – which deals with the strengthening of association structures in the democratic context – developed.

Another civil society initiative deals with the development of the surroundings of a village called “Dornitz” that covers, inter alia, the renaturation of the Sixtbach – a small brook – and the set up of a new tourist path nearby another village – “Dalena”. Here a cooperation with the Land Company Sachsen-Anhalt mbH developed who was responsible for the creation of a Land register for suitable compensation measures due to the compensation of damages of nature by men according

to German nature protection law. The renaturation of the Sixtbach brook and the surrounding landscape could be integrated into this pool.

The civil association “Brachwitzer Alpen e.V.” in Brachwitz (Saalekreis) carries out varied activities to raise the quality of life in the place. This association could receive suggestions and support for its plans by the integration in the project “Vital Landscapes”; for example the creation of a civil park in the centre of the village was tackled aiming at placing the issues of cultural landscapes for children and youngsters.

However, as an effect of the workshops one can also see the numerically increasing survey of cultural landscape elements by interested people; nearly weekly the Landesheimatbund e.V. receives inquiries for further information and tips about interesting and worth to be preserved cultural landscape elements, which can be mentioned in the association magazine “Sachsen-Anhalt Journal für Natur-und Heimatfreunde”, for example a still existing “Treidelsäule” (towing pole).

In this way the project, which aims for a sustainable development of the cultural landscape by the integration of the landscape history and strengthening of the civil engagement, will achieve a lasting effect.

### 3.2. Excursions: Looking at the world over the rim of one's tea-cup

The appearance of the cultural landscape of the region as well as the problems, potentials, solution attempts can be found out best on site. That's why we have regularly carried out thematic excursions – for example about archaeological monuments or religious sites – in the project area. These excursions were very well appreciated; appr. 40 to 50 participants regularly joined in.

The perception of the nature reserve park could also be strengthened in this way. This appeared particularly useful on the occasion of a press journey in July, 2012, in which among other things the minister for agriculture of the country Saxony-Anhalt, Dr. Onko Aeikens and the “Allianz ländlicher Raum” (Alliance of Rural Area) – an interdepartmental working group with participation of the associations – took part. Here the participants were given a detailed insight into the cultural landscape of the lower Saale valley, in particular with the support by members of the working group “Cultural landscapes” in the Landesheimatbund e.V. On the court of the musician Klaus Adolphi in the Fleischbachtal the group could enjoy a buffet with regional products which had been organized by the project team and showed the connection between landscape and its products.

Not only the regional excursions, but also the transnational excursions carried out in the project frame were inspiring and awareness rising for the participants. We travelled to the Ljubljansko barje and the national park Triglav in Slovenia; we got to know a lot about civil engagement in the Austrian Mühlviertel (*Fig. 4*), discussed the contact with the scenery in the Czech Bohemian Forest and exchanged our opinions about conflicts and potentials in the Hungarian Nagyberek.



**Fig. 4:** The international group at the Austrian-Czech border

These looks “into the tea-cup” and “over the rim of the tea-cup” were a central experience of the project for all participants, including the project team. To see how people deal with their landscape provides a mirror for the own activities as well as shows possibilities to go on in the future. – Because landscape doesn't stop at borders the cooperation must not stop there either!

### 3.3. Looking at landscape development – dealing with historical maps

A valuable tool to realize the development of the cultural landscape is the look into historical maps (*Fig. 5*). The structural wealth of the landscape shown here, as well as the kind of the elements is an important source of information for the skilled viewer about the history of the landscape. Within the scope of the project – in workshops as well as during the training of the cultural landscape guides – different historical maps as for example the ordinance survey maps of the 19<sup>th</sup> century and mining maps were used to illustrate landscape changes. This kind of study of landscapes met a big interest of all participants and inspired them to deal with historical maps themselves. Partly we received even tips about other maps which could be helpful for the project.



Fig. 5: “Provinz Sachsen und Herzogthumer Anhalt” C. Flemming, Glogau 1855 (Sohr, 1855)

### 3.4. Learning to see landscape – the training of cultural landscape guides

Another activity was the training of cultural landscape guides – tourist guides through the landscape (Fig. 6). In two 80-hours-courses with lectures about different subjects of the cultural landscape the participants could get a well-founded and stimulating insight of the variety of cultural landscape and its elements; this knowledge was deepened by the excursions. Though often only insights and suggestions could be given during the courses, the participants were interested very much to educate themselves further individually on the field of the cultural landscape.

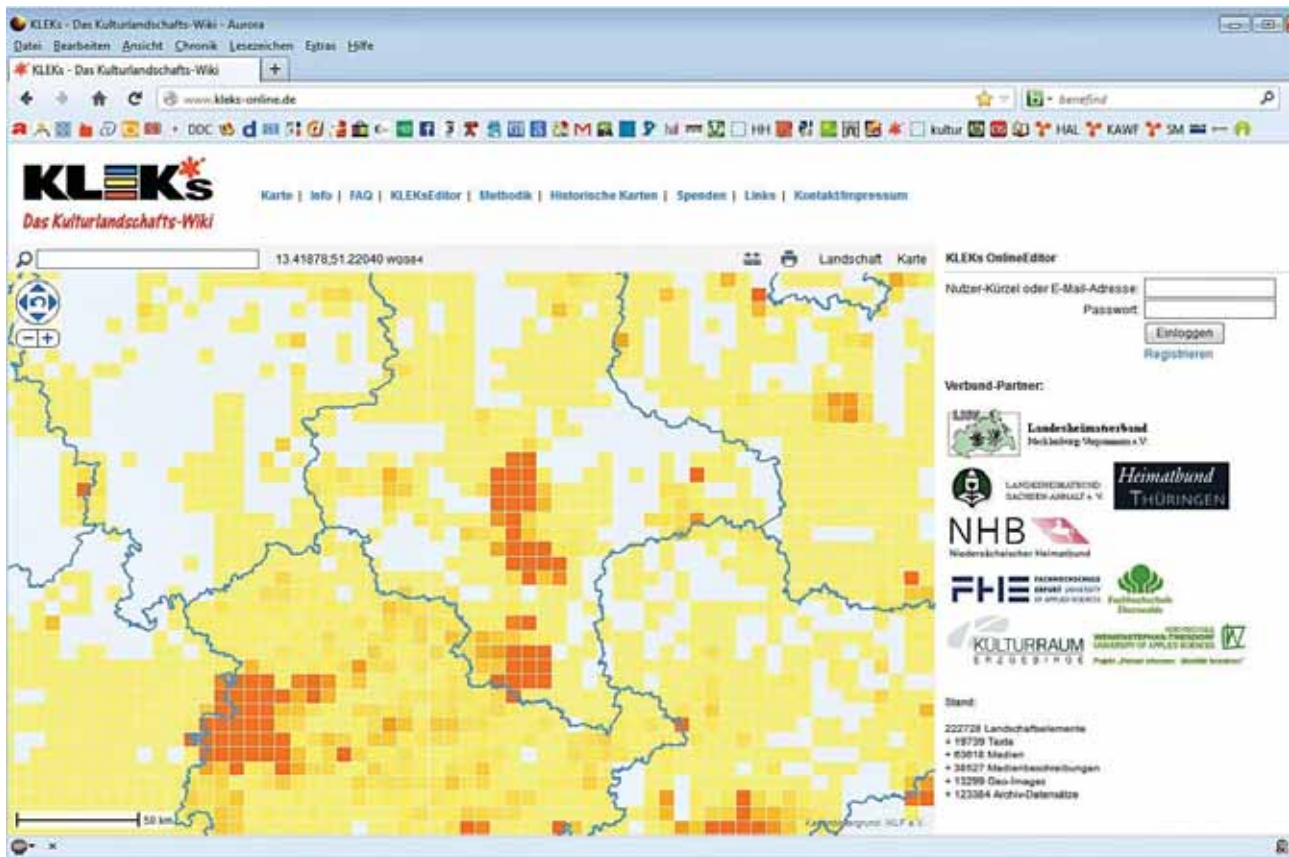


Fig. 6: Training of cultural landscape guides – Halle, June 2011

### 3.5. Making information about the cultural landscape accessible – the database KLEs

Modern technology offers the possibility to manage a huge number of information about the cultural landscape fast and adaptably, to structure it and to make it available to the public. With the database “KulturLandschaftsElementeKataster – KLEs” (register of cultural landscape elements) a platform is provided, which serves as a central source of information for elements of the cultural landscape for everybody (Fig. 7). Within the scope of the project “Vital Landscapes” this public data bank was introduced and filled with contents. With the vast number of the cultural landscape elements – there are several hundred thousand only in Saxony-Anhalt! – a wide public co-operation doing the survey is unavoidable. To accommodate this need, one task within the scope of the project “Vital Landscapes” was to activate this civil engagement in this field. The interested people could register as active user and add information to the database. They got a brief training and permanent support by the project team; the facts put into the database by the public were then reviewed and marked by the project team.

Several hundred elements could be added to the data bank in this way. On the events of the project the results of the public were presented.



**Fig. 7:** KLEKs start page: intensity of the colours show the amount of elements; the dark squares in the centre mark the project area

## 4. Conclusions

From the different activities carried out within the scope of the project new attempts also originated for other work of the Landesheimatbund e.V.: the spreading of knowledge and information should be developed. Children and youngsters should be stronger introduced in the subject of cultural landscapes. Moreover, a sequence of lectures about cultural landscape issues is planned for local experts, municipal politicians and heads of civil associations, like local village and history associations. Themes to be addressed in the lectures will cover landscape history (agriculture, forestry, mining, road systems...) as well as contemporary issues, like creating a working public transport, setting up sustainable agricultural production methods (e.g. avoiding soil erosion), networking to maintain care for children and elderly people etc.

The support of a wide civil engagement in the region during the project can work also as a role model for other regions; the training of cultural landscape guides recording to EU standards will be held in other regions as well. In this way, new jobs with a new job profile were created in the overlapping of education and tourism.

The data bank provides a basis with varied possibilities of utilisation, for example for the cooperation with schools in the environmental education. The strengthening of the electronic ways of information helps local authority districts, planning offices and tourism enterprises, thus improving the educational tourism.

The “Vital Landscapes” project provided a personal and financial frame to carry out the various activities mentioned above. The co working with the other PPs – exchange of knowledge, finding common terms and approaches etc. – enhanced the quality of our work enormously.

## Acknowledgements

The work team of “Landesheimatbund Sachsen-Anhalt e.V.” is very thankful for the active participation during seminars, workshops and excursions. The team is deeply impressed by the inhabitants of the towns and villages along Saale River who are full of ideas to commonly shape their surroundings in a sustainable manner.

## 5. References

- Halle (n.d.): Naturpark Unteres Saaletal. <http://www.halle.de/de/Leben-Gesellschaft/Umwelt/Natur-undArtenschutz/Schutzgebiete/Naturpark-Unteres-Sa-06847/>
- Landesheimatbund Sachsen-Anhalt e.V. (Hrsg.) (2013): Engagiert für die Kulturlandschaft. Die Arbeit des Landesheimatbundes Sachsen-Anhalt e.V. im EU-Projekt "VITAL LANDSCAPES" 2010 – 2013. Halle 2013. <http://www.lhbsa.de/vital-landscapes.html>
- Lencer and NordNordWest (2008): General map of Germany, German version. <http://www.schulbilder.org/bild-deutschland-i16843.html>
- Ministerium für Landwirtschaft und Umwelt (MLU), Referat Presse und Öffentlichkeitsarbeit (Hrsg.): Leitlinien für die Entwicklung des ländlichen Raumes in Sachsen-Anhalt (Positionspapier der "Allianz Ländlicher Raum" (ALR). Magdeburg 2011.
- Sohr, K. (Hrsg.) (1855): Vollständiger Hand-Atlas der neueren Erdbeschreibung über alle Theile der Erde in 82 Blättern herausg. von Dr. K. Sohr. VI. Auflage. Glogau und Leipzig 1855.
- Stöglehner, G., Mitter, H. and Jungmeier, P. (2006): Adult education as a key factor of sustainable rural development. In: Subai, C., Ferrer-Balas, D., Mulder, K.F. and Moszkowicz, P. (Eds.): Engineering education in sustainable development, Lyon.
- Wissenschaftszentrum Sachsen-Anhalt, WZW-Expertenplattform "Demographischer Wandel" (Hrsg.): Zukunftsgestaltung im demographischen Umbruch (Schriftenreihe des WZW). Wittenberg 2011.



### III. PARTICIPATORY VISIONING FOR LANDSCAPE DEVELOPMENT (Mühlviertler Kernland, Austria)

*Gernot Stöglehner, Georg Neugebauer and Lukas Löschner*

*University of Natural Resources and Life Sciences Vienna,  
Institute of Spatial Planning and Rural Development*

#### 1. Introduction

Landscapes can be characterised as the result of “the dynamic interaction between natural and cultural forces in the environment” (*Antrop, 2005*). While transformations in landscapes always reflect changing societal demands (*ibid, ELC Preamble*), a number of developments appear to endanger the variety and the local particularities of cultural landscapes across Central Europe. Uncontrolled and inadequately planned settlements in the open country, for instance, have led to an increase in built-up areas and the fragmentation of natural and cultivated landscapes (*EEA, 2011*). Structural changes in agriculture and forestry, i.e. long-term trends toward fewer but larger farms employing more capital and technology-intensive production methods (*EC, 2011*), have likewise contributed to a degradation of highly-structured landscapes and a loss of biodiversity in EU member states (*Krengel, 2005*). Furthermore, the ongoing and inevitable energy-turnaround with its comprehensive on/offshore wind parks generates a “new type of cultural landscape” and leads to a rise in land-use conflicts in rural areas (*Bosch and Pekte, 2011*).

Despite these changes natural, cultural but also built-up landscapes or townscapes continue to be important reference areas for rural and urban dwellers alike. Landscapes are expected to fulfil societal demands (e.g. agricultural or energy production) while equally providing for fundamental human needs such as housing, recreation but also belonging and personal or regional identity (*Meier et al., 2010; Lanninger and Langarová, 2010*).

To address some of these conflicting issues in landscape development and their perceptions by the regional population a participatory planning process was carried out in the Austrian pilot region Mühlviertler Kernland between spring 2011 and fall 2012. The participation process, involving a range of local and regional actors, was aimed at (i) identifying and discussing on-going landscape developments in the LEADER region, (ii) developing landscape quality objectives for the sustainable development of (cultural) landscapes and (iii) illustrating possibilities of implementing these landscape quality objectives in practice.

The participatory planning methods for the pilot region were developed and implemented within the wider theoretical frameworks of communicative planning and

social learning. The former perceives planning as a consensus and democracy-oriented process between citizens, decision-makers and planners (*Healey, 1997; Müller, 2004*), in which “the value base for the planning process is carefully considered and expressed by visions” (*Stöglehner and Peer, 2013*). By including landscape issues in the societal value base, participatory planning is seen to make an important contribution to improved and more comprehensive decision-making (*SGP, 2010*).

From a learning theory perspective, the participatory planning process in the pilot region can induce single and double loop-learning (*Argyris, 1993*). In single loop learning, a reflection of the consequences of proposed actions leads to adaptations of an action programme (including mitigation and compensation measures) without questioning the vision and the underlying values of the planning/development process. In contrast, double loop learning also questions the values and vision as “learning about consequences might lead to a redefinition of actions and/or visions” (*Stöglehner and Peer, 2013*). In terms of sustainable landscape development, it is not only necessary to mitigate or compensate for negative impacts on landscape “end of pipe” but to change societal processes that shape landscapes. This calls for double loop learning in communicative planning processes with the participation of the wider public (*Neugebauer et al., 2013*).

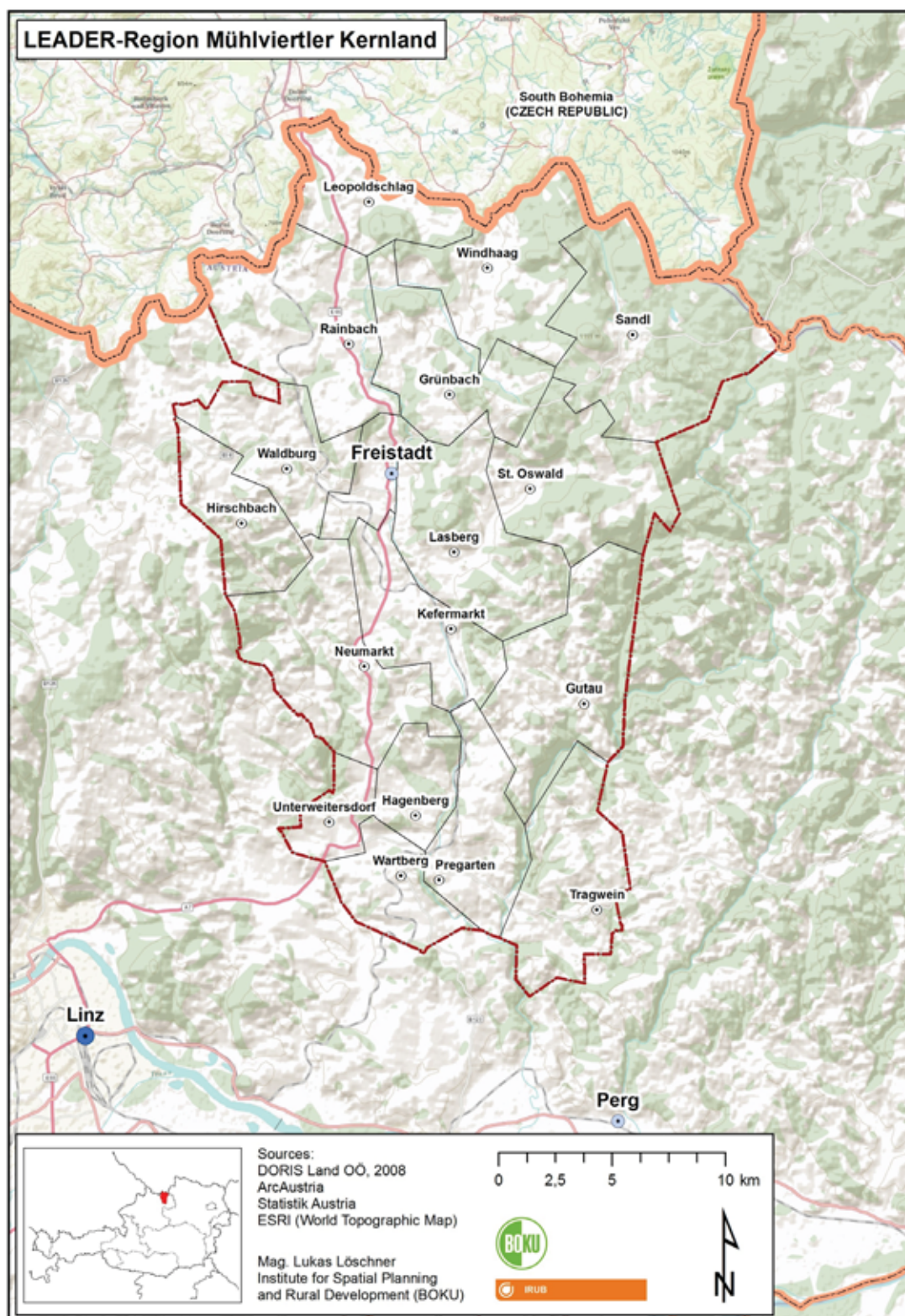
This chapter provides a summary of the regional participation processes and reflects the above outlined aspects of participatory visioning for landscape development in the pilot region. After a brief overview of the LEADER region Mühlviertler Kernland, it summarizes the regional activities carried out in the course of the participation process, with those activities that involved a high level of participation (e.g. the landscape dialogues, the school workshops and the photo competition) being dealt with in greater detail. Insights regarding public perception of landscape, visioning and the formulation of landscape quality objectives as well as recommendations for future landscape developments in the pilot region follow. Finally, public participation in regional activities is discussed in the context of the aforementioned theoretical framework of communicative planning and social learning.

## 2. The pilot area – LEADER region Mühlviertler Kernland

The LEADER region Mühlviertler Kernland (*see Fig. 1*), comprising 18 municipalities, marks the western part of the Upper Austrian district Freistadt. Due to its location in the Austrian-Czech border region, the Mühlviertler

Kernland constitutes the Upper Austrian gateway to the Czech Republic.

In a view from the south-west, the topography can be described as a hilly country, while municipalities to the north are gradually dominated by forests and hills with deeply indented valleys. In the north-west, highlands with forests extend to around 900 m above sea level.



**Fig. 1:** LEADER-Region Mühlviertler Kernland

With regional differences on closer examination, the landscape is dominated by forests with an average share of about 40 per cent and shaped by agricultural land use. The area of potential permanent settlement amounts to 65% up to 75% in most of the municipalities while in the northern part of the region, due to widespread forests, only 25% of the total area constitute an area of potential permanent settlement (*Statistics Austria, 2013*).

The Mühlviertler Kernland region has about 49.000 inhabitants, whereof about 7.500 inhabitants live in the district capital Freistadt and about 17.000 inhabitants are concentrated in the five municipalities in the southern part of the region. These municipalities are functionally part of the suburban area of the provincial capital Linz. About 18.500 people commute to work outside their own municipality and three quarters commuting outside the district of Freistadt, mostly to the Linz Region (*Statistics Austria, 2013*).

The development strategy of the Mühlviertler Kernland region for the current LEADER period 2007 to 2013 comprises four main fields of activity, all of them, both directly and indirectly, relating to landscape development (*CIMA, 2007*):

- energy vision 2020
- new life in old houses / on old squares
- tourism and leisure industry
- value added partnership – cooperation in agriculture and (small) business

As will be shown in the following text, some of these topics were addressed in the course of the activities

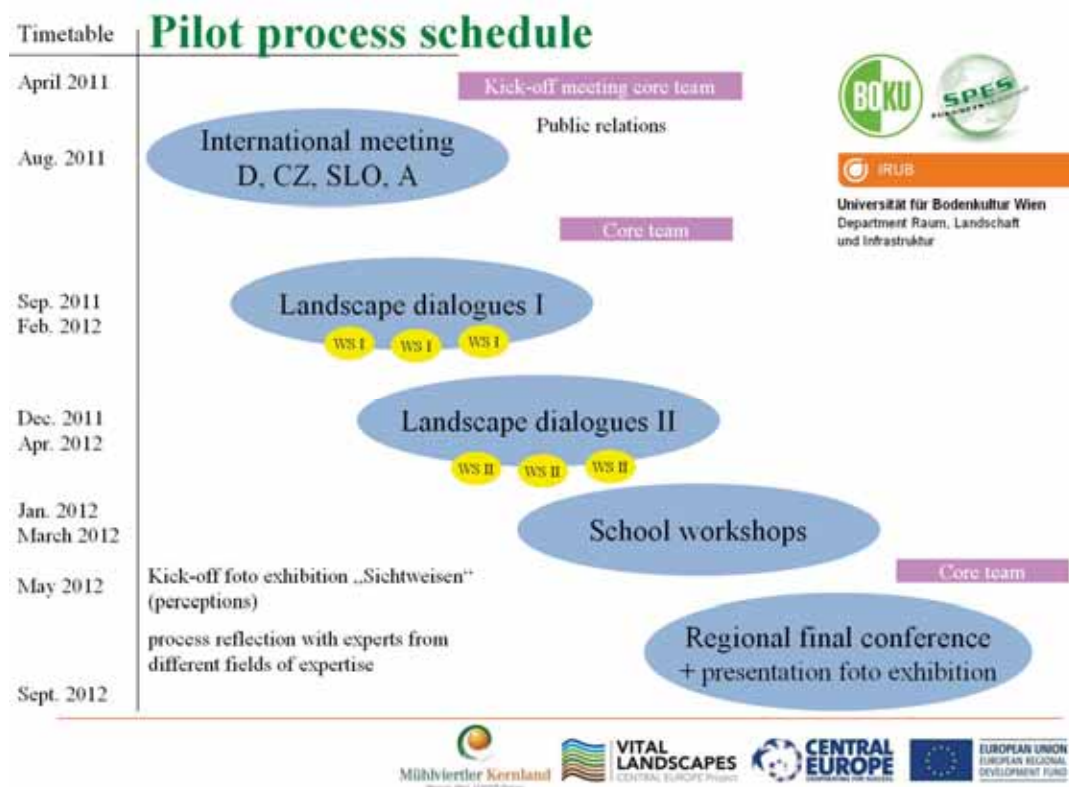
carried out in the participatory planning process in the Mühlviertler Kernland region.

### 3. Vital Landscape Mühlviertler Kernland – participatory planning process

The participation process in the Austrian LEADER region Mühlviertler Kernland comprised three main activities in order to involve the broad public in the reflection of different aspects of landscape development. As indicated in *Fig. 2*, these activities consisted of

- a total of eight landscape dialogues in four locations of the region;
- school workshops in two schools in Freistadt (Commercial Academy (HAK) and Agricultural Technical School (LFS));
- regional photo competition (open to all residents of the region).

In the organisation and co-ordination of the regional activities, the Vital Landscapes project team was supported by a core team of regional stakeholders, the management and the steering committee of the LEADER region. Additional activities included a trans-national study tour of Vital Landscapes project partners to the Mühlviertler Kernland region, the process reflection in a round of expert talks and the concluding regional final conference.



**Fig. 2:** Schedule of the pilot process in the LEADER region Mühlviertler Kernland

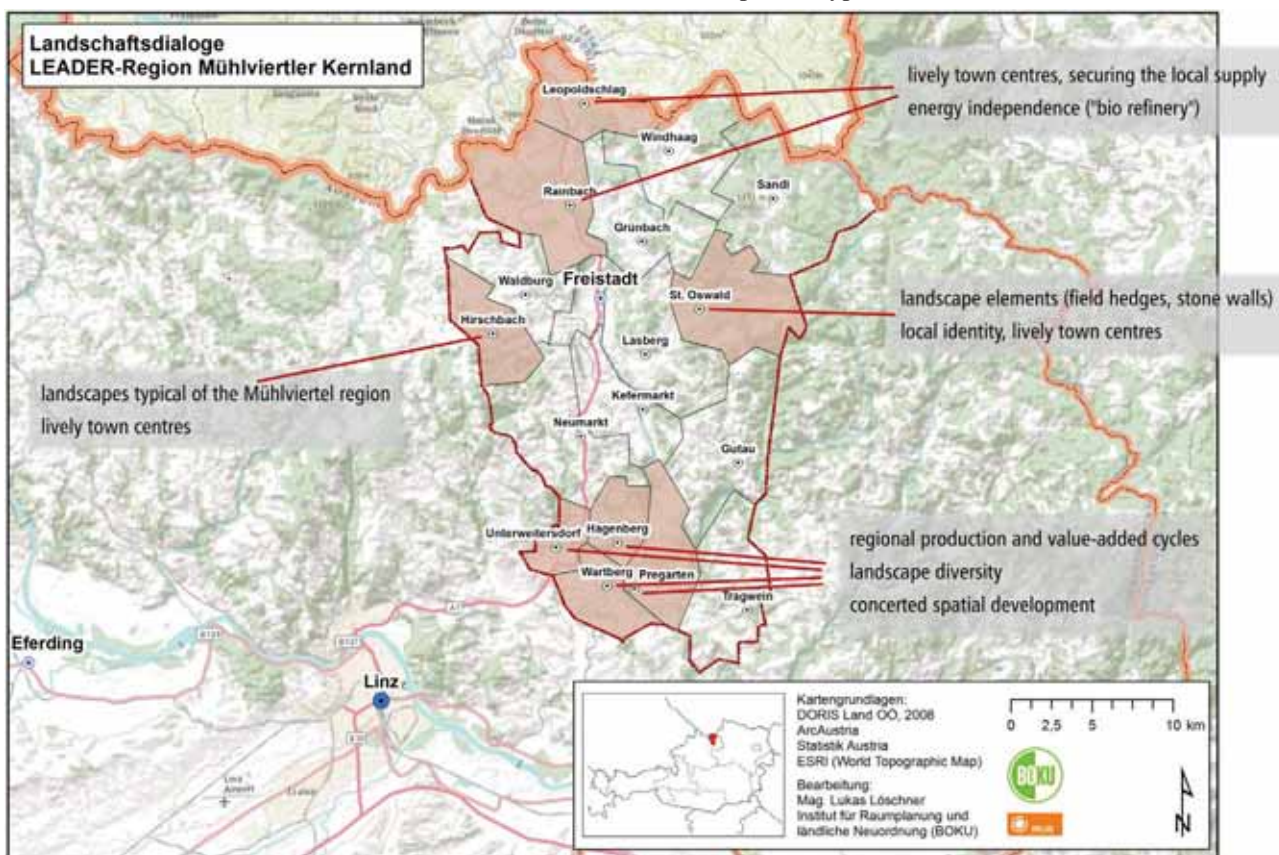
### 3.1. Landscape dialogues – discussing landscape issues with local people

From September 2011 to April 2012, eight “landscape dialogues” in four locations in the LEADER region Mühlviertler Kernland were organised involving altogether eight municipalities (two single municipalities and two co-operations of municipalities, *see Fig. 3*).

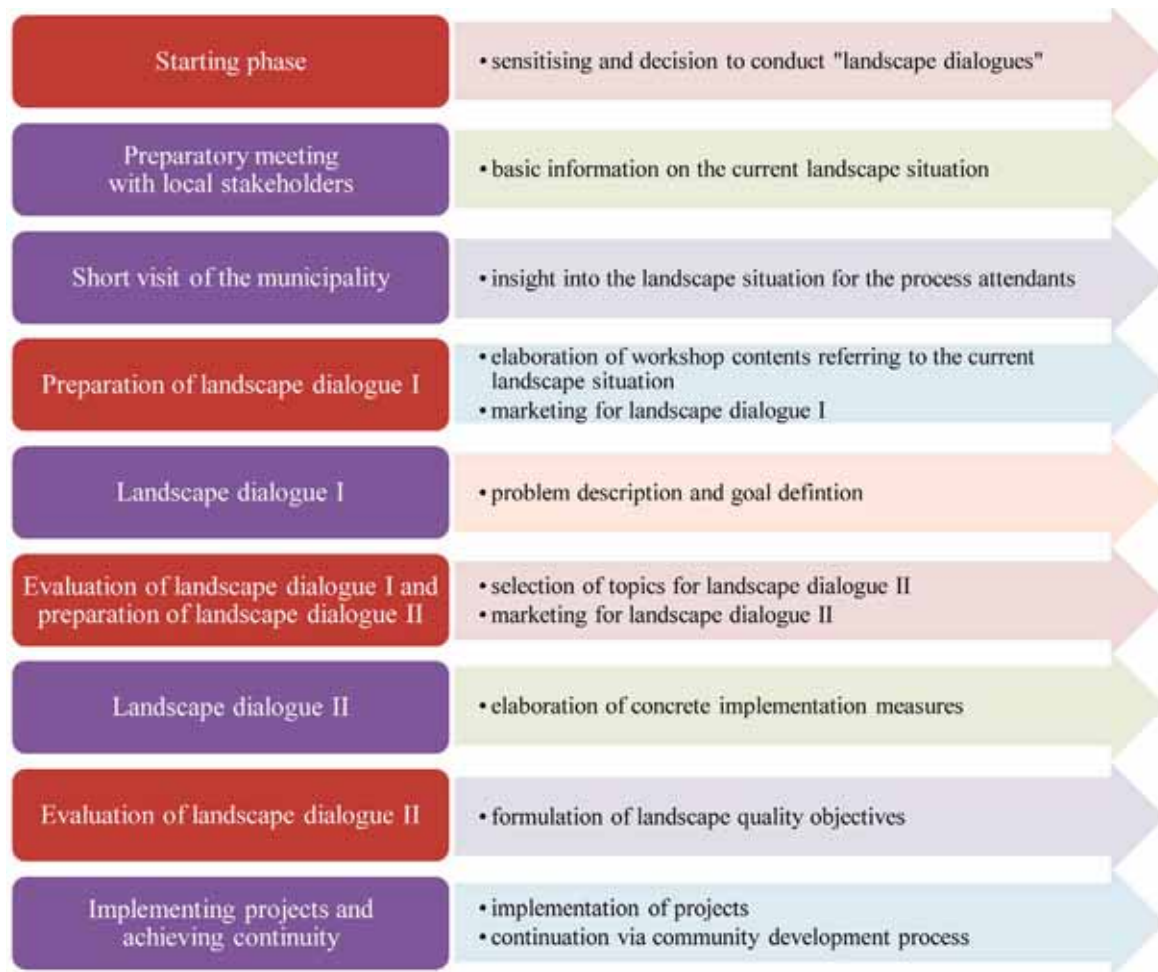
Based on the Local Agenda 21 approach, the “landscape dialogues” were conceptualised as two-part workshop series, comprising several steps (*see Fig. 4*) of community action (in violet) and desktop work of the process attendants (in red). For a more thorough documentation of the method *see Löschner et al. (2013)*.

A preparatory meeting with local stakeholders and a short visit of the municipality gave an overview of the current situation in the respective municipality and were the basis for the subsequent workshop evenings. “Landscape dialogue I” was focused on problem description applying the Group InVention Method (GIVE) introduced by SPES (*Stöglehner et al., 2006*) and goal definition with the aid of the fruit-tree-method (*SPES, 2006*). “Landscape dialogue II” focused on the elaboration of concrete implementation measures. In these activities the Vital Landscapes project team was supported by the SPES-Academy, a consultancy with well-established expertise in guiding and moderating community development processes like Local and Regional Agenda 21.

The landscape dialogues conducted in the different parts of the LEADER region addressed several issues as indicated in *figure 3*. With a high standing of the primary sector in the municipalities Rainbach im Mühlkreis and Leopoldschlag, landscape development is associated with ongoing changes in agriculture and forestry. Landscape is hence seen to predominantly serve agricultural production and (increasingly) the production of renewable energy. As key challenges to landscape development, sprawling communities, the renewal of village cores and progressive soil sealing were identified. The perceived loss of open space due to a rapid increase in forest land dominated the landscape dialogues in the municipality Hirschbach im Mühlkreis. The discussion focused on possible measures to counter these developments as well as alternative methods to conserve typical landscape elements and the open nature of the landscape. The landscape dialogues in St. Oswald centred on valued landscape formations and landscape elements that are perceived under pressure due to structural changes in agriculture and forestry as well as ongoing changes in land-use. These developments are also associated with a loss of spatial and social cohesion within the municipality. Having experienced positive population and economic growth in recent years, landscape development in the municipalities of the Region Untere Feldaist is related to the resulting conflicts of interests to meet diverse demands (e.g. agricultural and renewable energy production, recreation, settlement development) typical for a suburban area.



**Fig. 3:** Location and thematic focus of the landscape dialogues



**Fig. 4:** “Landscape dialogues” process scheme

Based on the insights regarding the public perception of landscape in the respective municipalities, the Vital Landscapes project team formulated landscape quality objectives for the LEADER region Mühlviertler Kernland, that provide a normative framework for future landscape development (Löschner *et al.*, 2012).

### 3.2. Photo competition – perspectives on the Mühlviertler Kernland

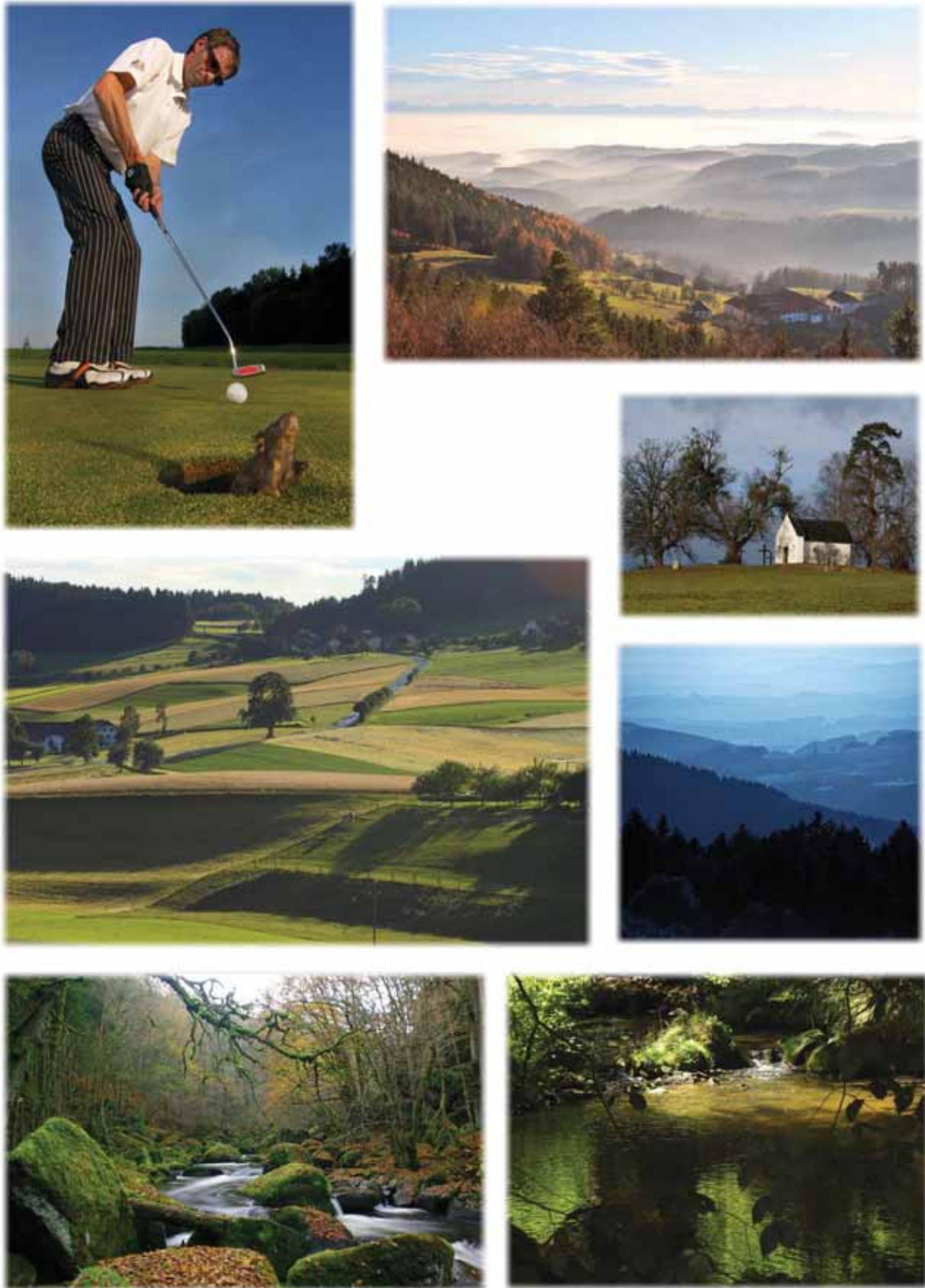
The photo competition “Sichtweisen auf das Kernland” (“Perspectives on the Kernland”) (Neugebauer *et al.*, 2013) was carried out in cooperation with the regional newspaper Bezirksrundschau Freistadt and the LEADER region Mühlviertler Kernland and sponsored by the electrical retailer RedZac Kreisel in Freistadt. Participants of the photo competition had the opportunity to capture personal landscape impressions with the following thematic focus:

- “The most beautiful landscape in the Mühlviertler Kernland”
- “To me, an intact landscape looks like...”
- “The landscapes of the Mühlviertler Kernland are under distress because of...”
- “Landscape is subject to change”
- “My favourite spot – this is where I like to be”

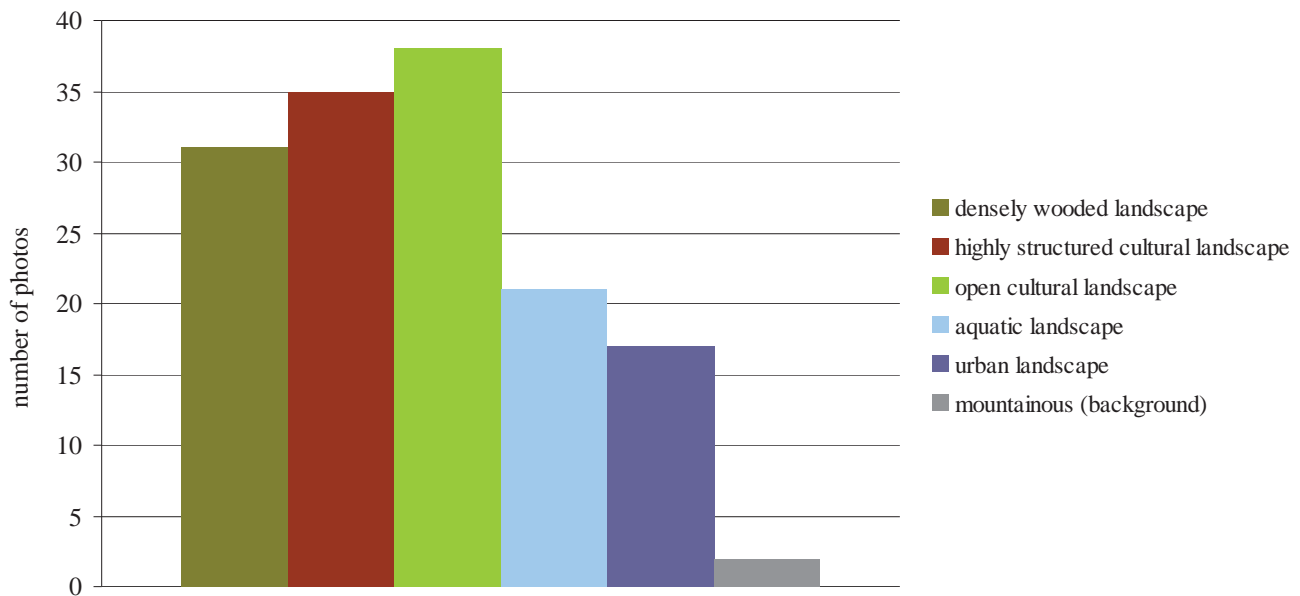
The website of the regional newspaper ([www.bezirksrundschau.com/sichtweisen](http://www.bezirksrundschau.com/sichtweisen)) served as an internet-platform for the photo competition, which allowed registered users to upload photos and participate in the public voting. A five-person jury – consisting of representatives of the partner school HAK Freistadt, the regional newspaper Bezirksrundschau, the University of Natural Resources and Life Sciences as well as the LEADER region – evaluated the submitted photos and selected the award-winning photos of the competition (see Fig. 5).

In the course of the photo competition 180 photos were submitted by a total of ninety participants. The submissions captured the large variety of landscapes in the Mühlviertler Region and included photos of heavily forested landscapes, of open and highly structured landscapes and of aquatic landscapes alike (see Fig. 6).

Besides the different types of landscapes, the submitted photos frequently showed landscape elements typical to the region (e.g. field hedges and stone walls), which can be interpreted as an indicator that the inhabitants particularly value the highly structured nature of the landscapes. As this aspect of landscape development was repeatedly addressed in the course of the landscape dialogues, it is also included in the landscape quality objectives for the Mühlviertler Kernland.



**Fig. 5:** Award-winning photos of the photo competition “Sichtweisen” (Clockwise, from top left: Josef Hinterleitner – “Extra Loch” (public voting); Irene Höller – “ein Foto”; Herbert Prieschl – “Kalvarienberg in Wartberg ob der Aist”; Richard Schramm – “Blick in das Kernland”; Gertraud Gutenbrunner – “Freistadt/im Thurytal”; Roger Jagersberger – “Feldaist”; Barbara Schauer – “Oberhirschgraben/Tischberg”)



**Fig. 6:** Number of submitted photos according to the predominant types of landscapes

Approximately 40% of all submitted photos include built structures: a large variety of building types (such as farm houses, town squares or historic monuments), however mainly buildings of cultural or historical significance; modern residential buildings were only exceptionally portrayed in the submitted photos. A similar observation was made in the course of the landscape dialogues.

The photo competition gives insights regarding subjective landscape ideals. In the course of the analysis of the submitted photos it became apparent that the participants preferred to show “intact landscapes” or “favourite spots” rather than images relating to the thematic topics “landscape is subject to change” and “landscape is under distress”. The latter were merely picked up by a handful of participants. They portrayed the construction site for a new highway (S10) and newly erected wind parks in the north of the region in order to address the effects of direct human interventions on landscape developments.

This imbalance in the thematic topics was, however, not confirmed in the landscape dialogues. While they generally reflected a high level of satisfaction with the current state of the landscapes, the participants of the landscape dialogues repeatedly voiced concerns about ongoing land-use changes (e.g. urban sprawl) and the negative impacts of structural changes in agriculture, which many see as key challenges to the region’s landscape development.

### 3.3. School workshops – portraying landscape in short films

In the course of two school workshops (January to March 2012) pupils of the Commercial Academy (HAK) and the Agricultural Technical School (LFS) in Freistadt were asked to implement the theme of “landscape” in a 1- to 3-minute short film by addressing related questions such as (Neugebauer et al., 2013):

- How do global trends affect landscape development in the Mühlviertler Kernland region?
- Which demands and requirements must landscape fulfil in the Mühlviertler Kernland region?
- How does/can landscape contribute to a high quality of life in the Mühlviertler Kernland region?

The school workshops (*see Fig. 7*) were aimed at a critical reflection of the current state of local and regional landscapes. Furthermore, the pupils were encouraged to develop visions as well as quality objectives of future landscapes. To this effect, a film script had to be drawn up by the pupils and implemented in a short film using a customary mobile phone camera.

In Workshop 1, the pupils were acquainted with the research project Vital Landscapes and engaged in a creative brainstorming process about landscape issues. Assisted by a member of the local dorftV-station, the pupils were also able to make first attempts at filming. In Workshop 2, the preliminary film ideas were analysed in detail, translated into film scripts and, finally, independently produced by the pupils. The short films were screened with the best films awarded by a jury and published on the Vital Landscapes project website.



**Fig. 7:** Procedure of the School Workshops

In the HAK-Freistadt the short films were produced as part of the curricular focus on Multimedia & Webdesign, supervised by Johann Moser and Johannes Peherstorfer. In the LFS-Freistadt the films were produced outside the regular school hours, but they could be handed in as part

of a final school project. The pupils were accompanied by Alfred Klepatsch, teacher at the LFS-Freistadt and member of the Vital Landscapes core team. *Table 1* provides an overview of the short films produced by the pupils.

| Screenshot  | School  | Topic  | Summary and Key Messages  |
|---|---|--|---|
|    | BHAK Freistadt (Commercial Academy)           | promotional video for the Mühlviertler Kernland  | The film is intended as a promotional video for the Mühlviertler Kernland. It starts out with a series of prejudices, e.g. regarding the region's peripheral location or its "technical backwardness". To invalidate these biases the film emphasizes the region's strengths and assets, such as in the field of education. The film makers present an interior perspective of their region and demonstrate a high level of satisfaction with the current state of the region's natural and cultural landscape.   |
|    | BHAK Freistadt                                | music video for a song about the Mühlviertel by local singer-songwriter "Beda mit der Palme" | The film is a music video for the song "s'Paradies" and picks up on rural clichés of the Mühlviertel region. However, the song/ film's goal is not to refute but rather to accentuate the region's particularities. The entire song is sung in regional dialect and the cultural landscapes typical to the Mühlviertel serve as settings throughout the music video. This short film demonstrates the fundamental role of landscapes towards forming regional identities and strengthening rural communities. ( <a href="http://www.youtube.com/watch?v=wSc7qOvY0kk">http://www.youtube.com/watch?v=wSc7qOvY0kk</a> ) |
|  | BHAK Freistadt                                | regional processing and marketing of agricultural products in the Mühlviertler Kernland      | The film deals with regional processing and marketing of agricultural products. It traces a series of agricultural products (e.g. eggs, milk, vegetables) from their origin to their direct marketing in a farmers' shop in Freistadt. The film argues that the Mühlviertler Kernland offers "optimal conditions" for organic farming and portrays landscapes as a significant part of regional production and value-added cycles.  |
|  | BHAK Freistadt                                | sports and leisure opportunities in the Mühlviertler Kernland                                | This film shows students performing different sports and leisure activities in the landscape (e.g. mountain biking, slacklining) and, thus, demonstrates the large variety of landscape types within the region. In the final caption the film makers ask "What does landscape mean to you?" This implies that they presented their own, subjective impressions of landscapes and acknowledge the broad scope of landscape readings.  |
|  | LFS Freistadt (Agricultural Technical School) | renewable energies and landscape   | The short film focuses on the growing importance of landscape for the production of renewable energy. The film makers show different forms of energy production from renewable raw materials and wind power. The final caption "Think ahead, don't burn everything for fuel", places the film in the context of the ongoing controversy about 'food vs. fuels'.   |

**Tab. 1:** Overview of the Short Films

### 3.4. Further activities

#### 3.4.1. Expert interviews

In the course of summer 2012, the findings of the landscape dialogues were discussed with the following experts in the fields of agriculture, nature conservation and tourism: Johann Hahn (regional farmer's chamber Freistadt), Franz-Xaver Hölzl (agricultural chamber Upper Austria, soil protection division), Wolfgang Solberger (Natura-2000 Information Centre Leopoldschlag) and Karl Steinbeiß (tourism's office Mühlviertler Kernland). Amongst others, the open talks focused on land-use conflicts (e.g. between farmers, recreational athletes and nature conservationists) and the effects of structural changes in agriculture on cultural landscapes.

#### 3.4.2. Excursion of project partners

The non-Austrian project partners of Vital Landscapes were invited to take part in an excursion into the Mühlviertler Kernland and South Bohemian project region of our Czech partners at the end of August 2011. The program included a visit to the cooperative of mountain herbs (Bergkräutergenossenschaft) in Hirschbach, the forest museum and the energy exhibition in Windhaag, the Natura 2000 Info centre in Leopoldschlag and the Natura 2000-area, the traditional orchards and the production-site of the Kernland-juice as well as a city tour in Freistadt, and finally, a visit to the cultural centre Bruckmühle in Pregarten. In the context of an exhibition by the land art artist Wolfgang Richter, the excursion was reflected according to the GIVE method outlined above.

The excursion provided insights into the way outsiders perceive the landscapes of the Mühlviertler Kernland. Many participants emphasized the varied and highly structured landscapes. Along with a high level of empowerment and self-initiative, this was considered to be a key asset of landscape development in the region. On the other hand, out-migration, the apparent decline in public services as well as urban sprawl in the countryside ("rural sprawl") were identified as key challenges.

The participants of the excursion made overwhelmingly positive associations (e.g. "peace", "quality of life") with the landscapes of the Mühlviertler Kernland. Some participants were inspired by the high level of civic engagement presented in individual best-practice initiatives and subsequently implemented similar projects in their home region.

#### 3.4.3. Core team

The implementation of the regional process in the Mühlviertler Kernland by the Vital Landscapes team was assisted by a core team, consisting of regional representatives from different fields. Details concerning the regional process (time frame, course of action) as well as the individual activities (e.g. landscape dialogues,

school workshops) were jointly elaborated. The core team furthermore assisted during the preparatory phase of the excursion into the Mühlviertler Kernland as well as in preparing and hosting the final conference.

#### 3.4.4. Regional final conference

The closing event, held in Freistadt on 13 September 2012, marked the end of the regional process in the Mühlviertler Kernland. The event was organized in cooperation with the LEADER region and the Bezirksrundschau Freistadt. After a keynote speech on the challenges of landscape development by Prof. Bernd Reuter (Landesheimatbund Sachsen-Anhalt) and a round-table talk between regional stakeholders, the winners of the photo competition were rewarded. The Vital Landscapes team was able to present some of the findings of the regional process to a broad public. The closing event was covered in regional newspapers (Bezirksrundschaue Freistadt, Urfahr-Umgebung and Perg; respectively edition 38/2012) as well as in the regional television network muehlviertel.tv<sup>2</sup>.

## 4. Results of the Pilot Process

### 4.1. Public perception of landscape

The activities carried out in the LEADER region Mühlviertler Kernland offered broad insights regarding the public perception and understanding of landscape developments. Through their intensive reflection of landscape issues, the landscape dialogues as well as the school workshops proved to be particularly insightful. With a high turn-out of participants, the photo competition equally allowed for new findings regarding landscape perception.

Foremost, the regional activities demonstrated that the general understanding of landscape goes well beyond landscape aesthetics or the perception of landscape as the natural environment. The landscape dialogues, the school workshops and the photo competition made apparent that the social and human interactions as well as the economic activities are regarded as important components of landscape and as key driving-forces of landscape developments in the Mühlviertler Kernland region. Landscape development is often seen to mirror on-going demographic changes or structural economic shifts in the region, be it the influx of inhabitants and the corresponding growth in economic and settlement activities or the structural changes in agriculture and forestry, which are identified as threats to landscape variety and diversity in some parts of the pilot region.

Secondly, the regional activities showed that (even in the predominantly rural pilot region) the built environment is an important part of the general landscape perception. In

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<sup>2</sup> <http://muehlviertel.tv/video/2291/vitale-landschaft-muehlviertler-kernland>

the landscape dialogues as well as the photo competition, participants highlighted the importance of historical buildings (e.g. traditional farm houses) or cultural heritage sites (e.g. churches or castles). Modern residential buildings, however, were overwhelmingly not part of the perceived landscape, while technical facilities (such as wind power plants) were sporadically addressed as examples for changing landscapes. In the school workshops and the short films produced by the pupils the built environment had an equally strong albeit different importance. In relation to the film topics (*see table 1*) the pupils chose to include different kinds of buildings in their films about landscapes, including the above-cited examples of historical farm-houses or renewable energy plants. Moreover, every film included at least one shot of modern residential buildings, perhaps indicating a greater relevance of settlements and built environments for young adults' understanding of landscape.

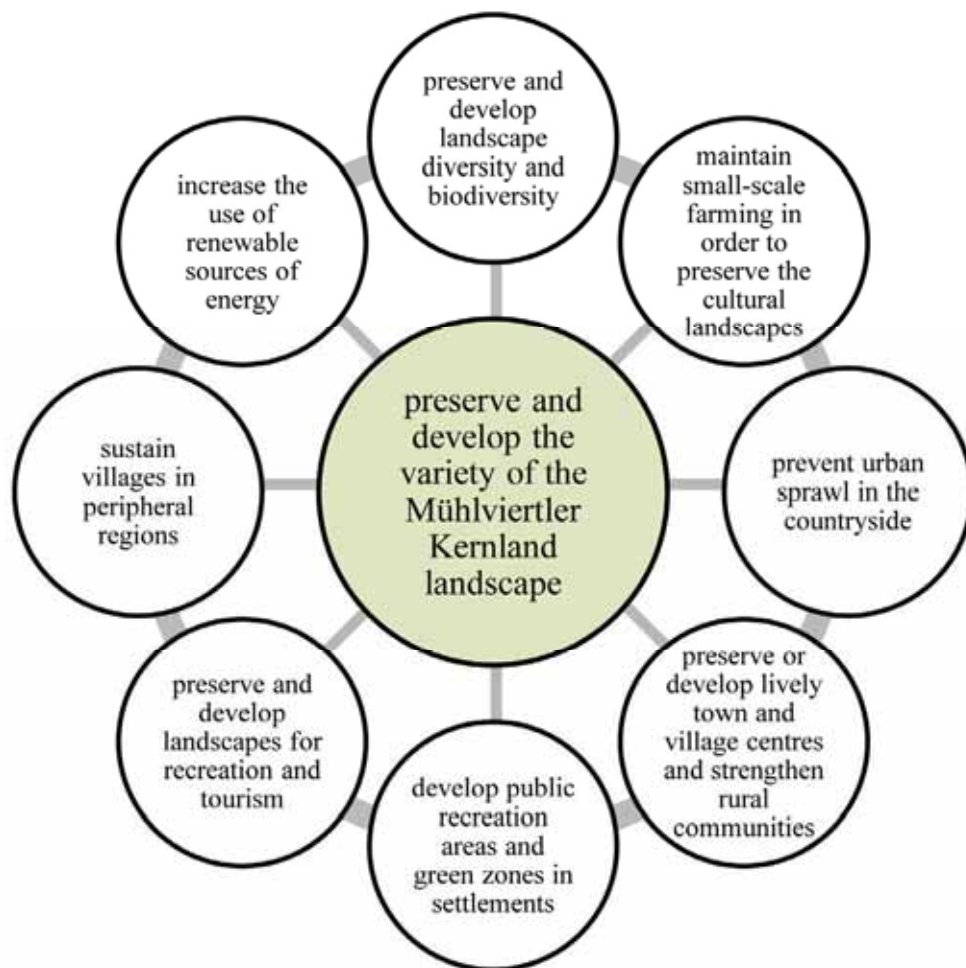
Thirdly, the regional activities demonstrated a high level of appreciation for the local and regional particularities of the landscapes and the landscape elements (such as field hedges or stone walls) to be encountered in the LEADER region Mühlviertler Kernland. Especially the participants of the landscape dialogues acknowledged the importance of highly structured landscapes and well-preserved landscape elements. Workshop participants

overwhelmingly judged the current state of landscape to be intact, however, many also identified key challenges (such as sprawling settlements) and called for concerted actions to upkeep the status quo.

Finally, landscape appears to play a strong role in building local and regional identities for the inhabitants of the Mühlviertler Kernland Region. Landscape is seen to fulfil a wide range of primary functions, be it the production of agricultural products or renewable energies or providing for much-needed leisure and recreation. The local and regional inhabitants, however, also seem to link their quality of life with the overall state of 'their' landscape which indicates that landscapes are also able to fulfil key human wants, namely the need for belonging and well-being.

#### 4.2. Visioning Vital Landscapes – Landscape Quality Objectives

The findings on the public perception of landscape are reflected in a compendium of landscape quality objectives, which provide a normative framework for future landscape development in the region. The landscape quality objectives for the regional level (*see Fig. 8*) were derived in large part from the outcomes of the landscape dialogues in the municipalities (*see Tab. 2*).



**Fig. 8:** Landscape Quality Objectives in the LEADER region Mühlviertler Kernland

| Landscape Quality Objective  | Rainbach and Leopoldschlag | Sankt Oswald | Hirschbach | RUF-Municipalities |
|--|----------------------------|--------------|------------|--------------------|
| preserve and develop landscape diversity and biodiversity                            | x                          | x            | x          | x                  |
| maintain small-scale farming in order to preserve the cultural landscapes            | x                          |              | x          |                    |
| prevent urban sprawl in the countryside  | x                          | x            | x          | x                  |
| preserve or develop lively town and village centres and strengthen rural communities | x                          | x            | x          |                    |
| develop public recreation areas and green zones in settlements                       |                            | x            |            | x                  |
| preserve and develop landscapes for recreation and tourism                           |                            | x            |            |                    |
| sustain villages in peripheral regions   |                            |              |            | x                  |
| increase the use of renewable sources of energy                                      | x                          |              |            | x                  |

**Tab. 2:** Landscape quality objectives in the municipalities of the LEADER region

Due to a generally high level of satisfaction with the current state of the landscapes in the Mühlviertler Kernland, the landscape quality objectives overwhelmingly have a conservatory character (e.g. “preserve landscape diversity” or “maintain small-scale farming”). However, several landscape quality objectives (e.g. “develop public recreation areas” or “increase the use of renewable sources of energy”) indicate that landscape development is acknowledged to be a dynamic process and subject to change and external influences. In sum, they represent the region’s central landscape quality objective, namely to preserve and develop the variety of the Mühlviertler Kernland landscapes.

Table 2 provides an overview as to which landscape quality objectives were formulated in the municipal landscape dialogues. It shows that the preservation/development of landscape diversity and biodiversity is a common landscape quality objective for all municipalities. Equally, all landscape dialogues articulated the need to prevent urban sprawl in the countryside. Almost all landscape dialogues, furthermore, showed that the preservation/development of lively town centres and strong rural communities provides a common objective for the region.

In those municipalities with traditionally strong agricultural sectors, participants of the landscape dialogues agreed that small-scale farming shall be maintained in order to preserve the cultural landscapes typical to the region. On the other hand, participants living in municipalities which have experienced a strong influx of (urban) inhabitants articulated the need to develop public recreation areas and green zones in settlements. In a similar manner, participants see a need for increasing the use of renewable sources of energy in those municipalities where first steps in this direction are already being made.

Finally, only in one municipality do the local inhabitants see the need of preserving/developing landscapes for recreation and tourism. Equally, only the residents of the southernmost municipalities of the RUF region explicitly

formulated the objective of sustaining villages in peripheral parts of the pilot region. As this part of the Mühlviertler Kernland Region features dynamic economic and demographic developments, this landscape quality objective shows acknowledgment of the challenges faced by the other, more peripheral municipalities.

To sum up, the term ‘variety’ may be used to describe the core theme of future landscape development in the Mühlviertler Kernland Region. It encompasses the following aspects:

- varied and highly structured landscapes including well-preserved landscape elements;
- a high diversity of plant and animal life;
- diverse landscape capacities (e.g. for recreation or agriculture and energy production);
- varied but balanced land-uses, preserving favourable farming areas and allowing for controlled settlement development;
- a socio-spatial diversity, which allows for a sustainable life style in central and peripheral regions.

### 4.3. Conclusions and recommendations for the pilot region

The participation process in the Mühlviertler Kernland region fostered the general awareness regarding the fundamental importance of landscapes for regional development and regional identity. It helped to identify key challenges and opportunities for the future landscape development, many of which are reflected in the landscape quality objectives for the LEADER region.

In order to pursue landscape development more effectively and to fulfil the landscape quality objectives on a local and regional level, the project team agreed upon the following final recommendations for the pilot region Mühlviertler Kernland:

## **1. Promote the debate of landscape issues in the course of further participation processes**

Notwithstanding a critical reflection of landscape developments throughout the regional participation process, the landscape dialogues indicated knowledge gaps regarding the environmental consequences of everyday activities. A more intensive participatory process, covering a longer time-period, would help to foster a deeper understanding for these interrelations. The municipalities Hirschbach im Mühlkreis and Leopoldschlag meanwhile decided to conduct a Local Agenda-Process on the topic of landscape development. This is seen as an important step toward specifying and implementing local landscape quality objectives.

## **2. Promote settlement developments in areas with local supply**

The construction of the express way (S10) will most likely advance settlement development in the Kernland. Local and regional planning authorities have to utilize the spatial planning instruments to steer these developments and prevent urban sprawl. It is therefore recommended to target future settlement developments in areas with sufficient local supply.

## **3. Deepen inter-municipal cooperation with regard to settlement, industrial and commercial developments**

In the light of a steady increase in land consumption for new settlements, commercial and industrial areas and transport infrastructure, inter-municipal cooperation needs to be deepened. New settlements and commercial/industrial areas should be planned with regard to a functional mix, density, site selection (e.g. topography, exposure) and the allocation of resources.

## **4. Promote civic engagement in landscape preservation**

The loss of small landscape elements (e.g. field hedges) is one direct consequence of the on-going structural changes in the agricultural sector. Under these circumstances, the preservation of these landscape elements demands more civic engagement. In addition, innovative ways need to be considered to integrate landscape preservation into tourism offers.

## **5. Commercially use the by-products of landscape elements**

Landscape elements can be preserved through their (sustainable) commercial use. For instance, the berries of some field hedges can be used for making jam, field margins provide for a high diversity in plant life suitable for producing honey. The commercial use of these by-products needs to be expanded in order to preserve the landscape elements typical to the region.

## **6. Deepen the inter-municipal dialogue in LEADER concerning issues of landscape development**

LEADER represents an effective funding scheme for debating issues of regional importance – such as landscape development – and for implementing projects in practice. The Mühlviertler Kernland regions' decision to pursue its work in the upcoming funding period is regarded as a clear impetus towards further deepening the inter-municipal cooperation in landscape and regional development.

In the course of the strategic meeting on 31 August, 2012, the members of the LEADER region agreed upon the thematic foci for LEADER 2014+. Many of these (e.g. youth participation or agrarian economy) offer suitable frameworks for incorporating those topics most often discussed throughout the landscape dialogues, such as civic engagement in landscape preservation or the re-vitalization of town and village centres.

## **5. Discussion and Reflection**

As earlier described in detail, above, the participatory planning process in the LEADER region Mühlviertler Kernland covered a wide range of activities with different stakeholders and target groups and, thus, aimed at achieving a high degree of participation, ownership and learning.

The landscape dialogues – held in four different parts of the pilot region – were open for the general public. Inhabitants and stakeholders were invited to participate in the landscape dialogues via advertisements in local newspapers, via municipal websites, conventional and electronic mailing as well as personal invitations. The turnout varied considerably across the landscape dialogues, on the average, approximately 15 persons attended each of the eight landscape dialogues. In general, however, participation was limited to elderly men; women and young adults were repeatedly underrepresented in these regional activities, though it remains unclear as to why this gender/age imbalance persisted. In order to involve also teenagers a separate school action was created. By choosing selected moderation methods (e.g. GIVE), the project team could support that all participants contributed to the discussion in terms of a democratic process by giving written contributions as many people are not willing to speak in big groups.

The photo competition was also open for the general participation of inhabitants of the Mühlviertler Kernland Region. Since photos were submitted online, it is unfortunately not possible to draw differentiated conclusions about gender or age distributions. However, with a total of over 180 photos submitted by more than ninety photographers, the photo competition generated a significant level of participation in the pilot region. This high turnout was owed in large extent to the cooperation with the regional newspaper Bezirksrundschau Freistadt (which advertised the photo competition across the region) as well as the sponsorship of attractive prizes, which provided an incentive for submitting landscape

impressions. In retrospect, the project team finds that photo competitions should hereafter be scheduled at the beginning of regional participation processes, as they provide a powerful instrument to mobilize different target groups to participate in the regional activities.

As somewhat of a counter-balance to the landscape dialogues dominated by elderly inhabitants, the school workshops, which were held in two secondary schools in Freistadt, explicitly aimed at involving young persons in the regional participation process. One of the major challenges was to find an adequate method that stimulates teenagers' interest in an intensive examination of landscape issues. Therefore, the project team created the concept of dealing with landscape issues by implementing a short film about landscape. While the project was realised as part of the curriculum in one of the schools, in the other one, the motivation to participate also outside the regular school hours was ensured by the fact that the film work could be handed in as part of the final project.

Throughout the participation process in the Mühlviertler Kernland region, a guiding principle was to give inhabitants and stakeholders opportunities for self-organization and ownership of the regional activities. In designing the regional activities, the project team was careful to allow for ownership of values/concepts, ownership of techniques/processes as well as ownership of outcomes (cf. *Stoeglehner et al., 2009*):

- **Ownership of values/concepts** was achieved by fostering a common understanding of landscape issues in the regional participation process. For instance, in the landscape dialogues, local inhabitants were asked to define and debate individual understandings of landscape and to formulate objectives for landscape development. Similarly, participants of the photo competition were able to submit photos which (in their view) depicted 'intact' or 'changing' landscapes.
- The project team aimed at giving participants **ownership of techniques/processes** by not over-regulating workshop procedures. For example, in the course of the school workshops the pupils were allowed autonomy regarding the choice of their film topics as well as their implementation in the short films, as illustrated in the different film formats (see table 1).
- The project team was careful not to predefine expected outcomes of the regional activities, thus fostering **ownership of outcomes** throughout the regional participation process. This becomes particularly evident with regard to the landscape quality objectives which were formulated on the basis of the local inhabitants' visions of future landscape development.

The values, procedures and outcomes generated throughout the participatory planning process in the Mühlviertler Kernland region may provide the basis for more thoroughly considering landscape as an issue in comprehensive decision-making in the future. The regional activities revealed the complexity of landscape development and its relevance for policy domains beyond site preservation and nature conservation. They particularly emphasised political leverage in the field of spatial planning and called upon local decision-makers to more thoroughly reflect future planning-decisions to prevent the degradation of landscapes (e.g. due to soil sealing or the loss of biodiversity). "Vital" landscapes, however, were found to be also determined by the intensity of social bonds or the degree of regional solidarity. Keeping in mind this broad scope of landscape clearly presents a great challenge for policy and decisions; however, in order to maintain and improve the quality of life in rural communities, the human-nature and human-human interrelations are to be equally embraced in future landscape development.

The participatory planning process in the pilot region not only emphasised a need for political action, it also initiated processes of social learning within the regional populace. By reflecting current and future challenges to landscape development, participants of the regional activities reassessed the impact of their every-day actions on the quality of the landscape (i.e. single-loop learning). For instance, there appears to be a broad consensus that the consumption of local/regional agricultural products sustains small-scale farming as a prerequisite for preserving the cultural landscape typical to the region. On the other hand, the overwhelming support for the new motorway S10 cutting across the pilot region reveals contradictions to the landscape quality objectives as the highway causes land degradation and sealing of soil and might induce sprawling communities based on commuting by car. In order to achieve a change in the underlying societal processes that shape landscape (i.e. double-loop learning), deeper communicative planning processes with the wider public are, hence, deemed to be necessary.



**Fig. 9:** Landscape Dialogue in Rainbach

The Vital Landscapes pilot process can be seen as a role model for the participatory discussion of landscape issues on a regional scale, taking the specific contexts and viewpoints of the local communities into consideration. The process design allows for a time-efficient analysis and visioning of future landscape developments as well as the definition of concrete targets and implementation measures. The actions taken thus far in certain parts of the LEADER region Mühlviertler Kernland – e.g. the start of two Local Agenda 21 processes – suggest that the results of the Vital Landscapes project impact landscape development beyond the scope of the project. We therefore invite readers to start similar projects in their respective regions.

## Acknowledgements

The Austrian Vital Landscapes team would like to express many thanks to the LEADER region Mühlviertler Kernland for very actively participating in the pilot process. In particular, we want to thank the LEADER management (Mag. Conny Wernitznig), the core team and the local action group (LAG chairmen Mag. Christian Jachs and Stefan Wiesinger) for their cooperation and assistance throughout the participation process. Furthermore, we are grateful for the support of (1) the municipalities, the mayors and the local residents who participated in the Landscape dialogues, (2) the schools, the teaching staff and the students for their engagement in the school workshops and (3) the editorial team of the regional newspaper “Bezirksrundschau Freistadt” as well as all participants of the regional photo competition. Finally, we want to express particular thanks to our subcontractor SPES, especially to DI Roman Zebisch and DI Wolfgang Mader for the professional moderation of the Landscape dialogues and the school activities.

## 6. References

- Antrop, M. (2005): Why landscapes of the past are important for the future. In: *Landscape and Urban Planning* 70, pp. 21–34.
- Argyris C. (1993). *Knowledge for action: A guide to overcoming barriers to institutional change*. Jossey Bass, San Francisco.
- Bosch, S. and Peyke, G. (2011): Gegenwind für die Erneuerbaren – Räumliche Neuorientierung der Wind-, Solar- und Bioenergie vor dem Hintergrund einer verringerten Akzeptanz sowie zunehmender Flächennutzungskonflikte im ländlichen Raum. In: *Raumforschung und Raumordnung*, Volume 69/2, 2011, pp 105-118.
- CIMA (2007): Lokale Entwicklungsstrategie “Mühlviertler Kernland”, im Rahmen des Schwerpunktes 4 (LEADER) der Verordnung (EG) Nr. 1698/2005 des Österreichischen Programms für die Entwicklung des ländlichen Raumes 2007-2013, Ried im Innkreis.
- Council of Europe (2000). *European Landscape Convention*. CETS, 176.
- EC – European Commission (2011): *EU Agricultural Economic Briefs, Structural development in EU agriculture*, Brief N° 3, September 2011.
- EEA – European Environmental Agency (2011): *Landscape fragmentation in Europe*. EEA Report N°2, 2011.
- Healey P. (1997). *Collaborative planning – shaping places in fragmented societies*. MacMillan Press Ltd., Hampshire – London.
- Krengel, J. (2005): Folgen der Flächeninanspruchnahme für Natur und Landschaft. In: Besecke, A., Hänsch, R., Pinetzki, M. (Eds.): *Das Flächensparbuch. Diskussion zu Flächenverbrauch und lokalem Problembewusstsein*, Institut für Stadt- und Regionalplanung, TU Berlin, ISR-Diskussionsbeitrag, Heft 56/2005, pp. 45-53.
- Lanninger, S. and Langarová, K. (2010): Landscape and Identity – Theoretical Considerations for the Advancement of Landscape Assessment. In: *GAIA*, 19/2, 2010, pp. 129-139.
- Löschner, L., Neugebauer, G. and Stoeglehner, G. (2012): *Vital Landscapes – Summary of the Regional Participation Process in the Mühlviertler Kernland Region*. European Regional Development Fund (ERDF), European Union.
- Löschner, L., Neugebauer, G. and Stoeglehner, G. (2013): *Landscape Dialogues – Discussing landscape issues with local people*. In: *Geomatics, Landmanagement and Landscape* No. 1, 2013, pp.63-72.
- Meier C., Bucher A. and Hagenbuch R. (2010): *Landscape, landscape awareness, and landscape identity as potentials for regional development – an empirical case study in Southern Glarus, Switzerland*. In: *GAIA*, 19/3, 2010, pp. 213–222.
- Müller, S. (2004): Internationale Einflüsse auf die Planungstheoriendebatte in Deutschland nach 1945 oder die Perspektiven der Planungsdemokratie. In: Altrock, U., Güntner, S., Hunning, S., Peters, D. (Eds): *Perspektiven der Planungstheorie*. Leue. Berlin, pp. 123–140.
- Neugebauer, G., Löschner, L. and Stöglehner, G. (2013): *Perceiving rural landscapes in film and photography - experiences from a participative planning approach in the Upper Austrian LEADER region Mühlviertler Kernland*. In: *Geomatics, Landmanagement and Landscape* No. 2, 2013. pp. 63-72.
- SGP – Strategic Group on Participation (2010). *Worksheets on Participation*, 1–6, Vienna.
- SPES (2006): *Schulungshandbuch für ProzessbegleiterInnen*. SPES Akademie Schlierbach.

- STATISTICS AUSTRIA (2013): Ein Blick auf die Gemeinde.
- Stöglehner, G., Mitter, H. and Jungmeier, P. (2006): Adult education as a key factor of sustainable rural development. In: Subai, C., Ferrer-Balas, D., Mulder, K.F. and Moszkowicz, P. (Eds.): Engineering education in sustainable development, Lyon.
- Stoeglehner, G., Brown, A.L. and Kornov, L. (2009): SEA and planning: “ownership” of strategic environmental assessment by planners is the key to its effectiveness. In: Impact Assessment and Project Appraisal, 27/2, pp. 111-120.
- Stoeglehner, G. and Peer, V. (2013): Universities as change agents for sustainability – framing the role of knowledge transfer and generation in regional development processes. In: Journal of Cleaner Production 44 (2013), pp. 85-95.



## IV. HISTORICAL CULTURAL LANDSCAPES – PROBLEMS AND REFLECTION (Sub-Little-Carpathian region, Slovakia)

*Ján Hanušin, Martina Cebecauerová, Mikuláš Huba, Vladimír Ira, Ján Lacika,  
Michala Madajová, Ján Oľahel, Róbert Pazúr, Peter Podolák, Dušan Šebo and Martin Šveda*

*Institute of Geography, Slovak Academy of Sciences, Bratislava, Slovakia*

### 1. Introduction

The preamble of the Project states that cultural landscapes are considered a historical heritage. In spite of the fact that through cultivation, the scope and quality of cultural landscape continuously gain new characteristics, in its essence, cultural landscape is first of all a testimony of the approach to land use applied by our ancestors. Compared to the present-day ways of land use, such approaches were often more considerate towards the natural assets, sacral and secular buildings, unique localities and places.

For the sake of a unified terminology, it is important to distinguish between concepts of “cultural landscape” and “historical cultural landscape”. The term “cultural landscape” is general while historical landscape may be part of cultural landscape, origins or functioning of which were specified in the past following certain criteria. Historical cultural landscape as understood in our pilot region, is a part of cultural landscape, function, structure and perceived characteristics of which remained grossly unchanged for about 60 years (1948-1950 i.e. from the beginning of collectivisation in agriculture until 2012). Putting aside an unreasonable glorification of assets attributed to historical cultural landscape, it must be admitted that the prevailing part of the conserved historical cultural landscape is a positive phenomenon enriching the cultural and natural environment. This is the reason why historical cultural landscape deserves our attention, protection and care. Historical cultural landscape is not perceived as a petrified remnant of the past but as a valuable and functional element of the present landscape. This basic attitude is more or less part of all key concepts and supranational documents. The philosophy of the Project is based on the concept of sustainable development and an integrated approach to landscape management contained in the documents of the European Landscape Convention and Agenda 21 (A 21). As far as the practical implementation of conclusions, alternatives and recommendation of the Project is concerned, an adequate reflection of the regional, official and local developmental documents, territorial planning and economic and social development of the Administrative Regions of Bratislava and Trnava, as well as those of individual municipalities situated in the Sub-Little Carpathian Region (SLCR) is important.

The activities performed within the project can be divided into several principal types. **Terminological and theoretical considerations** on historical cultural landscape were set as a partly independent, general and basic view, explaining a little bit confusing terminological aspects of the (historical) cultural landscape issues. Issuing from the general description of the pilot area, the **screening** of relevant documents on cultural landscape and **analysis** (land cover changes, character of settlement and demographic changes, perception of the historical cultural landscape by local authorities and visibility analysis) are presented. A photocompetition represents **activity oriented towards general public**.

### 2. (Historical) cultural landscape – terminological and theoretical aspects

Several sciences deal with the research of cultural landscape: geography, landscape ecology, architecture, archaeology, history and ethnology. Each of them applies proper methods and concentrates on different characteristics. Geography and landscape ecology study the structure, functioning and position of cultural landscape in wider landscape systems, architects focus on aesthetic and perception values while archaeology, history and ethnology gather knowledge about the development and reconstruction of landscape. The concept of *cultural landscape* appears in specialised literature almost one and a half century ago as Jones (Jones, 2003) reports, it was introduced by geographer Friedrich Ratzel by the end of the 19<sup>th</sup> century in 1895-96. Later it was also adopted by English scientists thanks to Carl Sauer and the term became a popular one in studies concerning cultural geography of what was referred to as the Berkley School in the 1920s. The concept of cultural landscape of Carl Sauer was interpreted as the result of interaction between natural landscape and human culture (Sauer, 1963).

Presumably, the Slovak geographers also took over the term from German literature. One of the first if not the first study by a Slovak author who used it was Hromádka's “Všeobecný zemepis Slovenska” (Hromádka, 1943). This author used the term “cultural land” albeit it is clear from the context that he meant cultural landscape in analogy with the term of “natural land” which is a synonym of natural landscape.

Definition of the concept of cultural landscape is not simple. Its content is manifold and disparate. It is often freely used with potential misunderstandings and terminological vagueness. Several authors (*Aitchison, 1995; or Fowler, 2001*) admit this fact when they talk about cultural landscape as an unusual term with ambiguous content.

The principal source of misunderstanding and inconsistencies in the interpretation of the phrase *cultural landscape* is perhaps the semantic conflict in the very concept of culture.

The diametric difference in interpretation of cultural landscape emerges when the concept of *cultural* means civilized, recreated by the human, denaturalized and when such landscape that has nothing in common with culture, the one deprived of cultural assets in the sense of the proper understanding of culture, must be considered a cultural landscape.

An example of the contradictory interpretation of cultural landscape is the UNESCO list of the World Cultural Heritage (<http://whc.unesco.org/en/list>). Since 1992, it has included more than 80 localities identified as cultural landscapes where localities of agricultural landscapes, parks, archaeological localities (such as the area of Lednice-Valtice in the Czech Republic, the Tokaj Vineyards in Hungary or the Wachau region in Austria) prevail. However, the List also contains some nowadays functionless industrial or mining areas (extraction and processing of iron ore in Blaenavon or the mining landscape in Cornwall and western Devon, both in the UK), examples of landscape devastation in its time in contradiction with culture as a superstructure of human activities. Cultural landscape in this case rather means industrial heritage, an exhibit and relic.

Another problem of terminological interpretation of the concept is its temporal aspect. Humans create and continuously modify cultural landscape in time. In the majority of cases for centuries, humans cultivated and recreated the already existing cultural landscape leaving more or less conspicuous remnants of its original layers and structure from time to time. The protected and valuable cultural landscape (in the sense of the UNESCO List, for instance) is only a temporally and spatially delimited part of cultural landscape and even here the common term of cultural landscape is applied without specification.

Terminological incongruity in defining cultural landscape claims the use of more precise terminology which specifies the term on a temporal axis by adjectives like “historical”, “traditional”, “ancient” and the like placing it in a particular past which is based on the objectives and needs of the specific research.

Historical landscape structure (HLS) is the term used in Slovak and partially Czech literature. *Huba (1988)* introduced it asserting that HLS represents a specific, temporally limited and spatially diminishing subtype of landscape structures as a whole. The relationship between

the content of the concept of cultural landscape and HLS is not definite. Both terms are relatively freely used. HLS is a specific part of cultural landscape; its synonym is historical cultural landscape, the term preferred by the author of this study. Like in the case of historical cultural landscape, HLSs are classified based on different criteria, most often by the nature of the original use.

The content of concepts of HLS and traditional or ancient landscape overlap and they can be used as synonyms.

As far as the temporal classification of the origins and development of cultural landscape is concerned, a date/period as a limit for considering the cultural landscape as historical is important. As already mentioned, historical landscape here is the part of cultural landscape function, structure and perception characteristics remained almost unchanged over the last 60 years (since 1948-1950, the years when collectivisation of agricultural landscape started until the present time i.e. 2012).

### 3. Sub-Little Carpathian region – the pilot

One area in Slovakia adequate for the study of cultural landscape characteristics, their changes, dynamics and structure is the hinterland of the biggest city and the capital, Bratislava. The urban landscape of Bratislava changes with the increasing distance from the built-up area, the gradient of the changing landscape loosens, the human impact diminishes and the urban landscape progressively changes into the cultivated rural landscape. This change is especially well observable on the south-eastern foothills of the Little Carpathians, typical for a distinct settlement structure, vine growing and certain specific features of natural landscape. The transitory area between the Little Carpathians and the Podunajská Lowland is being referred to as the Sub-Little Carpathian Region (SLCR). It is the belt of municipalities between Smolenice and Bratislava. The overall area of the region is 518 km<sup>2</sup>; the population of 22 villages and 2 urban parts of Bratislava amounts to about 92,000. Eastern and south-eastern parts of the Little Carpathians including their foothills are in the western part of the region, while the contiguous side of the Podunajská Hill Land (Trnavská Hill Land) is in the east of the region (*Fig. 1*).

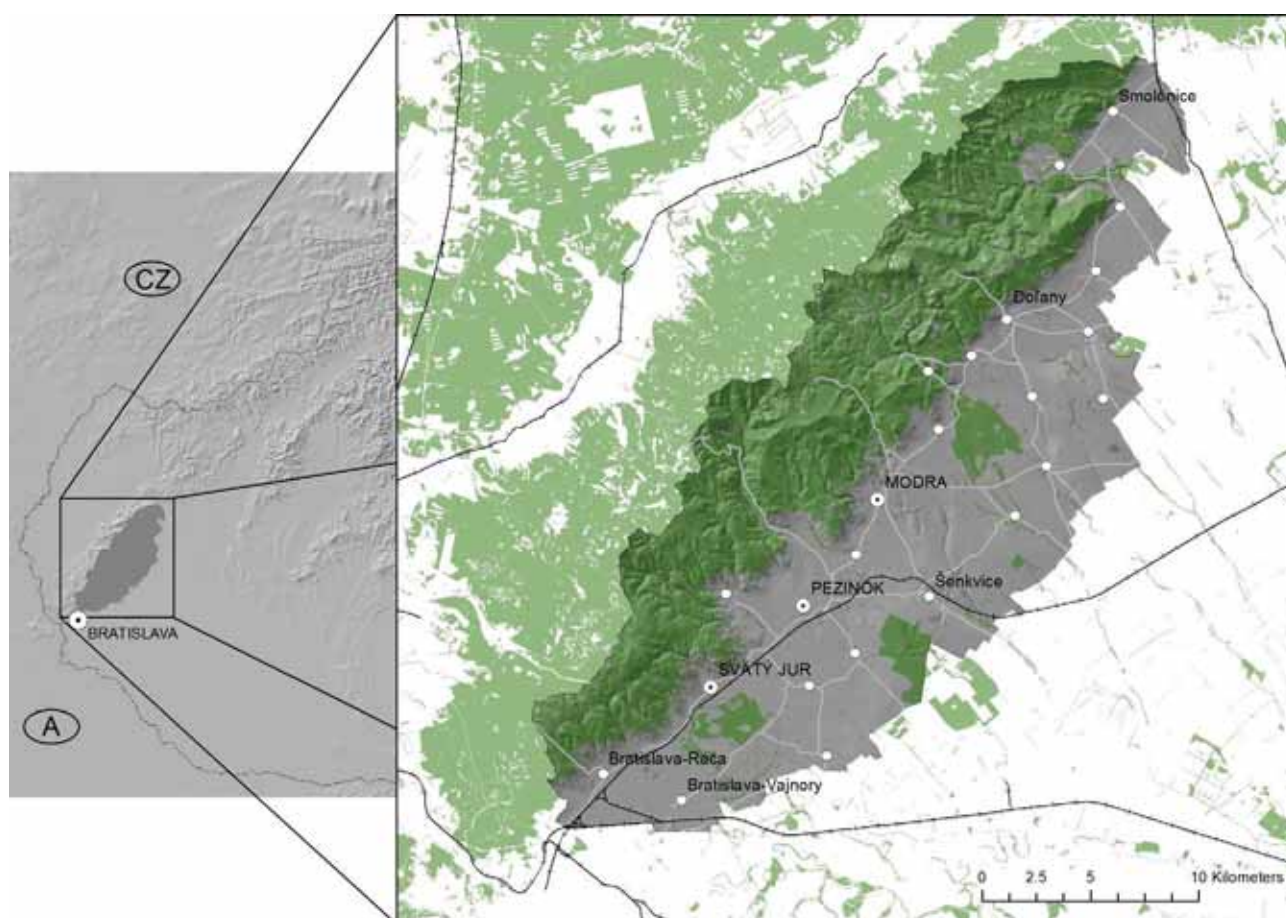
Regarding the vicinity of the capital and academic and research centres residing there, the SLCR, or its parts, for the specific features of natural and cultural landscape has become the subject of numerous, natural-scientific studies and human-studies. The result is a comparatively abundant information about this space, which are mostly focused on individual localities (*e.g. Lukniš, 1977; Štefunková et al., 2011*) or on the wider area (*Hanušín et al., 2013*).

The endogenous natural agents and exogenous agents determine the character of the SLCR. The natural genesis of landscape is projected in two faces of the region. A relatively tall mountain range of the Little Carpathians

determines the positional (coordinate) SW-NE orientation of the region and the overall sloping of the territory (altitude orientation) or the openness of the mountain range along with foothills and the lowland in the NW-SE direction. Orientations of the natural landscape determine the character of the settlement and land use. The warm foothill parts of the Little Carpathians rising above the waterlogged depressions on the contact with the lowland hills were the primary conditions of the settlement. The mountain range protected settlements from the prevalent NW air currents and also provided natural resources. Oak and beech woods provided lumber for the construction of settlements and their economic growth, as did the deposits of ores and construction materials (antimony, stones, clay in Pezinok, Modra, and Dolné Orešany). Fertile soils on the loess hills of the Podunajská Lowland also offered good conditions for land use. Already the first settlements had their hinterland both in the lowland and the mountain range. Another important potential for the development of cultural landscape dwelled in the positional-morphological (orientation of the relief) and climatic conditions for vine growing as evident from historical records about this activity in the Little Carpathians where viticulture thrives even nowadays (vine growing regions of Bratislava, Pezinok, Modra, Doľany and Orešany).

Consequently, the natural genetic code of the region can be written using the symbols like: woods, minerals and hydrological potential of streams of the Little Carpathians, temperature, soil and climate suitable for vine growing on the foothills and extremely fertile soil on loess hills of the Podunajská Lowland. The genesis of the landscape in the sense of the above-mentioned elements of natural landscape represents the geo-ecological memory of the landscape.

The location of a great part of the SLCR in the immediate hinterland of Bratislava means several positive contributions and negative elements to the region that both directly or indirectly influence the existence, status or protection of the historical cultural landscape. The possibility to participate in the riches generated in the capital (employment with over-average wages, smooth access to services and the level of infrastructure better than the Slovak average) are certainly positive while on the other side the negative phenomena include the pressure of developers on attractive localities in settlements of the southern and central parts of the region and consequently changes in function of landscape, increased rates of traffic, altered demographic composition and other, which accompany the process of intensive suburbanization reaching the top level in the Republic.



**Fig. 1:** The position of the Sub-Little Carpathian region

## 4. Vital Landscapes activities

### 4.1. Screening of relevant national and regional documents in terms of conservation and development of cultural landscape assets with emphasis on local developmental plans and territorial plans of the SLCR

The concept of “cultural landscape” in Slovakia’s legislation has been mentioned for the first time in 1991 after adoption of the UNESCO Convention concerning the world cultural and natural heritage. Before that, the concept appeared in the Law of the National Council of the SR No. 49/2002 about the protection of the monument stock. It is perhaps needless to stress that this form of protection annoys many investors: some inhabitants/owners of plots containing items of cultural historical importance, even some self-administrative authorities.

Although the concept of cultural landscape and its individual aspects are more common now in the territorial and strategic documents of municipalities in the SLCR in reality there are also several examples of an absolute and blatant disrespect on the side of the public at large for cultural landscape values. The possible cause is poor acknowledgement or ignorance concerning cultural landscape assets and their meaning (cultural-historical, socio-cultural, aesthetic) as well as their potential. Introduction of the participation of the public in preparation of landscape conceptions (in the sense of the Convention, Chap. II, Article. 5c) though, is still not respected with the partial exception of the Programme of Economic and Social Development (PESD) for the Bratislava’s city part Vajnory and the PESD of the town Svätý Jur, which did take the public opinion and that of relevant stakeholders obtained via questionnaires into consideration.

It is a matter of expert discussion whether the protection of cultural landscape needs adoption of an independent law or whether it should be included in the existing legislation. Anyway, both variants require clear definitions of basic notions connected with cultural landscape above the framework of definitions comprised in the Convention. Unclear seem the following terms: cultural landscape, target landscape quality, landscape management, and the protecting zone of cultural landscape (Šebo *et al.*, 2012). It is also important to prepare the assessment methodology of landscape characters, identification of typical landscape features and dominants, landscape change (visual, aesthetic, landscape ecological etc.) assessments. Sustainable management of cultural landscape instead of mere conservation of the existing state and the way how to procure for public’s participation in landscape conceptions are also important issues.

## 4.2. Analysis

### 4.2.1. Assessment of changes in land cover in the SLCR during the studied period

The 1949 land cover map captures landscapes close before the onset of serious social changes including central management and planning economy. Landscape structure, therefore, demonstrates the state of the management and land use in that period and reflects the settlement, industrial and transport structure, morphological manifestations of the management in agriculture and forest landscape which were formed in a very complicated historical era of the Czechoslovak state in the first half of the 20<sup>th</sup> century. The Slovak society in the first half of the 20<sup>th</sup> century represented a type of an early industrial (rural) society with prevailing traditional social structures leaning on farming and a rural way of life (Faltán and Pašiak, 2004). Landscape structure and composition of land cover elements in 1949 reflect these facts. Single-family houses dominate in municipalities and only three towns boast historical cores with the continuous urban fabric (Modra, Pezinok, and Svätý Jur). Multi-storey blocks are few (Pezinok, Rača). In spite of Rača and Vajnory becoming city parts after 1946, their urbanization started later. Industry in rural municipalities was rare and sporadic, a larger industrial precinct was in Pezinok (brickyard) and a railway station and industrial area of Majdan were in Horné Orešany. Agriculture was the primary economic activity in this territory and it concentrated on growing crops on arable land, viticulture and management of extensive grasslands. The mosaic of farming areas is different from that in the lowland part of the territory where *arable land and grasslands* prevailed. The mosaic was much more variegated on the foothills of the Little Carpathians and the results of the traditional husbandry were specific heterogeneous field structures, permanent cultures such as vineyards and natural vegetation (Svätý Jur, Grinava, Modra, Doľany, Horné Orešany, and Smolenice). Turning events in terms of social developments were:

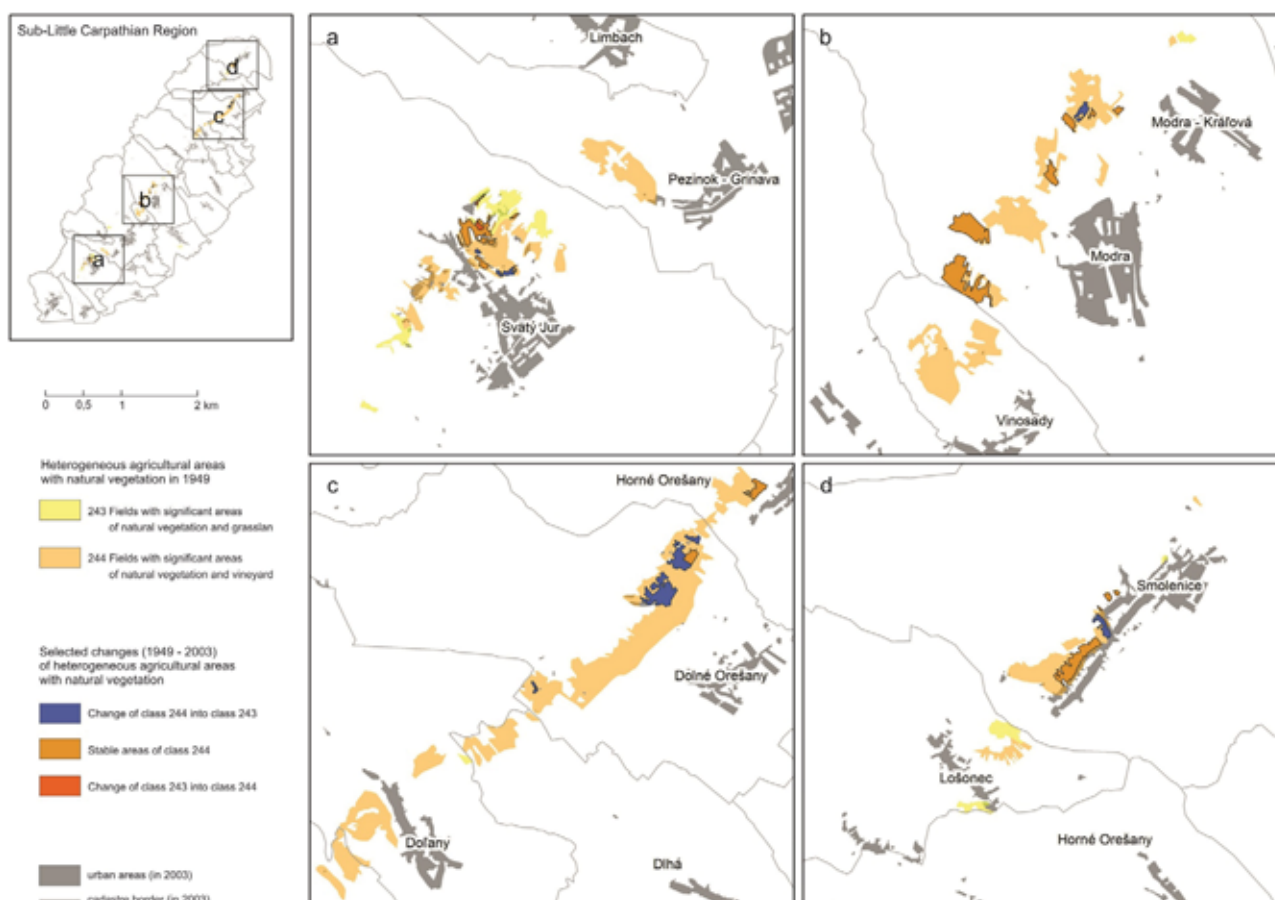
- 1989, which triggered principal changes in the country including those of geopolitical situation in Europe, transformation of the economic and social relationships within the society, privatisation, birth of the business sector, restitution of land and property and consequently private and public ownership;
- Establishment of the independent Slovak Republic in 1993 – a new position of Slovakia in a wider geopolitical system; changes in public and territorial administration;
- The 2004 Accession of the SR to the EU has re-oriented the society and it applied the principles of the European economic policy, respected the international conventions and the common policy in the field of the environment and nature conservation.

The second land cover map reflects the morphological landscape structure in the stage of society's transition and after about 10 years of independent Slovakia. Identified structures are both results of the concluded processes of the socialist era and manifestation of the emerging changes in spatial organization of the society. The socialist era, as well as transition period after 1989 boasted their particular socio-spatial dimensions projected in the structure of landscape elements. The essential social processes that determined changes in the spatial arrangement of landscape were asynchronous and regionally differentiated urbanization, industrialization, modernization and collectivisation of agriculture (*Faltan and Pašiak, 2004*). Mechanisms and incentives for such processes during socialism and in the current political and social conditions were of course different.

The vicinity of the capital Bratislava was a catalyser of changes in the study region and its effect still determines spatial structures of the whole territory (*Šveda, 2012*). The time span of 1949-2003 witnessed a distinct transformation of landscape and the originally farming character was replaced by urbanization and industrial boost of Bratislava with a modern agricultural production in its immediate vicinity. With respect to the character of settlement structures, composition of industries, commerce, services, logistic centres, transports and

distribution of farmsteads there are three spatial units (zones) in the studied territory (the transition between them is fluent and effects of the forest compound of the Little Carpathians were not considered):

- **The city and suburban zone:** urban districts (quarters) of Rača and Vajnory – high representation of industrial, commercial and service areas, extra increase of a multi-storey residential fabric in Rača, extensive fabric of single-family houses in Vajnory and shrinkage of agricultural land in both.
- **Suburban zone:** towns Svätý Jur, Pezinok, Modra and contiguous rural settlements in the suburban space of Bratislava as Budmerice – towns were subject to urbanization and industrialization, the character of the contiguous rural settlement has profoundly changed as in the majority of them modern residential quarters are being built; agricultural areas prevail in landscape.
- **Rural zone:** Rural settlements in the area stretching from Častá and Borová as far as Smolenice – the character of landscape is agricultural, the effect of Bratislava as a metropolis is not so strong and the expansion of settlements is out of its influence, new industrial areas are sporadic (some have been located here after centralist decisions made in the socialist era).



**Fig. 2:** Heterogeneous agricultural areas with natural vegetation in the Sub - Little Carpathian region (Source: all the figures are original figures prepared for the sake of the Project that is why to state the source)

Analysis of land cover changes made it possible to identify processes that took place during the relevant period in the territory of SLCR; it contributed to the recognition of causes and consequences and helped specify problems in the given territory. In general, cultural landscape becomes ever more fragmented, its important elements are often depreciated and some disappear altogether with the increasing anthropogenic pressure. The position of the heterogeneous agricultural areas with natural vegetation in the SLCR as one of the most valuable parts of the historical cultural landscape is presented on the *Fig. 2*.

#### 4.2.2. Character of settlements and demographic changes

The proportion of the urban population of the total Region's population in 1970 and in 1991 was 49% and 69% respectively (1991 was the year when the extensive phase of urbanization ended and the concentration of population in towns peaked). More than 46% of the Region's population lives currently in two urban settlements with a population more than 20,000 (Pezinok and Rača); about 20% of population lives in small urban settlements (with populations between 5 and 10 thousand) and other almost 30% of the population lives in rural municipalities with population totals oscillating between 1-5 thousand. In difference from almost all other towns in the country, the population increases in the hinterland of Bratislava due to emigration from the Capital and partially from the surrounding rural areas (*Podolák et al., 2011; Hanušin et al., 2012*). It is first of all the positive side of the inherently polarized development of rural settlements in Slovakia that manifests itself in the development of the rural settlements in the SLCR. Owing to their attractive situation and intensive suburbanization, villages in the hinterland of Bratislava are categorized as the ones with a positive development and population increase. Displacement of practically all members of the German ethnic group after 1945 was a serious intervention into the natural development of the population structure in the SLCR. However, in spite of this demographic loss, the population development in individual municipalities after WW II is characterized by an increase that last until 1970 with the exception of the smallest municipalities (Dlhá, Borová, Píla and Štefanová) where the population decreased. After the 1970s though, population decrease was also recorded in smaller and medium size municipalities (Píla, Štefanová, Borová, Dubová, Dlhá, Doľany and Vinosady) and big rural municipalities (Častá, Slovenský Grob, Chorvátsky Grob and Šenkvice) as well as in the town of Svätý Jur. Although the emigration from rural areas was reduced by the effect of the mass daily commuting to the Capital, the population

number was constantly decreasing in the 1970s and 1980s. On the other side, urban centres of the region (especially Pezinok and Modra) maintained the incrementing trend during the whole after-war period, while the population in all remaining rural municipalities started to increase only in 1991. Population increase is currently owed to immigration. For about 15 years now, the prevailing part of municipalities in our Region is in the intensive sub-urbanisation zone of Bratislava. Newcomers from Bratislava in the immediate hinterland of the Capital represent a third of all immigrants into some municipalities and more than a half (Svätý Jur, Chorvátsky Grob, and Limbach with extensive construction of new quarters of individual dwellings) in others (*Tab. 1*). The natural loss of population and the ageing process are mitigated by immigration of young families with children. The consequence is a relatively positive demographic development and the municipalities of the SLCR located in the hinterland of Bratislava are among the most intensively growing ones in Slovakia (*Podolák, 2010*). One problem, though, is that a considerable part of immigrants who in reality dwell in new quarters in the hinterland of the capital keep their permanent residence/domicile and/or retain the original dwelling in the city. In this way the rural municipalities are deprived of the corresponding taxes. Moreover, based on different economic, social, educational, cultural and other characteristics, there are contrasts between the natives and newcomers. Some of them may eventuate in conflicts in decision-making processes associated with the administration and management of the municipality life. Age structure is characterized by an above-average share of the population in pre-productive and post-productive age and a low representation of population in the productive age (all compared to the national average), it means that the population is ageing and the trend increases more rapidly in some municipalities than in other ones. The ethnic composition of the population was much more varied in the course of history than now. Germans, Croats, repatriates from Romania, Hungary and the former Yugoslavia enriched the region with their knowledge and experience in trades, commerce and vine growing. The ethnic structure of the population was homogenized first of all after the end of the WW II. Slovaks amounting to more than 97% prevail now in all municipalities in the Region in question. Hungarian and Czech minorities live in Pezinok, Rača and Vajnory. The current religious structure of population is also less varied than in the past. Arrival of German colonists increased the share of Evangelicals especially in towns. But now, 95% of Region's population adhere to the Roman Catholic religion, while 25-51% of population in Modra, Limbach and Píla declare their appurtenance to the Evangelical religion.

| Municipality        | Population 2011 | Area (ha)     | Population density (inh.ha-1) | Total population change 2001 - 2011 (year average in ‰) | Immigration from Bratislava (%) (*Trnava) | Change in number of new flats (2001 - 2008) (in ‰ to 2001) |
|---------------------|-----------------|---------------|-------------------------------|---|---|--|
| Borová              | 391             | 591           | 66                            | 17.2  | 16.3*                                     | 13.0   |
| Budmerice           | 2 228           | 3 008         | 74                            | 12.3  | 28.0                                      | 9.2  |
| Častá               | 2 163           | 3 523         | 61                            | 4.5   | 29.7                                      | 6.0  |
| Dlhá                | 441             | 1 181         | 37                            | 14.1  | 5.9*                                      | 7.6  |
| Doľany              | 1 045           | 2 255         | 46                            | 3.3   | 29.8                                      | 8.2  |
| Dolné Orešany       | 1 263           | 1 790         | 71                            | 6.9   | 10.4*                                     | 9.1  |
| Dubová              | 920             | 1 380         | 67                            | 6.7   | 29.7                                      | 6.8  |
| Horné Orešany       | 1 904           | 2 157         | 88                            | 5.0   | 10.4*                                     | 7.0  |
| Chorvátsky Grob     | 3 932           | 1 512         | 260                           | 85.0  | 66.6                                      | 94.8   |
| Limbach             | 1 730           | 1 537         | 113                           | 41.0  | 54.0                                      | 23.4   |
| Lošonec             | 524             | 2 371         | 22                            | 1.3   | 6.9*                                      | 8.6  |
| Modra               | 8 795           | 4 962         | 177                           | 3.0   | 28.5                                      | 7.4  |
| Pezinok             | 21 263          | 7 276         | 292                           | 0.9   | 31.0                                      | 9.7  |
| Píla                | 313             | 48            | 652                           | 18.1  | 23.5                                      | 13.6   |
| Rača                | 19 814          | 2 366         | 837                           | 1.8   | 0   | 5.0  |
| Slovenský Grob      | 2 192           | 1 017         | 216                           | 17.3  | 44.8                                      | 10.8   |
| Smolenice           | 3 374           | 2 897         | 116                           | 4.2   | 8.0*                                      | 10.6   |
| Svätý Jur           | 5 229           | 3 987         | 131                           | 12.5  | 51.5                                      | 7.2  |
| Šenkvice            | 4 522           | 2 481         | 182                           | 6.7   | 22.3                                      | 6.7  |
| Štefanová           | 323             | 672           | 48                            | - 4.5   | 12.0                                      | 4.5  |
| Vajnory             | 5 130           | 1 353         | 379                           | 29.1  | 0   | 21.7   |
| Viničné             | 2 079           | 962           | 216                           | 32.6  | 24.4                                      | 23.1   |
| Vinosady            | 1 216           | 515           | 236                           | 22.6  | 18.9                                      | 12.2   |
| Vištuk              | 1 338           | 2 004         | 67                            | - 0.8   | 33.7                                      | 4.0  |
| <b>TOTAL Region</b> | <b>92 129</b>   | <b>51 845</b> | <b>178</b>                    | <b>8.9</b>  | <b>39.1</b>                               | <b>6.8</b>   |

**Tab. 1:** Municipalities in SLCR and their basic demographic data (Data from the official documents of the Statistical Office of the Slovak Republic)

#### 4.2.3. Protection of cultural landscape in SLCR as perceived, evaluated and implemented by local administration representatives (in the light of the European Landscape Convention)

Although the Slovak Government adopted the *European Landscape Convention* (hereafter “Convention”) in 2005, it is evident that several crucial steps towards the implementation of its principles must be made. A survey applying structured interviews with mayors of municipalities was carried out. The aim was to estimate to what extent local administrations in SLCR implement the principles of the Convention in local planning. Partial aims were to find out:

- The level of knowledge and awareness concerning cultural landscape planning and the Convention possessed by the mayors.
- To what extent the Convention is included and/or implemented in local planning documents and which tools are considered the decisive ones.
- The limits and barriers faced by local administrations in landscape planning.
- The rate of locals’ interest in the conservation of valuable elements in cultural landscapes in general

and the rate of their participation in local landscape planning policy.

- Scope of participation of local authorities in the regional level of landscape planning issues.
- Differences, if any, between self-administrations in the region in the implementation of the Convention.

Mayors of all 24 municipalities responded. Between 25 June and 6 September 2012, 17 interviews with mayors of the SLCR were conducted, one community applied for the option to respond in writing. Results of the survey reflect the opinion of 75% of communal representatives in the SLCR Region.

The aim of the structured interviews with mayors was to compose a picture of the extent to which mayors are familiar with cultural landscape planning and the principles of the Convention. A survey of the national/regional policies and local development plans with regard to the application of the principles laid by the Convention, how these principles are implemented, and discussions with mayors of concerned municipalities made it possible to arrive at the following conclusions:

Mayors, who know what the Convention really means, constitute the minority. However, the majority of them knows about the issue of cultural landscape and considers

it important. The survey also points to the fact that the concept of cultural landscape is interpreted variously. It may be in the consequence of an inconsistent terminology applied, which in turn may cause confusion. Nevertheless the majority of mayors realized that the preparation of the territorial plan also requires the existence of a landscape-ecological plan. This idea was recently supported by the completion of landscape-ecological plans for the Administrative Regions of Bratislava and Trnava, because the villages were asked to comment them. As far as cultural landscape is concerned, the Administrative region of Bratislava made a notable step forward by the initiation of a regional cooperation when it signed the **Memorandum of Cooperation in Protection of Vineyards in the Sub Little Carpathian Region**. Although this Memorandum is a document that is not legally binding, it is perceived as a moral commitment of mayors. The most important and binding document is the territorial plan and a slight majority of mayors assert that this issue was sufficiently considered by the territorial plan.

Many municipalities want to prepare a new territorial plan although they do not have the funds ready yet. Lack of funds manifests in the behaviour of municipalities which change their territorial plans only in response to investor's or developer's impulses who also finance such change. This naturally can threaten the conservation of cultural landscapes. It was not proved that the **Programme of Economic and Social Development** would be perceived as an important strategic document although the issue appears in many of them.

(Micro)regional cooperation is rather perceived by mayors as a platform for exchange of experience than a structure for formal and binding cooperation in planning and problem-solving. Until these micro-regional structures do not start to cooperate more closely, landscape planning will be hardly realized on the regional level.

According to mayors, locals perfectly realize that they live in a valuable landscape. More than a half of the mayors sees some difference in perception of cultural landscape between the newcomers and natives. Newcomers in municipalities with high level of suburbanization appreciate the cultural landscape more than natives do. Meanwhile, the mayors of small villages believe that older people are more responsible than the young in questions of landscape protection. Although the majority of mayors believe that citizens have enough opportunities to intervene into local planning, few interventions in favour of cultural landscape protection in the broadest sense of the term emerged in the last decade. It seems that people in bigger municipalities are more

active than inhabitants of small municipalities. A positive example of local initiatives is the NGO "Naše Smolenice" ("Our Smolenice"), which actively conserves cultural landscapes and invites the local community to participate.

The majority of mayors would welcome a more active participation of population in activities connected with protection of cultural landscapes. Their opinion how to reach it differs. The majority of mayors wish the vineyards became the integral part of the monument zone so that it is possible to protect them adequately. They do not like the fact that the amended Law made it possible to transform vineyards to building plots although the area of worked vineyards diminishes. Mayors do not have real tools for the promotion and support of sustainable forms of viticulture as the exposed problems are too complicated and their competences limited.

#### 4.2.4. Visibility analysis

Visibility analysis is an important part of landscape perception and especially of the landscape image assessment. The aim of this part was to analyse the visual quality of views of selected settlements on the foothills of the Little Carpathians against the panorama of the viticultural and forest landscape. Conditions of visual perception on the side of visitors are determined by the physical status of cultural landscapes, georelief and land cover particularly of the urban fabric and vegetation. Composition of the physical status of landscape, visibility and viewshed of the dominant and representative elements modify the attractiveness, and the image of cultural landscape. Orthophotomaps, digital terrain models, data about forest and built-up areas (spatial frequency, elevation and the ZB GIS database) made it possible to process the Sub-Little Carpathian landscape structure into a 3D model and to analyse viewpoints of the urban and rural settlements with selected dominants. Viewpoints from access roads and the closest environs are important for visitors and tourists. The quality of views was graded pursuant to the visibility of selected dominants in stretches from 1,200 m to 5,000 m (*Fig. 3*). In the sense of the predefined conditions, the places of ideal views from access roads in selected settlements or points of view of the selected dominants (monuments) with the top visual quality in three towns serves as an efficient orientation for visitors and the population of the SLCR. The analysis of visibility and the viewshed, visual quality of settlements and landscape can be verified by a survey conducted among a representative sample of visitors and inhabitants especially from places of ideal/optimal views.

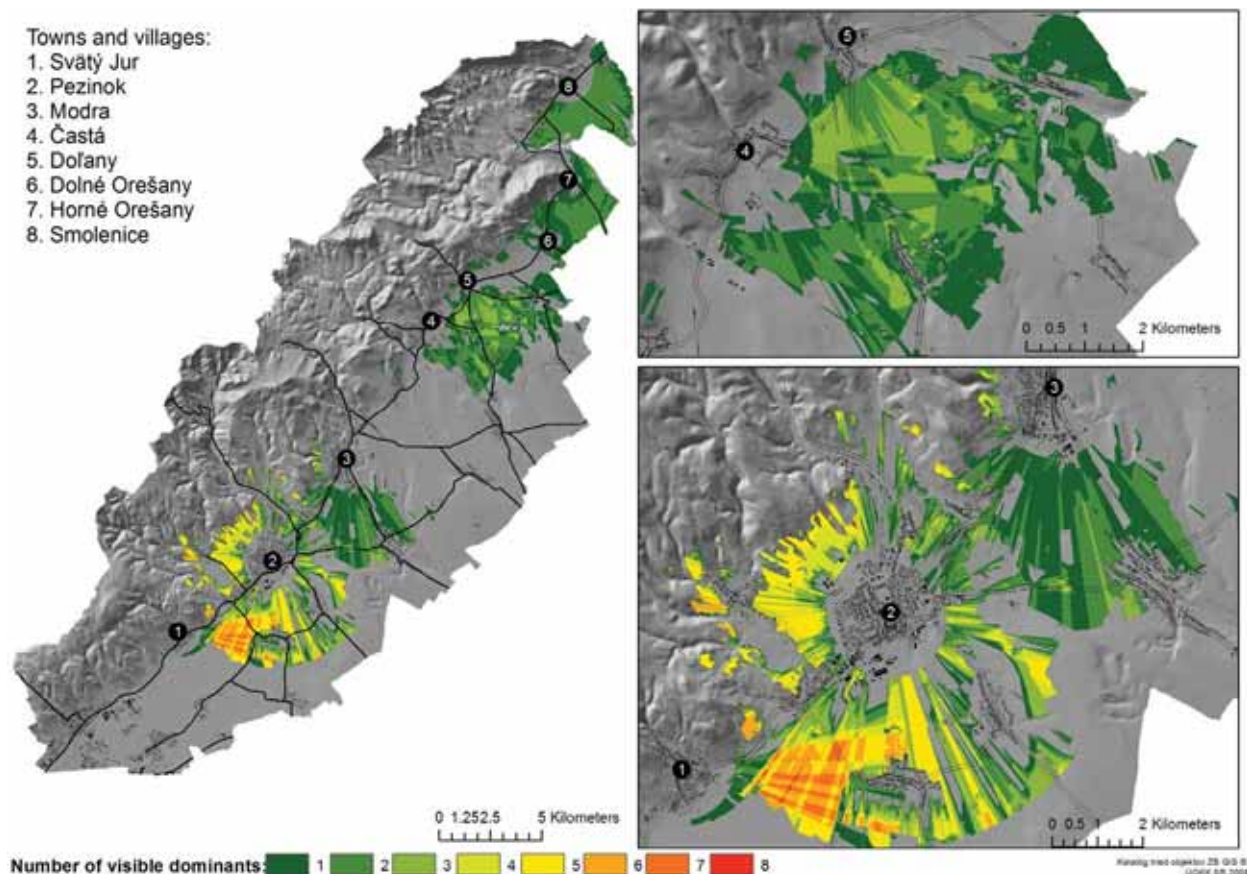


Fig. 3: Quality of views according to the visibility of dominants in selected settlements

## 5. Photo competition “My Landscape in Time”

The photo competition **My Landscape in Time** (hereafter PHC) was aimed at raising of public awareness of the locals in the SLCR for the historical context of their region by comparing twins of historical and recent photos of urban and rural environment of the region.

The body responsible for this activity was the VVMZ, a company from Bratislava, winner of the public procurement, which accomplished the project output in cooperation with the Institute of Geography, SAS.

The schedule of the PHC consisted of the following steps:

- setting of the status of the competition,
- the call for the collection and delivery of photos - published on the web page of the PHC<sup>3</sup>,
- organization of the exhibition of the selected (best) photos,
- competition and announcement of the best photos,
- preparation of the catalogue of presented photos,
- setting an interactive web page with the map of the region and the twins of photos.

The call for collection and delivery of the photos lasted from Jun 15 to August 15, 2012.

Some 58 twins of photos were delivered to organizers. The exhibition itself was held in the town of Modra (Municipal Cultural Centre) in September. Some 40 chosen twins of photos were exhibited at the exhibition (Fig. 4). The time span of the historical photos ranged from the very beginning of the 20<sup>th</sup> century until the early 1960s. The exhibition was advertised in the local newspaper **Modranske zvesti**<sup>4</sup>.

Photos from the biggest settlements of the region – Pezinok, Modra and Svätý Jur were most frequent. Unfortunately, photos of the majority of small municipalities and from rural landscapes were missing. The estimated number of visitors of the exhibition amounts to several hundred.

After the exhibition was closed, an interactive map of the region with the respective photos of individual localities has been added to the PHC web page.

This project output promoted one of the main project ideas – to remind the local people of the historical quality of the landscape and cityscape where they live and work.

<sup>3</sup> <http://www.mojakrajnavcase.sk/>

<sup>4</sup> [http://www.modra.sk/fileadmin/user\\_upload/MZ/zvesti/2012/2012\\_09.pdf](http://www.modra.sk/fileadmin/user_upload/MZ/zvesti/2012/2012_09.pdf)

Pezinok

Holubyho ulica, 1940

MOJA KRAJINA  
v čase



**Fig. 4:** Example of twin photos from the Photo competition “My Landscape in Time”

## 6. Conclusions

The position of a great part of the SLCR in the hinterland of Bratislava negatively impacts status and protection of the historical cultural landscape. The plus of such a location is the possibility to participate in the riches generated in the capital while on the other side minuses include the pressure of developers on attractive localities in settlements of the southern and central parts of the region and changes in the function of landscape, increased rates of traffic, altered demographic composition and other, which accompany the process of intensive suburbanization.

Different types of activities performed within the Project enabled to gain a spectrum of views on problems related to the historical cultural landscape. Each activity opened some problems. The study of terms revealed uncertainties and confusion in understanding of principal terms related to historical cultural landscape. Screening of relevant documents revealed an insufficient implementation of the historical cultural landscape issues into legislation and landscape management. In terms of land cover changes the historical cultural landscapes become ever more fragmented, their important elements are often depreciated and some disappear altogether with the increasing anthropogenic pressure. Based on the assessment of the historical cultural landscape, the greatest problems of the existing historical cultural landscape in the SLCR are building activities pursued often in valuable localities, like historical vineyards in the south and central parts of the SLCR resulting in damage, devaluation and displacing of the surviving remnants of historical cultural landscapes. Another problem is the disappearance of small-field farming landscape (with the exception of a certain part of vineyards). Devastation of some traditional localities (e.g. local spa in Svätý Jur, Pezinok, and partly also Harmónia), and of industrial heritage (e.g. paper mills, mills, forest railway) eroded the public awareness towards historical cultural landscapes, too. Regarding the limitation of the functionality of natural landscapes, the over-technicised (or “over - cultured” landscape) in some parts of the Podunajská Lowland – practically the entirely artificial river network, removed wetlands and dispersed greenery in landscape seem to be a problem. In difference from almost all other towns in the country, population increases in those in the hinterland of Bratislava due to the emigration from the Capital and partially from the surrounding rural hinterland. The big threat to the historical cultural landscape (mainly for the vineyards) is suburbanization mainly near Bratislava in the south-western parts of the SLCR. As revealed from the interviews, local mayors do not like the fact that the amended Law made it possible to transform vineyards to

building plots. In spite of the fact that the area of worked vineyards decreases they have no real tools for the promotion and support of sustainable forms of viticulture as the exposed problems are too complicated and their competences limited. Visual analysis which has been accomplished is supposed to be an efficient tool for management of perception qualities of the region. The photo competition **My Landscape in Time** was aimed at raising public awareness of the locals in the SLCR concerning the historical context of their region. This project output promoted one of the main project ideas – to remind the local people of the historical quality of the landscape and cityscape where they live and work.

Proposals to conserve and protect historical cultural landscapes in the SLCR should be based on the principle of sustainability (sustainable development) and philosophy of the European Landscape Convention.

A successful accomplishment of the key target and strategic aims requires the harmonization of several apparently contradicting issues as follows:

- A consequent protection of natural and cultural assets with simultaneous improvement of the quality of life of the region's population;
- Conservation of the region's original colour and improvement of infrastructure;
- Zoning of the area following the levels of protection, nature of its management, spatial and functional differentiation and its greater inherent integration in order to foster the links and relationships between the mountains, foothills and the lowland;
- Strengthening the inherent (as well as spiritual) integrity of the region, a sound local patriotism/awareness/pride of locals accompanied by the openness to the outside world;
- Conservation of the calm and authentic atmosphere in remote parts of the SLCR on the one side, accompanied by promotion of the region in order to increase the visiting rate, prosperity and economic competitiveness on the other.
- Respect for traditions on the one side and support to sensitive modernization on the other.

## Acknowledgements

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## 7. References

- Aitchison J. (1995): Cultural landscapes in Europe: a geographical perspective. In: von Droste B., Plachter H. and Rössler M. (Ed.): *Cultural Landscapes of Universal Value - Components of a Global Strategy*. Gustav Fischer Verlag, Jena, pp. 272-288.
- Falt'an, L., Pašiak, J. (Ed.) (2004): *Regionálny rozvoj Slovenska. Východiská a súčasný Stav* [Regional development of Slovakia. Starting points and state of art]. Sociologický ústav SAV, Bratislava. (in Slovak).
- Fowler P. J. (2001): Cultural landscapes: great concept, pity about the phrase. ICOMOS-UK, London, pp. 64-82.
- Hanušín, J., Huba, M., Ira, V., Podolák, P. (2012): Urban and Rural Cultural Landscape in the Functional Urban Region of Bratislava. In Cotella Giancarlo (Ed.): *Europa XXI, Vol. 22, Territorial Development and Cohesion in a Multi-Scalar Perspective*. Institute of Geography and Spatial Organization PAS, Warsaw, pp. 163 – 174.
- Hanušín, J., Cebecauerová, M., Huba, M., Ira, V., Lacika, J., Madajová, M., Oťaheľ, J., Podolák, P. (2013): *Kultúrna krajina podmalokarpatského regiónu* [Cultural Landscape of the Sub-Little Carpathian Region]. Geografický ústav SAV, Bratislava. (in Slovak).
- Hromádka, J. (1943): *Všeobecný zemepis Slovenska* [General Geography of Slovakia]. Slovenská akadémia vied a umení, Bratislava. (in Slovak).
- Huba, M. (Ed.) (1988): *Historické štruktúry krajiny* [Historical Structures of Landscape]. Ochrana prírody, spravodaj MV SZOPK, odborná príloha, Bratislava. (in Slovak).
- Jones, M. (2003): The concept of cultural landscape: discourse and narratives. In: Palang, H., Fry, G.(Ed): *Landscape interfaces: cultural heritage in changing landscapes*. Springer, pp. 21 – 52.
- Lukniš, M. (1977): *Geografia krajiny Jura pri Bratislave* [Geography of the Landscape of the Jur pri Bratislave]. Univerzita Komenského, Bratislava. (in Slovak).
- Podolák, P. (2010): *Kultúrna krajina Podmalokarpatského regiónu v kontexte sídelno-populačných zmien* [Cultural Landscape of the Sub-Little Carpathian Region in the Context of Population and Settlement Changes]. *Acta Environmentalica Universitatis Comenianae*, 2010, 18 (2), p. 112-120. (in Slovak).
- Podolák, P., Huba, M., Hanušín, J. (2011): *O stave a perspektívach Podmalokarpatskej kultúrnej krajiny* [On State and Perspectives of the Sub-Little Carpathian Cultural Landscape]. *Prognostické práce*, 2011, 3 (1), p. 5-25. (in Slovak).
- Sauer, C. (1963): The morphology of landscape. In Leighly, J. (Ed.): *Land and life: A selection of writings of Carl Ortwin Sauer*. University of California Press, Berkeley, pp. 315–350 (Original paper published in 1925).
- Šebo, D., Heidema, E., Ambrozy, A., Roest, E., Orgonik, B. (2012): *Prehľad národných/regionálnych politík a miestnych rozvojových plánov so zreteľom na uplatnenie zásad obsiahnutých v Európskom dohovore o krajine*. [Survey of National/Regional Policies and Local Development Plans with Regard to Implementation of Principles included in the European Landscape Convention]. VVMZ, s.r.o., Bratislava. (in Slovak).
- Štefunková, D., Dobrovodská, M., Kanka, R., Krnáčová, Z., Bezák, P., Boltižiar, M., David, S., Dramstad, W., Ugová, O., Fjellstad, W., Gajdoš, P., Halada, L., Hreško, J., Izakovičová, Z., Kalivoda, H., Kalivodová, E., Kenderessy, P., Krištín, A., Majzlan, O., Moyzeová, M., Petrovič, F., Stašiov, S., Šteffek, J., Vagačová, M., (2011): *Atraktivita malokarpatskej krajiny s dôrazom na historické agrárne štruktúry a biodiverzitu* [Attractiveness of the Little-Carpathian Landscape with Emphasis to Historical Agrarian Structures]. [CD/ROM]. Ústav krajinnej ekológie SAV, Bratislava. (in Slovak).
- Šveda, M. (2012): *Transformácia zázemia Bratislavy pod vplyvom suburbanizačných procesov* [Transformation of the Bratislava Hinterland under the Influence of Suburban Processes]. Univerzita Komenského, Prírodovedecká fakulta, Katedra regionálnej geografie, ochrany a plánovania krajiny, Bratislava. (thesis, in Slovak).

## V. BIOSPHERE RESERVE – PLATFORM TO COMMUNICATE NATURE PROTECTION WITH LOCAL DEVELOPMENT (Šumava Mts., Czech Republic)

*Jan Těšitel\**, *Drahomíra Kušová\**, *Vladimír Silovský\*\** and *Karel Matějka\*\*\**

*\* University of South Bohemia in České Budějovice, Faculty of Agriculture*

*\*\* Regional Development Agency Šumava*

*\*\*\* IDS, Praha*

### 1. Introduction

#### 1.1. Nature protection and local/regional development

In recent Central European discourse, nature protection is obviously interpreted as a competition related to multiple use of a landscape. And the critical challenge it faces can be seen in the difficulty to reconcile the conflict between relative new, worldwide, conservation paradigm and historically formed local land-use practices. The notion of conflict is historically rooted in a stereotype of thinking, presuming nature protection measures to be a-priori in contradiction with socioeconomic development (*e.g. Rolston, 1997*)<sup>5</sup>. For conservationists, commoditization of nature is something “dirty”, “not suitable” and thus not compatible with the nature protection ethos (*Roth, 2007*). On the other hand, nature protection has a poor image of a burden for regional socio-economic development, as obviously seen by the general public (*e.g. van Kooten and Wang, 1998; Těšitel et al., 2005; Paiders, 2007*).

History of nature protection has a different time span in particular European countries, following however a very similar scheme of development. In the line with a more general tendency of social development, manifested in gradual emergence of organised modernity (*Wagner, 1995*), nature protection, originally building on individual enthusiasm has been recently firmly embedded into a general legislative framework that makes it a part of a routine executed by state administration. On the one

hand, the process evidently led to the situation when nature protection has been officially recognised as a political issue and supposed to be guaranteed by the state. The same process, however, caused that nature protection lost its flexibility of individual's dimension. Being executed by state administration, nature protection has often adopted a position of an agent defending interests of centre in the process of negotiation of future development of particular locality. As such, it is obviously perceived as an extra-local force, an alien to local conditions (*Těšitel et al., 2006*).

When discussing social acceptance of activities executed by the state nature protection bodies, direct comparison with other similar structures of state administration, specialized in other fields of expertise but facing in fact situations of the same type (decisions, approvals, imposing fines, inspections, etc.), such as the Police of the Czech Republic, Czech Trade Inspection, Hygienic service, and others may be misleading. Activities of these institutions, though frequently criticized, are socially accepted as self-evident. Nature protection bodies are facing a more complex situation as they defend a standpoint that does not match the value system of a majority of the society. Their position is only poorly defined a-priori. Communication of nature protection interests in a locality depends, thus, to a great extent on a concrete situation and particular people who are engaged in the process of consensus building.

#### 1.2. UNESCO biosphere reserve

The concept of the new UNESCO biosphere reserves was articulated in the Seville Strategy and reinforced in the Madrid Declaration (*UNESCO 1996, 2001, 2002, 2008*). The concept is being applied worldwide. Currently, biosphere reserves form a network composed of 610 sites located in 117 countries<sup>6</sup>. Each of them is used to test in situ the chance of finding ways in which local people can live in peace with nature. Territories having a status of biosphere reserves are supposed to have four missions – protection of biological diversity, enabling research and education while supporting sustainable economic

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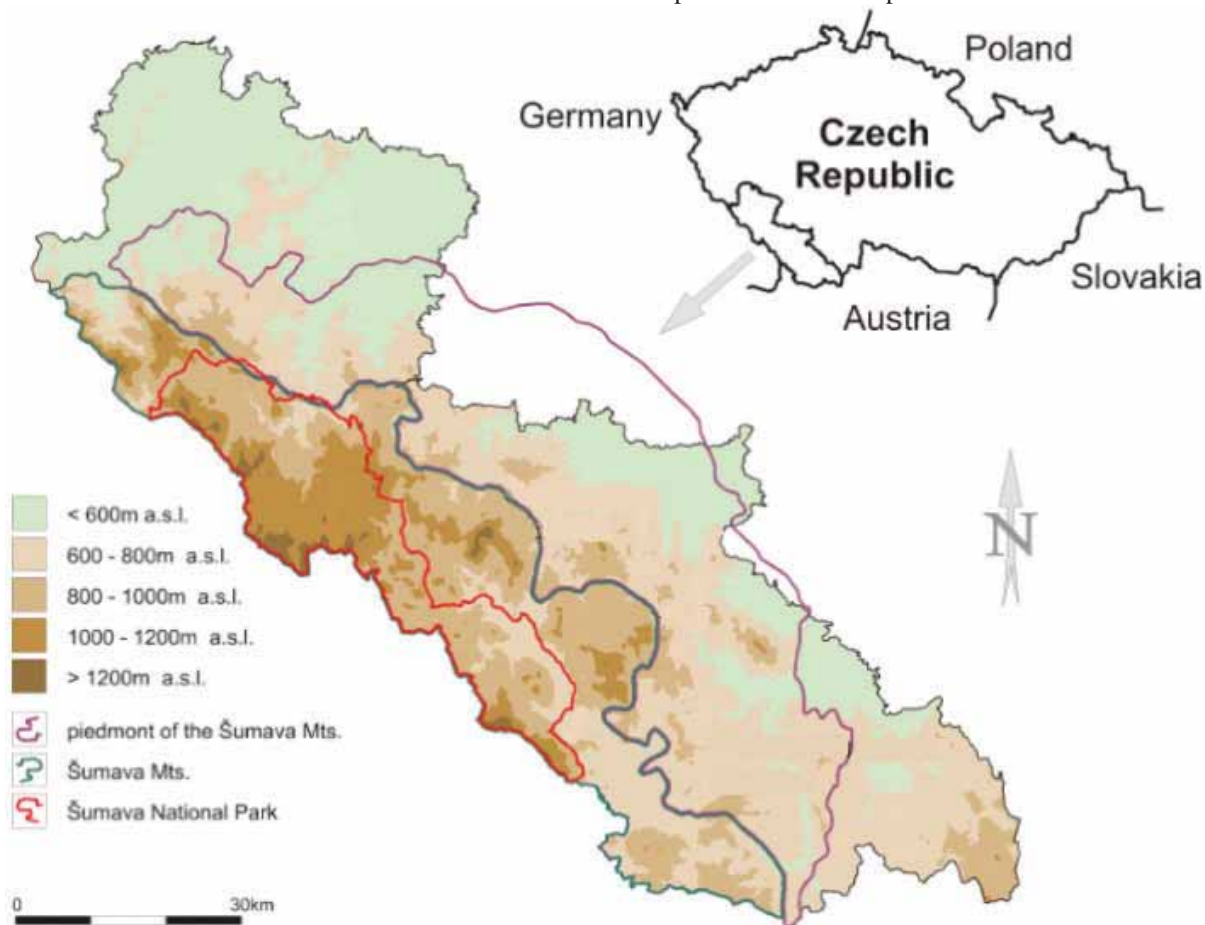
<sup>5</sup> The contradiction is sometimes taken as granted. To introduce at least one practical example, we could use the seminar organized by the Czech Ministry of Environment in autumn 2004 as an event accompanying the film festival titled “Ekofilm”, the festival devoted to problems of environment, annually organised in the towns of České Budějovice and Český Krumlov. Relation between nature protection and local socio-economic development was subject of discussion. As that organizers, representing official position of the top administrative body of the state nature protection, titled this event Nature protection contra socio-economic development of local communities, atmosphere of conflict was introduced since the very outset between representatives of nature protection and local mayors participating in the seminar.

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<sup>6</sup> <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/>

activities. Hence, biosphere reserves are called learning sites for sustainable development (*Kušová et al., 2009*). By promoting the idea that the management of each biosphere reserve should be essentially formulated as a ‘pact’ between the local population and the society as a whole, the concept invites all interested groups and sectors for participation in a partnership approach. Doing so it acknowledges the fact that the capacity (e.g. knowledge, power and resources) to solve the complex problem of implementing the biosphere reserve concept is often widely dispersed among a set of actors located on different scales (e.g. *Imperial, 1999*). Such an approach seems to fully reflect the general tendency of the last decades embodied in the gradual shift from government towards governance, where responsibility for policy-making spans public and private sectors, promoting thus an increased interest in networks as an organizational concept when conducting joint action (*Murdoch, 2000; Hajer, 2003a; Parto, 2005; Saxena, 2005; Dredge, 2006*), often supported by “soft law” such as conventions or agreements (*Lowe, 1988; Hajer, 2003; Tait and Lyall, 2004*). Biosphere reserves, fundamentally concerned with whole-of-landscape processes, across a variety of land tenures and uses can be thus seen as institutions appropriate for managing the social and cultural processes at multiple scales (*Amin and Thrift, 1994; Storper, 1997; Maskel and Malmberg, 1999; MacLeod, 2001; Brunckhorst, 2001*).

Biosphere reserve has not been recognized as a legal category of protected areas by the Czech environmental legislation. The Nature Conservation and Landscape Protection Act does not include biosphere reserve when defining six national protected area categories: national park, protected landscape area, national nature reserve, national nature monument, nature reserve and nature monument. Biosphere reserve is then perceived as an international label, stuck on an area already protected according to the national environmental legislation, that does not have any legal support (*Urban, 2006*) though institutionally associated with the administration of a protected landscape area, or national park. Lack of legal support makes an ambiguous situation which has its pros and cons. On the one hand, state administration has only limited space to manoeuvre, as well as it is only poorly motivated when trying to implement the concept into practice (*Kušová et al., 2008*). On the other hand, the a-priori undefined legal position opens space for local initiatives. In other words, such a situation can encourage building of local arrangements ready to take the chance of using the concept pragmatically for their purposes. Identification of consensual activities, i.e. activities “compatible” with the nature conservation interests and, at the same time, directly or indirectly contributing to socio-economic development of a territory, is suggested as an efficient way how to start the process of building a communication platform, the key element of the biosphere reserve concept.



**Fig. 1:** Map of the Šumava Mts.

## 2. Šumava as the pilot

The Šumava Mts. region is represented by a mountain range situated in the south west part of the Czech Republic (*Fig. 1 – Map of the Šumava Mts.; Fig. 2 – Šumava Mts. scenic view*). Thanks to its geographical position this area retained its natural character almost by the end of the first half of the 20<sup>th</sup> century. Settlements and natural resources exploitation, however, were there for centuries - particularly glass making and wood processing industries - and were leading to a long tradition of harmony between man and nature. The post war period of development was characterised by an ethnic shift in 1946. Establishing of the “iron curtain” and military training areas were other specific phenomena the territory was famous of. Location on the border separating the East and West European political alliances, distance from political-economic and cultural centres and a predominantly rural landscape were the main factors maintaining the region economically marginal. On the other hand, natural beauties of the area sustained and were preserved. As a result, large-scale nature protected areas were proclaimed there - the Šumava Protected Landscape Area in 1963 and the Šumava National Park in 1991. The extending quality of nature was internationally recognized as well internationally and since 1990, most of the mountain range has a statute of the UNESCO biosphere reserve. Political change that took place in Central and Eastern Europe in 1989 introduced a quite new situation. By this process the Šumava Mts. region was plunged immediately into European context having

thus a chance of ceasing to be marginal. Since the beginning of the nineties, tourism has been expected to become the most important factor forming the future of the region (*Těšitel et al., 1999*). Its form, intensity and spatial distribution within the territory have become a very important subject of discussion between nature protection bodies and local people.

In the case of the Šumava Mts., the biosphere reserve was institutionally associated with the Administration of National Park and Protected Landscape Area, i.e. with the state administration. Hence, the state administration was supposed to execute or at least to coordinate the execution of all the three biosphere reserve missions. The analysis of strong and weak points of the biosphere reserve institutional setting suggested, however, that the current institutional model ensures the protected area administration can actively participate in only three of four BR missions – biodiversity protection, education and (to some extent) scientific research. The fourth function – support to sustainable development through participation in activities improving the socio-economic standard of local communities – could be accomplished only partially and indirectly. Active participation of protected area representatives in development activities, though sustainable, proved to be hardly possible mainly due to the huge administrative barriers (*Kušová et al., 2008, 2008a*). An institutional model of biosphere reserves like this appeared then to be not an adequate basis for the building of an efficient communication platform between nature protection interests and aspirations of local inhabitants.



**Fig. 2:** Šumava Mts. scenic view

Consequently, there was an effort to establish a network-based model biosphere reserve in the territory emphasising the developmental mission of the concept that would include, besides nature protection bodies, as wide a range of stakeholders as possible, engaged in sustainable development of the region. The effort was financially supported by several projects, the one titled Conservation and Sustainable Use of Biodiversity through Sound Tourism Development in Biosphere Reserves in Central and Eastern Europe, funded by UNEP-GEF in the period 2005–2008, was the initiator.

The project was designed as an international one, addressing the situation in three biosphere reserves – Babia Góra in Poland, Aggtelek in Hungary and Šumava in the Czech Republic – with the aim to demonstrate the possibility of using sound forms of tourism as a tool for nature protection. In other words, it aimed to relate nature protection to local economic tourism-based activities. Doing so the project explicitly referred to the concept of UNESCO biosphere reserve as a platform of communication. Particular biosphere reserves involved in the project differed from each other in terms of a general milieu they operated in (national economy, legislative system, etc.), as well as in local situations, and so different activities were supposed to be done by the project in individual biosphere reserves. With the aim to introduce project activities that would match local needs as much as possible, local stakeholders were invited to participate since the phase of the project proposal formulation in all three biosphere reserves. It yielded two-fold benefits - project activities matched local needs at a reasonable level, and those who formulated them became engaged, feeling responsible for the realisation of particular activities.

In the Šumava case, the project was rephrased as “Sound Tourism – A Chance for the Šumava Biosphere Reserve”. When defining its activities, we followed the line of the whole project and cooperated closely with representatives of all local interest groups since the very beginning. The already existing Concept of Tourism Development in the Šumava Mts. region was used as the point of departure. Appropriate activities were commonly selected from it, discussed and prioritized. In the end, the project proposal emerged, that was composed of nine interlinked activities spanning from those having very practical outputs to activities producing strategic materials to be used in land-use planning (Kuřová *et al.*, 2008, 2009). “Establishment of a System of Cross Border Tourist Trails”, “Training of Local Guides” and “Identification of a Potential of the Šumava Biosphere Reserve for New Touristic Activities” can be seen as the most practical outputs of the project, having immediate impact on the territory. There were two activities within the project directly supporting sustainable forms of tourism – the “System of Financial Incentives”, having a form of local grant schemes aimed primarily at improving small scale touristic infrastructures, and the “System of Certification of Local Products and Services”. Among the strategic activities we can count the participation of the project in preparation of

the “Concept of Sustainable Tourism Development in the Šumava Region”, “Institutional Analysis of the Šumava Biosphere Reserve” and designing of an electronic “Database on Cultural Heritage of the Šumava Biosphere Reserve”. The designing of a platform for information exchange among local mayors, representatives of nature protection authorities and other key stakeholders became an inseparable part of the project, manifested in a series of round tables and training courses.

The participatory principle was applied as well in the project management. The project was supervised by the Local Steering Committee composed of local key stakeholders, mostly of those who participated in the project formulation. Hence, the project was under both control and auspices of the local community.

The scope of the project appeared to be too complex to be executed by one expert or institution. As a result, one of its main “social by-products” was the establishment of several social networks, partly overlapping, by use of which particular project activities were realized. Šumava National Park and Protected Landscape Area Administration, Regional Development Agency Šumava, Regional Environmental Centre Czech Republic, as well as NEBE Agency formed a core of these networks, coordinated by our team<sup>7</sup>. In parallel to forming social networks, a network of projects emerged around individual activities. In this manner, the UNEP-GEF project was linked with two INTERREG-type projects – PANet (Protected Areas Networks – Establishment and Management of Corridors, Networks and Cooperation) and Certification of Local Products in the Šumava Mts., pooling thus experts, know-how and financial resources with the aim to use them effectively (Těšitel *et al.*, 2007; Kuřová *et al.*, 2009).

The network of projects fulfilled two types of expectations – it produced outputs useful by themselves, and at the same time contributed substantially to the discussion on the notion of the biosphere reserve in the region, in fact introducing the term into strategic planning documents as well as into more practical discussions around tables.

The projects allowed us to conduct the analysis on the present biosphere reserve institutional model. However, there were neither financial sources nor time enough to continue in terms of implementation (institutionalization) of the suggested model in the Šumava Mts., which was supposed to be network-based. We only managed the first step – a Memorandum of Understanding was formulated between the Administration of the Šumava National Park and Protected Landscape Area and Šumava Regional Development Agency as to the cooperation in implementation of the biosphere reserve concept. The Memorandum, as it was formulated, represented an

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<sup>7</sup> At that time, we were affiliated with the Institute of Systems Biology and Ecology AS CR; nowadays we are staff members of the Faculty of Agriculture, University of South Bohemia.

efficient model of shared responsibility about the region in favour of it as each partner had its niche of activities which did not overlap with the niche of the other, but complemented it. The Memorandum however was not signed by parties, mainly due to the fact that the NP and PLA director of that time preferred to pursue its own vision of the biosphere reserve, which was based on the dominance of nature protection and massive financial support from the state and EU funds.

Since, the situation has changed. The vision of the state-supported biosphere reserve was not realised, due to many factors, lack of financial sources available and not-well-done management being two of them. Subsequently, the director National Park and Protected Landscape Area was replaced by a new one, more open to the idea of building local/regional-network-based communication platform, based on a partnership approach. In order not to lose the momentum, we started to discuss the concept of the UNESCO Biosphere reserve again with pertinent representatives on nature protection and reached the point when the concept started to be considered an acceptable tool for the NP and PLA Administration to facilitate their communication with the other stakeholders. As a result, the Memorandum was signed in June 2011 and the Regional Development Agency took initiative in implementing it, having the Administration of NP and PLA as a partner in this process.

The practical implementation of the concept started to be realised with support of the Vital Landscapes project, in terms of both expertise and financial support of particular activities. It appeared necessary to address two levels in this process. The first one is general, in fact external to the region. As the UNESCO biosphere reserve is a worldwide concept, it is a subject of international agreements, with the Czech Republic being one of the signatory countries. All the changes in structure or institutional affiliation had then to be approved, in the first step by the Czech MaB Committee and subsequently by UNESCO Paris. We passed both the steps and the new structure and affiliation were approved. The Czech MaB Committee even expressed appreciation, that we “test a new institutional model of BR, which is of high value not only for the region, but for the development of the concept”.

The second level addressed was the region itself, more precisely people living there. In fact, the local/regional level was the crucial one and was given most attention. The general goal was to get people engaged with the idea and motivate them to cooperate in its implementation.

### 3. Activities realised

As stated earlier the relationships between nature protection executed by state administration, and local development is mostly perceived in an ambiguous way. Communicating this issue among parties appeared thus to be an essential part of the process of defining or at least negotiating future development of the Šumava Mts. region. The concept of the UNESCO biosphere reserve

was used with the aim to facilitate and structure the communication. The idea to use it this way was officially introduced to local and regional stakeholders at a regional workshop.

The stereotype of thinking presuming an a-priori contradiction between nature protection and socio-economic development is mostly based on guessing, but rarely supported by objective data. To prevent the situation of personal speculations, prior to the workshop three analyses were conducted with the aim to provide an objective description of the situation in the region. The outputs were presented at the workshop where they made a very good input for the subsequent discussion.

#### 3.1. Spatial Analysis of Quality of Life

The analysis challenged the hypothesis that protected areas should be a-priori considered territories socially and economically handicapped, compared to unprotected areas. As quality of life has been acknowledged as one of the important indicators measuring sustainability, on local to national scales (*e.g. Collados and Duane, 1999; Wilson et al., 2007*) the concept was applied as a theoretical frame when defining appropriate variables for the analysis. Data provided by the Czech Statistical Institute were analysed to describe the status of quality of life of people living in the Šumava Biosphere Reserve and two other Czech biosphere reserves, Křivoklátsko a Třeboňsko, which were used as reference areas. We tested a question asking if areas being under a special regime of management due to nature protection do differ significantly from the surrounding areas, concerning the socio-economic milieu concerns. For the purpose of the analysis, the model areas were extended to include also municipalities that represent their “surroundings” – a 20-km zone around the studied protected areas. Municipalities of interest formed then three groups – lying completely within the protected areas (A); being in between, i.e. intersected by borders of protected areas (B); and those having their cadastral areas completely outside the protected areas (C) (*Fig. 3 - Model areas*).

The analysis was carried out in two steps. The first one was applied in all three model areas (Šumava, Třeboňsko and Křivoklátsko) and their surroundings (*Kušová et al., 2008a*). Following calculations were done:

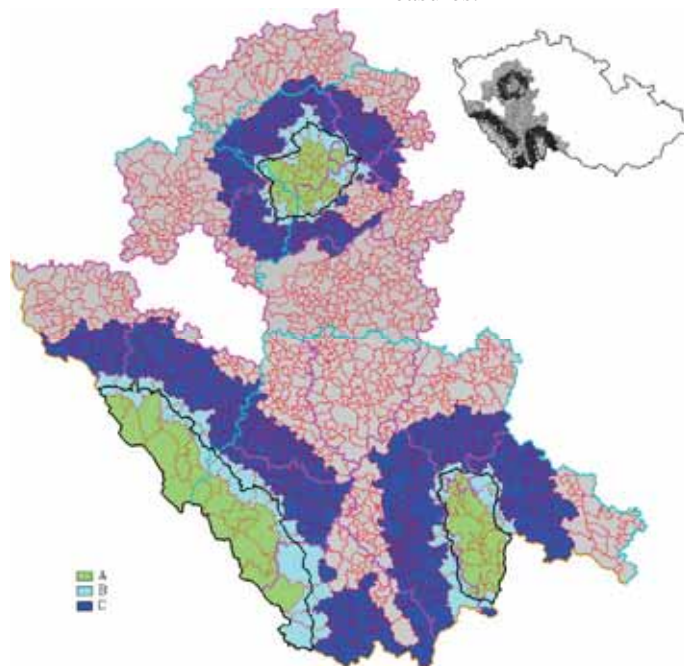
- Analysis of land use (area of estates in different categories, e.g. arable soils, orchards, grasslands, forest, built-up areas, etc.) was done by use of the principal component analysis (PCA) ordination. The first two ordination axes (PCA<sub>1</sub> and PCA<sub>2</sub>) were used. These axes account for 41% of variability of the data set. Two new parameters were calculated - “degree of urbanization”,  $URBA = PCA_1 + PCA_2$  - describing a gradient from rural to urbanized areas, and “share of agriculture”  $AGRI = PCA_1 - PCA_2$  - quantifying the position on gradient between prevailing forested areas to prevailing agricultural land. An arbitrary division of the space of these variables was then used as a basis for municipality classification. See for details in

<http://www.infodatasys.cz/vav2003/statistika/LandUse.htm>. The result is possible to interpret as distinguishing different parts of landscape according their environmental conditions.

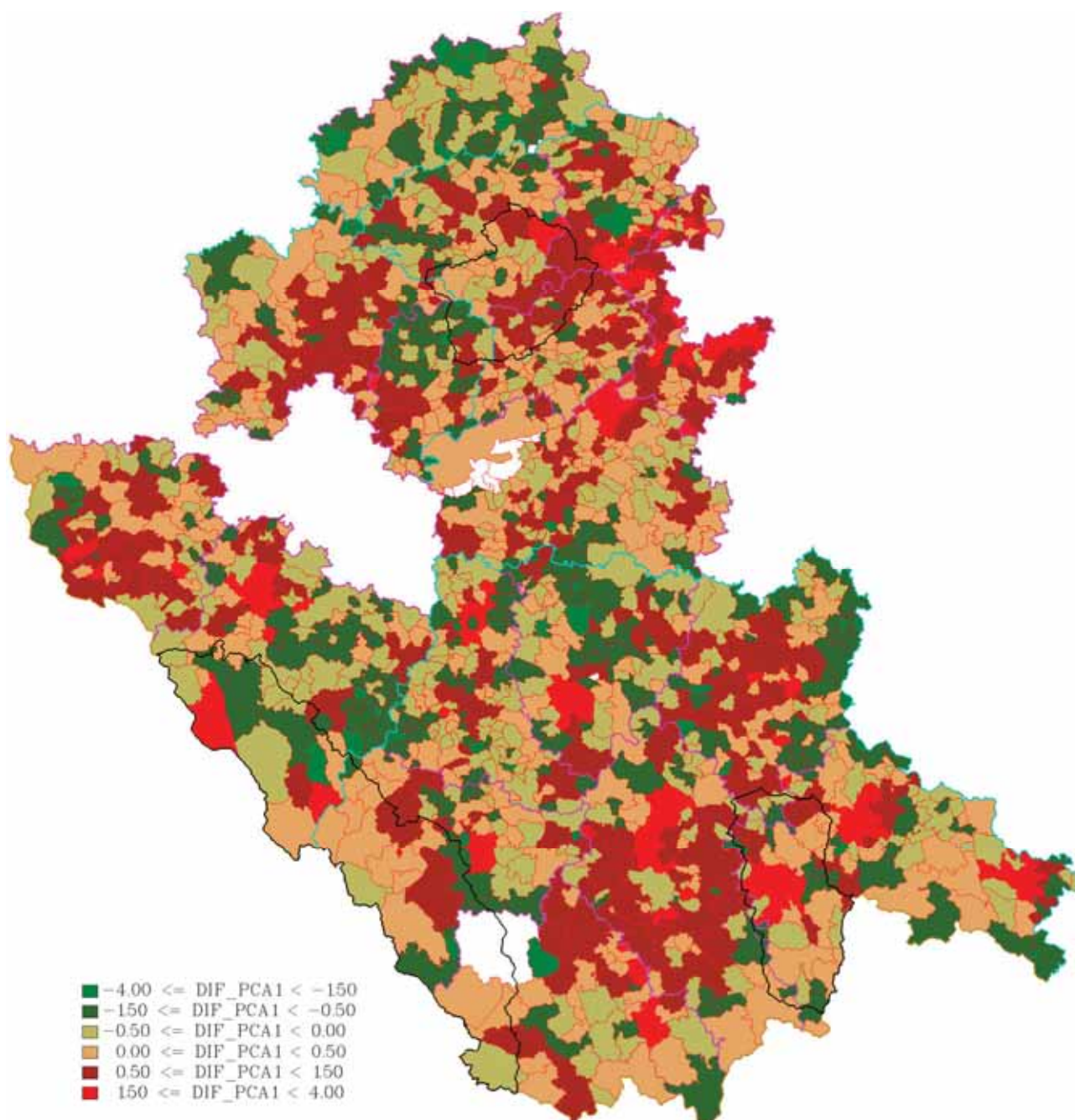
- The socioeconomic data were processed in an analogical way. One third of data variability was described by the first ordination axis ( $PCA_1$ ), while the second one ( $PCA_2$ ) accounted for the next eleven per cent. The further decline was smooth and continuous. Two factors appeared to explain the position of a municipality in the ordination space formed by the two first axes – level of education and age structure of the human population. Four arbitrary classes were identified on this basis. See <http://www.infodatasys.cz/vav2003/statistika/PCA.htm>. This analysis shows differences according to socio-economical features in the human population living in the landscape.
- The calculation of the normalized socioeconomic status was based on two principal presumptions. Firstly, we presumed that land use types were related to the nature conditions of a particular locality and the character of a municipality (formed by prevailing economic activity in both contemporary and historical perspectives), and secondly that the socioeconomic conditions were influenced by land use practices. The relationship between land use and socioeconomic parameters was searched for using correlations among several first axes for both above-mentioned ordinations. Thanks to the statistically significant dependence between the first ordination axis of the socioeconomic parameters ( $PCA_1$ ) and degree of urbanization (URBA), it was possible to use, instead of the score of the first ordination axis, the difference between its value and the value expected, which was calculated by use of the linear regression model (for  $i^{th}$  municipality):  $PCA_{1,i} = (a + b \text{ URBA}_i) + e_i$ , where

“a” and “b” are regression parameters and “e” is an error. Differences between real and expected values were then calculated as values of the variable  $DIF\_PCA_1 = PCA_1 - (a + b \text{ URBA})$ , that we called “normalized socioeconomic status” of a municipality. The higher its value, the better living conditions occur in a municipality. See [http://www.infodatasys.cz/vav2003/statistika/dif\\_pca1.htm](http://www.infodatasys.cz/vav2003/statistika/dif_pca1.htm) for details. The difference between values assigned to municipalities inside the protected areas and those lying outside, was tested by F-test in analysis of variance with a three-level factor: municipalities within the protected area (group A), on the border of this area (group B) and placed completely outside the protected area (group C). The difference proved to be statistically insignificant. Based on this we can suggest that protected areas do not differ from the “normal” surrounding areas as to socioeconomic conditions (Fig. 4 – *Normalized socioeconomic status – spatial distribution*).

The goal of the second analysis was to specify differences between municipalities in the protected areas and in their surroundings. This processing was concerned in the Šumava region only. The influence of the municipality location within zones A - B - C was tested by use of the redundancy analysis (RDA). To summarize briefly the outcomes of the analysis, we can say that the fact that a municipality is located in a protected area accounts for 7.9%. The sharp environmental distinction exists between protected areas (National park and PLA) in mountain region and surroundings in piedmonts (<http://www.infodatasys.cz/proj004/socekonregions2012.pdf>). Nevertheless, it can be explained by general geographical and environmental conditions (mountains versus piedmonts), rather than by the fact of application/non application of nature protection measures.



**Fig. 3:** Model areas



**Fig. 4:** Normalized socioeconomic status – spatial distribution

### 3.2. Content Analysis of Regional Periodicals

Application of The content analysis of regional periodicals to identify the medial image of the relationships between nature protection and local development was based on the general presumption that the press reacts to real-life problems, and is also an intermediary of social control over the institutions which are in charge of it. Medial image is then supposed to represent a reflection of expected interests of the public in particular problems (e.g. MacLuhan, 1991; DeFleur and Ball-Rokeach, 1996; Blažek, 1998). Quantitative analysis, identifying frequency, ratio and context of a pertinent messages in selected media, is obviously complemented by qualitative content analysis that offered a more

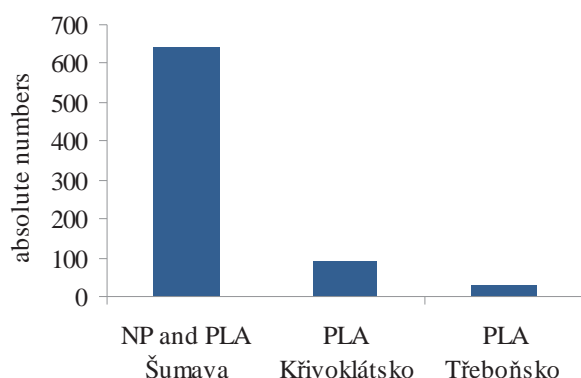
detailed interpretation of the process in which media constructed reality in relation to problems at hand (Disman, 1993). By use of this technique, comparative monitoring of the regional periodicals was carried out in the three above mentioned model areas – biosphere reserves Šumava, Křivoklátsko a Třeboňsko.

As context units for the content analysis the following regional daily newspapers were used: MF Dnes-Jižní Čechy, MF Dnes-Plzeňský kraj, MF Dnes-Střední Čechy, Českobudějovický deník, Českokrumlovský deník, Jindřichohradecký deník, Prachatický deník, Tábořský deník, Plzeňský deník, Klatovský deník, Kladenský deník, Rakovnický deník a Berounský deník. The period in which the mentioned articles were published was

January 2005 to October 2011. The main aim was to document the medial presentation of the relationship between nature protection and communal development. It was made operable by use of the following key words: Třeboňsko PLA, Křivoklátsko PLA, Šumava PLA Šumava NP, Biosphere Reserve, communities, enterprise, cooperation, support, coexistence and conflict. As recorded units entire articles were used that contained the name of particular PLA or NP together with at least one of the remaining key words.

The monitoring was done by use of the Anopress IT, the full-text database of newspaper articles. The medial image for particular model areas was identified, based on information primarily existing in the above mentioned periodicals. Quantitative analysis was complemented by the qualitative typology of news.

Altogether 767 contextual units were found for the whole analysed period. They appeared to be unevenly distributed among particular areas, similarly as they were in the previous study (Kušová *et al.*, 2009). The incidence of problems related to the Šumava NP is several times higher, compared to the remaining two areas, Křivoklátsko and Třeboňsko (Fig. 5 – *Number of articles matching the key words (2005 – 2011)*). The high number reflects the never-ending clashes related to the zoning of NP, the discussion on a new Act on the Šumava NP and the management of the bark-beetle calamity.



**Fig. 5:** Number of articles matching the key words (2005 – 2011)

The frequency analysis proved that nature protection is attributed by low importance in public space, with the exception represented by the Šumava National Park, where, furthermore, nature protection is associated primarily with negative connotations. In the other protected areas, examples of cooperation are largely publicised and published examples of disagreements concern the execution of administrative routine.

### 3.3. Interview with Key Informants

Key informant interviewing was applied with two aims. Firstly, by use of this method, we supposed to identify individual interpretations of particular cases of cooperation or conflicts between protected area administration and local communities in the Šumava Biosphere Reserve. Secondly, as mentioned earlier, the

Memorandum of Understanding between the Administration of the Šumava NP and PLA and Regional Development Agency Šumava was signed in July 2011. By signing it, both parties formed, at least potentially, a regional platform where interests of nature protection and regional development could be communicated. Therefore, expectations of key personalities which role this platform could play in the region, and their willingness to participate in forming and keeping it, were surveyed as well. The survey had a form of semi-standardised interviews conducted in the period of September to December 2011 on the territory of the Šumava NP and PLA. Thirty five key personalities were addressed, 18 mayors of local municipalities, 10 entrepreneurs in tourism, and agriculture, 3 representatives of NP and PLA Administration, 2 of the Šumava Regional Development Agency, and 2 experts from local museums.

Based on the information gained we can state that, the NP and PLA Administration was perceived as an institution having a great potential to support development of the region which, however, was seldom used in favour of the region. Mayors as well as entrepreneurs appreciated activities the Administration did for visitors to the region (information centres, information materials and educational trails). These activities, however, were seen as not directly contributing to the economy of the region itself. Communication of the Administration with local people (and municipalities) was attributed by a low rate. Administration was seen as a self-oriented institution, the one behaving mostly in a directive manner, applying an unequal approach to particular parties, and having in fact low empathy with the region. The Biosphere reserve as a permanent and facilitated communication platform is then seen as a chance to break the stereotype “by levelling all partners and bringing them to round table”. In parallel, the biosphere reserve was considered to be potentially a very good trade mark to be used in the marketing of the Šumava Mts. region as a whole.

### 3.4. Regional Workshop with Key Stakeholders

The workshop with local and regional stakeholders was aimed to “officially kick-off” the regional communication platform in the Šumava Mts. region. It took place in the township of Stachy in February 2012. The agenda was simple - to discuss the potential of the Regional Development Agency Šumava as the “facilitator” of regional communication among interested groups, including nature protection bodies”. Ultimately, the discussion, supported by outputs of the previously conducted analyses, resulted in the identification of the most adequate activities, the biosphere reserve should start with. In other words, the niche of the biosphere reserve in local and regional development was suggested.

#### 3.4.1. Coordination of projects

As a matter of fact during the last twenty years we have been witnessing a lot of locality-focused activities in the

Šumava Mts. region realised by particular subjects of varied nature (municipalities, micro-regions, local action groups, associations, Regional Development Agency, as well as state administration in nature protection, etc.). In short, there has been a lot of interesting and relevant activities going on, but one obviously running without taking the others into account, sometimes even interfering with them, at the expense of time and money invested. In parallel, the opinion prevailed among participants of the workshop that support of already running activities to continue in a sustainable way is more important than generating new activities at any costs. The activities are frequently attributed with the notion of “tradition”, if run for a reasonable long time, the notion which is highly searched for and appreciated by visitors to the region. Given these facts, coordination of already running local projects was suggested as the initial activity the biosphere reserve should start with. In this context, two projects attracted the attention – keeping the Šumava-wide network of cross-country skiing trails (White trail), and running the system of certification of local products and services (Šumava original product).

### 3.4.2. Raising awareness on home-landscape

As stated earlier, tourism was identified as the key factor to drive development of the Šumava Mts. region as early as at the beginning of the 1990ies. Since, the cultural landscape there has been heavily promoted as a space designated primarily to host relaxation, leisure, sport and

touristic activities enjoyed by the urban population coming from the towns nearby. Hence, the Šumava landscape, result of a centuries-long cultivation done by local people, became gradually perceived as a bare coulisse for tourism-related activities, not only by visitors to the region, but by local people themselves. Therefore, raising awareness among locals on the way how present landscape has emerged as a result of everyday routine and hard work of our ancestors was identified as a very important, if not crucial activity to be realised in order to strengthen the bond of people to the place they live – and the perfect activity for the biosphere reserve.

As we were aware of the fact, that place attachment builds on emotions rather than on rational discourse (*e.g. Rollo, 1993*), and that images are better in this context than words, we organised a photo-competition on the theme “The place I live – history and presence” for pupils of grammar schools situated on the territory of the Šumava Biosphere Reserve. The participants were asked to compare historical images (photo, postcard, ..) of a place and people working there with a present one he/she produced himself/herself on the same place depicting the same activity (*Fig. 6 – photos-example*). Comments on how the place and activity changed during the time and reasons why they think it had happened was also a part of the material participants were supposed to produce. This activity appeared in the end to be more interesting for children from schools located in small municipalities, than for children living in towns.



**Fig. 6:** Photos-example

Place attachment is supposed to be closely related to symbolic aspects of a place (e.g. Černoušek, 1986). Hence, building a symbolic representation of a landscape, its image in human minds, is another way to raise awareness on the place. In this context, the idea of a logo symbolising the Šumava Biosphere Reserve appeared and subsequently was realised. The logo was designed by a combination of the already existing logo of the Šumava Mts. used by the destination management of the region complemented with the headline “Šumava Biosphere Reserve” (Fig. 7 – Logo of the Šumava biosphere reserve). Relating the biosphere reserve with the already known tourism-related symbol was supposed to facilitate acceptance of the new concept in the regional context.



Fig. 7: Logo of the Šumava biosphere reserve



Fig. 8: Regional newspaper Doma na Šumavě

### 3.4.3. Promotion and information exchange

To define an appropriate method or tool to be used in addressing the desired target group(s) can be considered the key point when designing any communication strategy, and so we aimed at the promotion of the biosphere reserve. Given the fact that the intention was to address a relatively broad array of actors, we used the combination of a more traditional method with one using the advantage of the Internet. The newspaper “Doma na Šumavě”, regularly issued by the Regional Development Agency twice a year and distributed free of charge within the territory, familiar to people living there, was used to facilitate the information flow addressing the “conservative” part of the population (Fig. 8 – Regional newspaper Doma na Šumavě). The campaign was launched by use of special ad hoc attachment to the two issues of the newspaper - Summer and Winter 2012. To finance the attachments the model of shared costs was applied composed of contributions granted by the National Park Administration, Regional Development Agency and Vital Landscapes project. The scheme is expected to continue in the future as well forming thus one of the important permanent links between both partners responsible for implementing the biosphere reserve.



In nowadays society it is normal that people use IT technologies to communicate. Demand to have a web representation of the biosphere reserve, articulated at the workshop, was then not surprising. The idea was realised in June 2012 when the new webpage appeared (*www.br-sumava.cz* – see Fig. 9). A two-stage process is applied in building and using the webpage. In the current stage of its

existence the webpage supports a one-way information flow – it provides the interested public with information on the activities the biosphere reserve realises. In the next step, the webpage is supposed to serve as a platform of information exchange among interested parties, e.g. when new project proposals will be formulated.

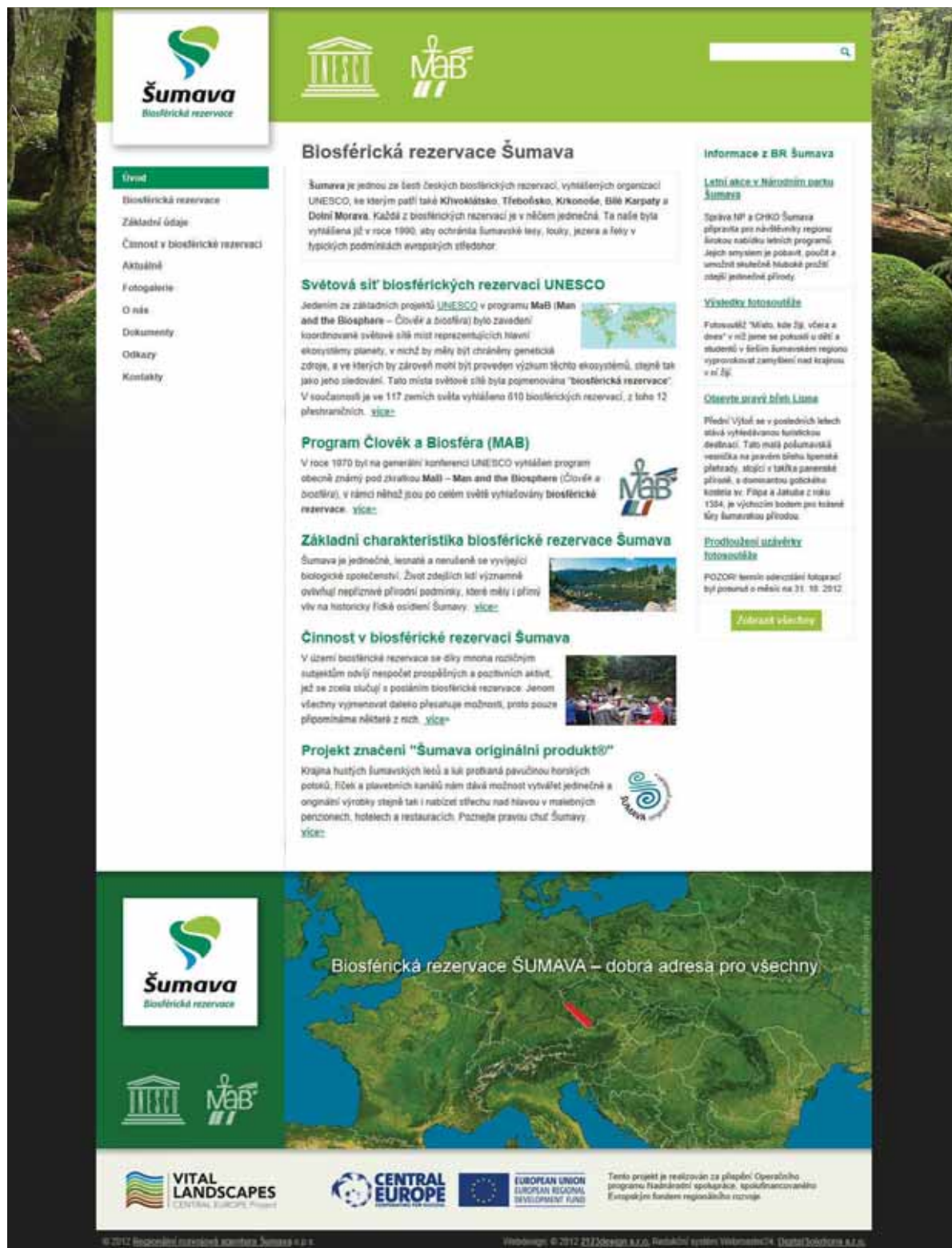


Fig. 9: Website of the Šumava biosphere reserve

## 4. Conclusions

Building a communication platform is a run for a long distance, as it needs to be based on trust shared among participants. It is a process, not an action. In the Šumava Mts. the process started as early as in 2005. The project Vital Landscape represents one of the subsequent steps in it. Its contribution can be seen on two levels.

Firstly, within the project, the communication platform was institutionalized by use of the concept of the UNESCO biosphere reserve. Hence, the territorial model of management was introduced, based on the principle of shared responsibility for the given territory. It introduced a quite new, not easy, situation for both National Park and Protected Area Administration and Regional Development Agency in terms of a challenge their employees are facing, namely the problem how to identify themselves with the newly established institution, activities which partly overlap with activities traditionally executed by either NPS or RDAS. The introduction of the new institutional setting caused that the biosphere reserve, originally associated with the Administration of NP and PLA, was transferred to form a part of the organisational structure of the RDAS. Under this scheme, the Administration of NP “lost” its leading role and became a partner. Furthermore, developmental activities became more pronounced, compared to the previous model. Fortunately, the concept of the biosphere reserve appeared to have the potential to facilitate the situation. The concept was invented within the nature protection sphere as one of modern approaches, nature conservation has adopted recently. As it is in fact based on the strategy of “conservation by use” the concept could be considered as a promotion of participatory policy in protected areas management. Referring to the concept allowed representatives of state nature protection to better manage the new role of a partner and “not to lose their face” when discussing “developmental issues” with other stakeholders.

As mentioned earlier, Šumava Mts. is a very active territory in terms of local to regional initiatives realised by a broad range of actors with the aim to commoditize landscape heritage. As well, networks of interest linking particular municipalities and businesses started to be gradually built since the 1990ies, when the general political situation changed. The statement saying, that the project Vital Landscapes initiated network building within the area would thus hardly be justified. However, the project initiated the permanent network/communication platform reaching a regional scale that involves key stakeholders, including representatives of state nature protection as partners, which can be seen as the main contribution of the project.

The official establishment of the platform appeared to be the condition necessary, but not sufficient. In order to put

it into real life, the idea (the institution) had to be actively publicised. The association of the notion and the logo of biosphere reserve with concrete activities appreciated by local/regional people proved to be the most efficient approach how to do it. Therefore, concrete activities were identified by the stakeholders themselves at the regional workshop, and subsequently realised – coordination of particular projects having attributes suitable for being activities of the biosphere reserve (region-wide, multiple partnership), building a webpage as an electronic complement communication platform, and raising awareness on the region and the idea of the biosphere reserve.

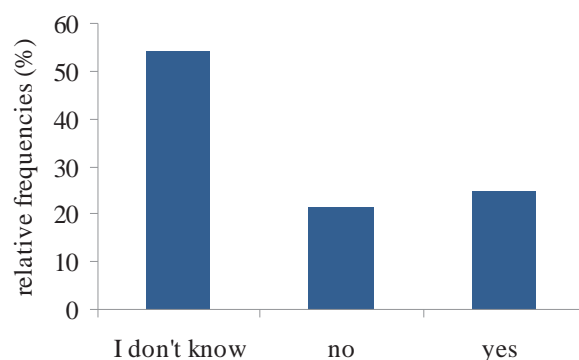


Fig. 10: Awareness of the biosphere reserve

Each of these activities addressed particular target groups. As they were realised only recently, there are not yet reliable data which would enable us to correctly evaluate their impact to the territory. At this moment we only have the data depicting the awareness of the public on the existence of the biosphere reserve (Fig. 10 – Awareness on the biosphere reserve). The data were gained in 2012, defining the reference point that could be used in future evaluation of the role of the biosphere reserve in the territory. Based on the current figures it is evident that the situation when the biosphere reserve is recognised by the region, is still far away. Nevertheless, thanks to the activities realised, the idea of the biosphere reserve has already been incorporated into strategic landscape planning documents of the South Bohemia Region and the actually prepared Management Plan of the Šumava National Park. We are, therefore, convinced that all the activities can be seen in terms of “seedlings” that can grow if the initial activities of the biosphere reserve will continue in the future, when the life time of the Vital Landscape project will be over and hence its financial support. Therefore, we try both to embedd more firmly the biosphere reserve into the institutional structure of the Regional Development Agency and to simultaneously to initiate the preparation of follow-projects, together with all the stakeholders engaged in keeping the platform alive.

## Acknowledgements

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## 5. References

- Amin, A., Thrift, N. (1994): Living in the global. In: Amin A., Thrift N. (Eds.): Globalisation, institutions and regional development in Europe. Oxford University Press, Oxford.
- Blažek, B. (1998): Venkov, města, média [Countryside, cities, media]. Praha, SLON, 362 pp. (in Czech).
- Brunckhorst, D. (2001): Building capital through bioregional planning and biosphere reserve. Ethics in Science and Environmental Politics, p. 19-32.
- Collados, C., Duane, T. P. (1999). Natural capital and quality of life: a model for valuating the sustainability of alternative regional development paths. Ecological Economics, 30 (3), p. 441-460.
- Černoušek, M. (1986): Psychologie životního prostředí [Psychology of the environment]. Horizont, Praha, (in Czech).
- DeFleur, M., Ball-Rokeach, S. (1996): Teorie masové komunikace [Theory of mass communication]. Praha, Karolinum, 363 pp. (in Czech).
- Disman, M. (1993): Jak se vyrábí sociologická znalost [Way to produce a sociological knowledge]. Karolinum, Praha, 374 pp. (in Czech).
- Dredge, D. (2006): Policy networks and the local organisation of tourism. Tourism Management, 27, p. 269-280.
- Hajer, M. (2003): Policy without polity? Policy analysis and the institutional void. Policy Sciences, 36, p. 175-195.
- Hajer, M. (2003 a): A frame in the fields: policymaking and the reinvention of politics. In: Hajer, M., Wagenaar, W. (Eds.): Deliberative Policy Analysis, Cambridge University Press, Cambridge.
- Imperial, M. T. (1999): Institutional Analysis and Ecosystem-Based Management: The Institutional Analysis and Development Framework. Environmental Management, 24 (4), p. 449-465.
- Kušová, D., Těšitel, J., Bartoš, M. (2008): Biosphere reserves - learning sites of sustainable development? Silva Gabreta, Vimperk, 14 (3), p. 221-234.
- Kušová, D., Těšitel, J., Matějka, K., Bartoš, M. (2008a): Biosphere reserves – an attempt to form sustainable landscape (A case study of three biosphere reserves in the Czech Republic). Landscape and Urban Planning, 84 (1), p. 187-197.
- Kušová, D., Těšitel, J., Bartoš, M. (2009): Biosphere reserves as learning sites for sustainable development (a case study of the Czech Republic). In: Elling, L. R. (Ed.): Social Development. Nova Publishing, New York, pp. 87-124.
- Lowe, A. (1988): Small Hotel Survival: An inductive approach. The International Journal of Hospitality Management, 7 (3), p. 197-223.
- MacLeod, G. (2001): New Regionalism reconsidered: Globalisation, regulation and the recasting of political economic space. International Journal of Urban and Regional Research, 25, p. 804-829.
- MacLuhan, M. (1991): Jak rozumět médiím. Extenze člověka [To understand media. Human dimension]. Praha, Odeon, 348 pp. (in Czech).
- Maskell, P., Malmberg, A. (1999): Localised Learning and Industrial Competitiveness. Cambridge Journal of Economics, 23 (2), p. 167-186.
- Murdoch, J. (2000): Networks – a new paradigm of rural development? Journal of Rural Studies, 16, p. 407-419.
- Paiders, J. (2007): How nature protection restrictions affect economic development? An example of municipalities from the North Vidzeme Biosphere Reserve, Latvia. Working paper, University of Latvia.
- Parto, S. (2005): “Good” Governance and Policy Analysis: What of Institutions?. Maastricht Economic Research Institute on Innovation and Technology. MERIT-Infonomics Research Memorandum series 2005-001. Patton, M. Q. (2002): Qualitative Research and Evaluation Methods. Sage Publishers, London.
- Rollo, V. (1993): Emocionalita a racionalita [Emotionality and rationality]. SLON Publishers, Praha, (in Czech).
- Rolston, H. (1997): Feeding People versus Saving Nature. In: Gottlieb, R. S. (Ed.): The Ecological Community. Routledge, New York.
- Roth, S. (2007): Summary of Outcomes of the Workshop on NATURA 2000 and Tourism. Bonn: Ecological Tourism Europe (ETE).
- Saxena, G. (2005): Relationships, networks and the learning regions: case evidence from the Peak District National Park. Tourism Management, 26, p. 277-289.
- Storper, M. (1997): The regional world: Territorial development in a global economy. Guilford Press, London.
- Tait, J., Lyall, C. (2004): A New Mode of Governance for Science, Technology, Risk and the Environment? Innogen Working Paper 17 (November 2004).

- Těšitel, J., Kušová, D., Bartoš, M. (1999): Non marginal parameters of marginal areas. *Ekológia* (Bratislava), 18 (2), p. 39–46.
- Těšitel, J., Kušová, D., Matějka, K., Bartoš, M. (2005): Protected landscape areas and regional development (the case of the Czech Republic). In: Florianczyk, Z., Czapiewski, K. (Eds.): *Rural Development Capacity in Carpathian Europe*, European Rural Development Network, Institute of Agricultural and Food Economics, Institute of Geography and Spatial Organization, Polish Academy of Science, Warsaw, p. 113–126.
- Těšitel, J., Kušová, D., Bartoš, M. (2006): Rural areas development – local needs and external forces. In: Florianczyk, Z., Czapiewski, K. (Eds.): *Endogenous Factors Stimulation Rural Development*. European Rural Development Network, Institute of Agricultural and Food Economics, Institute of Geography and Spatial Organization, Polish Academy of Science, Warsaw, p. 87-97.
- Těšitel, J., Kušová, D., Bartoš, M. (2007): Šetrný turismus v biosférických rezervacích – nástroj formování sítí spolupráce: případová studie Biosférické rezervace Šumava. [Sound tourism in biosphere reserves – a tool to form a network of cooperation: a case study of the Šumava Biosphere Reserve]. Government of Carinthia, Klagenfurt, (in Czech).
- UNESCO (1996): *Biosphere Reserves: The Seville Strategy and the Statutory Framework of the World Network*. UNESCO, Paris.
- UNESCO (2001): MAB Report Series No. 69. Seville+5 International Meeting of Experts in Pamplona (Spain, 2000). Proceedings. UNESCO, Paris.
- UNESCO (2002): *Biosphere reserves: Special places for people and nature*. UNESCO, Paris.
- UNESCO (2008): *The Madrid Declaration*. UNESCO, Paris.
- Vayda, A. P. (1969): *Environment and cultural behavior; ecological studies in cultural anthropology*. Natural History Press, Garden City (NY).
- Urban, F. (2006): *Institutional and management frameworks in the Biosphere Reserve Šumava*. ETE, Bonn.
- Van Kooten, C. G., Wang, S. (1998): Estimating Economic Costs of Nature Protection: British Columbia's Forest Regulations. *Canadian Public Policy – Analyse De Politiques*, 24 (2), p. 63-71.
- Wagner, P. (1995): *Soziologie der Moderne [Sociology of modernity]*. Campus Verlag, Frankfurt am Main.
- Wilson, J., Tyedmers, P., Pelot, R. (2007). Contrasting and comparing sustainable development indicator metrics. *Ecological Indicators*, 7 (2), p. 299-314.

## VI. VISUALISATION AND LANDSCAPE MODELLING TO UNDERSTAND LANDSCAPES IN TRANSITION (Landscape management of “Nagyberek”, Hungary)

*Sándor Jombach\*, László Kollányi\*, Áron Szabó\*, Krisztina Filepné Kovács\*,  
Gergő Gábor Nagy\*, József László Molnár\*, Tádé Dániel Tóth\*, Veronika Magyar\*,  
Zsolt Szilvácsku\*, Balázs Duray\*\*, Ágnes Sallay\*, István Valánszki\* and Attila Csemez\**

*\* Corvinus University of Budapest, Department of Landscape Planning and Regional Development*

*\*\* Hungarian Academy of Sciences, Research Centre for Economic and Regional Studies,  
Institute for Regional Studies, Alföld Research Department*

### 1. Introduction

The main role of landscape visualisation and modelling was to discuss landscape characteristics and landscape development with stakeholders of landscape management. Our project aim was to analyse, to apply, to test and to present the visualisation of landscape and its changes in general and in practice, so that the inhabitants of a pilot landscape the international partnership could experience results as well. Visualisation of landscape elements, modelling of land use and its transformations were prepared by diverse technical solutions in Nagyberek pilot area and results were presented by “Vital Berek” website. Exchange of know-how about the application of visualisation tools, with special focus on the integration of locals’ activity in landscape value management and involvement of stakeholders in decision-support procedure, were key activities.

#### 1.1. Visualisation as a developing tool

For ages, visualisation has been one of the simplest tools that people use to understand their environment. A professional explanation says that we want visualisation as it gives us the opportunity to see, to experience and to understand environmental changes before they occur (Bishop and Lange, 2005). Basically its role is to interpret current landscapes, to show past transformations, to present potential future changes and to plan a common future in landscape management. We followed this approach in the Vital Landscapes Project.

Nowadays landscape architecture uses photo-realistic visualisation to communicate the outcome of plans or the results of spontaneous development to local stakeholders. In the last decades, via digital imaging, this technology was fascinatingly developed and supported by CAD objects, modelled surfaces, textures of different landscape elements (trees, buildings etc.) and land use types, which almost seem to be realistic in many GIS system (Jude, 2003; Donaldson-Selby, 2007). The weakness is that as they mostly miss the sense of local reality and the perception of “genius loci”, the results appear a bit “sterile”, neutral.

Another type of visualisation technique, based on the well-known application of photomontage, works with ground level photographs, or with ones made from look-out points or airplanes delivering bird’s eye view. The method is based on processing the digital images for each particular scenery at an exact viewpoint, by use of photo editor software (Dockerty et al. 2005; Soliva & Hunziker, 2009; Tress & Tress, 2003). Some examples combine photography and CAD 3D models. They are made photorealistic with rendering software and can be overlaid with the original photo using reference points (Kretzler, 2002). In this case few viewpoints are used, the number of scenery is limited, but nice results appear.

Many visualisation applications have navigation possibilities. They offer the pleasure of a personal exploration of landscapes for stakeholders (Falcão et al., 2006). Applications of this kind are used basically to present visible results of a plan. The big advantage of this tool is usually not the perception of distinct changes, but the individual navigation inside the scene, and thus the perception of a spatial arrangement and the exploration of planned landscape elements from different viewpoints.

In the Vital Landscapes project we aimed to avoid the disadvantageous symptoms and to combine the favourable ones mentioned above, by using photo texturing and geo-locating of all data in a well-known “landscape browser” called Google Earth. The vital solution we suggested within the project was a sophisticated three-dimensional, photo-realistic, interactive visualisation of landscape, available to anyone who has internet access.

#### 1.2. Landscape modelling for knowledge based landscape management

Landscape modelling is a process by which landscape managers prepare or use tools to predict landscape transformation and to predict changes of key landscape elements with scientific accuracy. The broad variety of available land use change modelling techniques such as CLUE-S Model (Verburg et al., 2002) concentrate on land use patterns and aim to allocate the future land uses based on landscape attributes and driving factors.

Generally, thinking in terms of future alternatives or various scenarios is widespread in landscape management. Modelling, in this context, is supposed to frame a variety of decision choices. (*The Landscape Institute with the Institute of Environmental Management and Assessment, 2002*). Some applications focus on visualisation of scenarios (*Lowett, 2005; Salter et al., 2005*) and try to provide various technical solutions presenting landscape changes.

A wide range of methods to predict future land use, based on actors, driving forces and various scenarios, is increasingly used in landscape management. Scenario-modelling processes are determined by driving forces that influence transformations in landscapes. Driving forces need to be analysed, assessed and adopted to conditions of a concrete landscape. There are applications which combine three basic elements – modelling, visualisation (*Dockerty et al., 2006*) and participation of researches defining key forces responsible for a high rate of changes (*Schneeberger et al., 2007*).

In this context, the main goal for us was to develop a future landscape modelling platform, to provide reliable information supporting concrete decisions on landscape changes. This application was supposed to meet the following criteria:

- be available online,
- use geo-referenced information,
- built on a digital landscape knowledge base,
- reach high scientific quality and accuracy,
- use three-dimensional visualisation,
- be interactive, but still easy to understand and use.

## 2. Pilot Area Nagyberek

The pilot Area Nagyberek in Southwest-Hungary used to be the largest swampy bay of Lake Balaton (*Fig. 1*). This is one of the most transformed but non-urbanised landscapes of Hungary with many contradictory

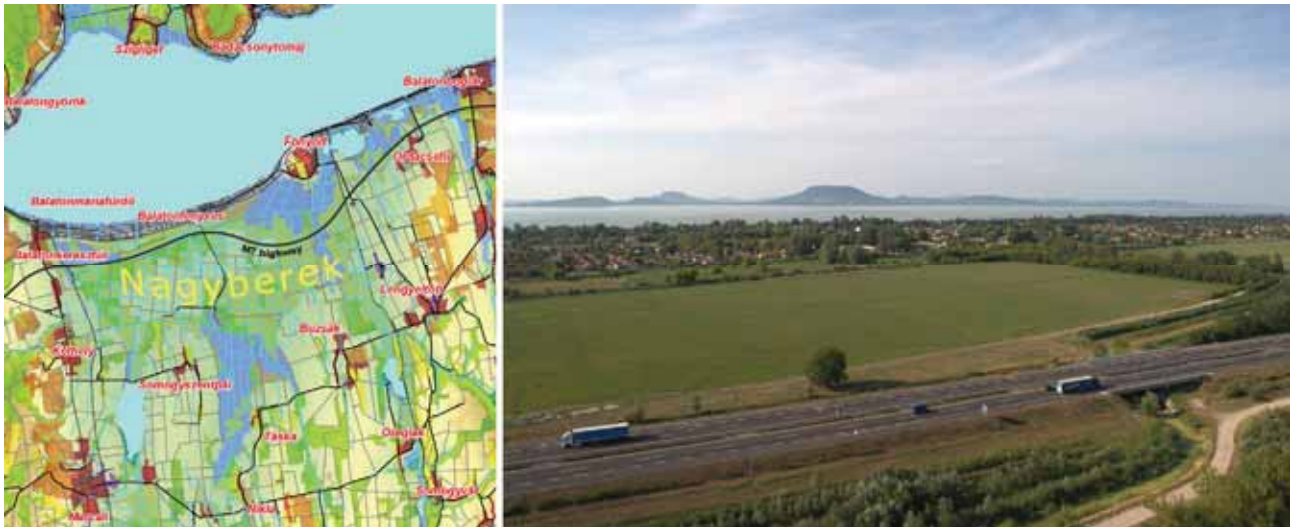
characteristics. After the water regulations of the 19<sup>th</sup> century and the intensive agricultural use in the middle of the 20<sup>th</sup> century it still plays an important role in the ecological system of the largest lake in Central Europe.

This drained but still swampy region is mostly dominated by patches of forests, agricultural land, reeds, built up areas, a network of channels and the international highway line between Ljubljana and Budapest or generally between Italy and Ukraine (*Fig. 2*). The territory of Nagyberek landscape is only 175 km<sup>2</sup>, but the area researched and declared to be region of Nagyberek is nearly 1200 km<sup>2</sup>. It is represented by water management, forestry, hunting, fishing activities, nature protection, extensive agriculture of pasturing, viticulture, fruit and honey production, highway and railway lines, traditional crafts, rural tourism and mass lakeshore tourism.

Due to the changing environmental circumstances, the disadvantageous economic tendencies and peripheral location in the Lake Balaton touristic area, Nagyberek is bankrupt and has tremendous conflicts at the moment. Increasing unemployment, an aging population, a low level of infrastructure, and conflicts between nature protection, agriculture and forestry do all represent the site. Due to the poor soil quality and extreme water conditions agriculture has low productivity. The mass tourism at the Balaton lakeshore has very slight effects on local rural tourism of the whole area right now. Depopulation and ethnic conflicts make the situation even more difficult. Despite of dominant human influence and intensive agricultural utilisation in the past, the area still has relevant natural and cultural values. It seems like the conflicts with nature conservation of “Fehérvíz” (Whitewater marsh) do not strengthen rural tourism, but decrease the breakout options in agriculture and forestry. In few settlements only extensive agriculture, activities related to heritage, unique landscape features and traditional land use can be beneficial activities for a limited number of farmers. There is a debate whether any of these could mean a breakout choice for the study area.



**Fig. 1:** Location of Nagyberek in Hungary and “Whitewater” marsh Nature Conservation Area (Photo: Butterfly Paragliding; Source of used digital maps: ASTER GDEM elevation model, NUTS3 statistical regions)



**Fig. 2:** Map of Nagyberek Pilot Landscape, photo of the touristic lakeshore area and the M7 highway crossing the landscape (Photo: ButterFly Paragliding; Source of used digital maps: Digital Topographic Map HM-TÉHI, ASTER GDEM elevation model, CLC100 2006 FOMI)

The various interests, functions, the on-going political debates related to land ownership and land tenancy all affect landscape management in Nagyberek. It seems that the area's future depends on the awareness and activities of its stakeholders. What do they consider valuable in the landscape and how these should be maintained? This will determine the future of the area. This complex, but mostly plain and hidden landscape needs interpretation supported by a vital visualisation approach to be understood by its stakeholders.

### 3. Vital Landscapes activities

Our activities aimed at building-up a vital co-operation with Nagyberek region followed the landscape planning process and had different roles in particular phases of it. The continuous research, surveying and mapping helped to identify the landscape. Visualisation supported the interpretation of landscape for stakeholders, who were necessarily involved in the landscape evaluation phase. Involving key partners in the region allowed us to integrate their interests in the management process and to offer them the platform for common visioning about future development of the pilot landscape Nagyberek.

#### 3.1. Identification of landscape – Getting to know the pilot landscape in detail

Management of Central European landscapes needs correct identification of particular landscape elements. Identification of landscapes is then the process by which particular stakeholders experience, study, analyse and characterise landscape, describe the current situation and chances of its further development. In case you “misidentify” your landscapes, e.g. you over- or underestimate their potential, you are on the right way to mismanage them. Our landscape identification, aimed to get to know Pilot Landscape Nagyberek better, was based on two pillars of landscape character assessment

(Swanwick, 2002), the top-down and the bottom-up approach.

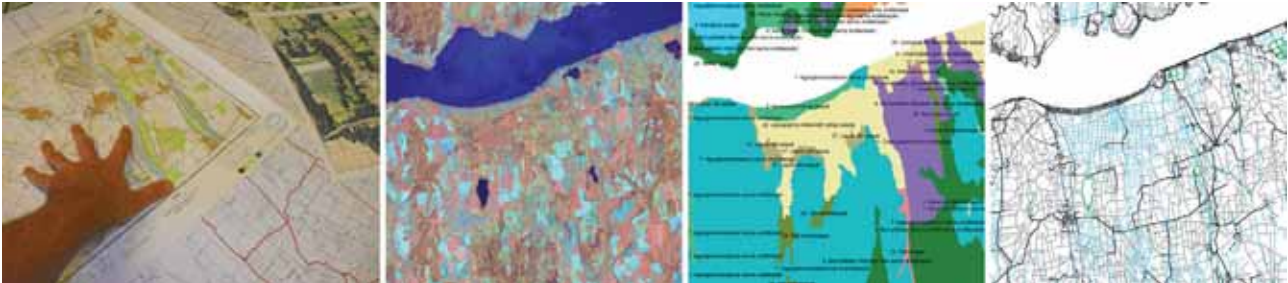
Starting from the top we built up a digital landscape database, we collected all the graphical or written knowledge about Nagyberek landscape and geo-located as much information as possible. Geo-location is a key factor of success in digital regional and landscape management that gives the exact geographic location of elements and processes by use of coordinates. On the other end from the bottom-up, activities started with field works, personal interviews, consultations and surveys at the beginning of the project. Geo-location of information collected personally from the field was essential in this approach as well.

As a result of the “top-down approach” we managed to develop a knowledge database consisting of historical military and topographic map series and an additional collection of satellite images and orthophotos (Fig. 3). These presented approximately 200 years of landscape development as well as recent dynamic changes. Thematic datasets of land cover, soil type, administrative regions, infrastructure networks, nature protection, agricultural potential maps, terrain models and statistical data were added to the knowledge base and analysed. In order to support landscape identification in a complex way, digitalised literature related to the region, regional development concepts and territorial plans were incorporated into the database as well.

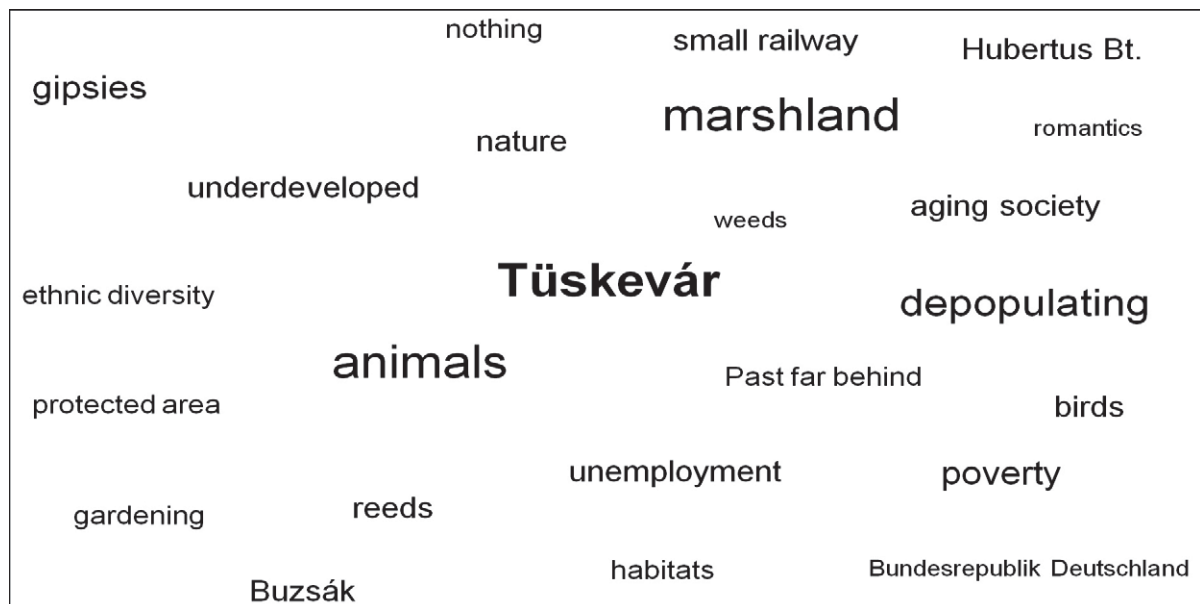
As a part of the “bottom-up approach” our field works, using field surveys, mapping, photographing, making interviews with local stakeholders and decision makers, targeted a wide variety of landscape elements of Nagyberek, from natural habitats to traditional handicrafts, from scenic viewpoints to gastronomic festivals, etc. As a result we ended up with a complex landscape identification (Fig. 4). The specific characteristics, the key character elements and the basic landscape development tendencies were defined.

Subsequently, the summary of landscape identification, that integrated results from both the top-down and the bottom-up approaches, was produced as a written and illustrated landscape analysis of Nagyberek. This analysis gives an overview on natural development from the prehistoric times until today. It interprets the present natural, economic and social conditions, providing

information mostly for professionals. To make the identification more understandable for the general public we prepared a scientifically correct but popular version of it. It is full of photographs and illustrations and is written in three languages (*Fig. 5*). It is available on the “Vital Berek” website (<http://e-berek.hu/>).



**Fig. 3:** Collecting geo-referenced maps and statistic data about the pilot landscape is a key step in building a landscape knowledge base (Source of used digital imagery: Landsat TM5 1992 NASA Landsat Program, Agrotopo Soil Database MTA-TAKI, Digital Topographic Map, HM-TÉHI)



**Fig. 4:** Nagyberek landscape in People's mind patchwork. Landscape identification based on questionnaires, showing the answers for the question: “What does Nagyberek mean for you?” The most frequent answers are with big letters, and the biggest “Tüskevár” represents a popular juvenile novel about a marshland.



**Fig. 5:** Basic methods of landscape analysis in Nagyberek: Field survey and GIS analysis, and the Vital Nagyberek brochure



**Fig. 6:** Paraglider taking photos for landscape interpretation purposes and to provide base materials for digital visualisation procedure of landscape elements

### 3.2. Interpretation of landscape – Illustrate and visualise the present situation

The interpretation of the landscape is a key activity which can help to involve local stakeholders in landscape management processes. The visual presentation of the current state and actual landscape development processes is an important method to raise awareness in local society about landscape and willingness to act for it. We started pilot landscape interpretation with the collection of visual information, concentrating on focus areas that were highlighted by landscape analysis in the identification phase. Bird's eye view photos made with the use of a paraglide and photos made in the field with geo-location, were collected many times during the project (Fig. 6).

The focus areas of the pilot landscape interpretation were:

- Whitewater marsh – the nature conservation area and Ramsar site of Nagyberek,
- M7 Highway – the largest element of built linear infrastructure in the landscape,
- Cellar hills – old buildings under monument protection with vineyards and orchards,
- Lakeshore – site of mass tourism at the semi-natural reedy shore,
- Fonyód hill – the only hill with a lookout point in the centre of Nagyberek,
- Smaller settlements – village centres and buildings of local society.

We developed the method of making bird's eye view photos from a paraglide following a predefined route, shooting in predefined angles, at predefined height above ground level, and geo-locating photos with GPS. The paraglide photo surveys were made more than ten times during the project. These provided photos which could be easily interpreted by professionals and laymen too, additionally could be used as base materials for digital landscape visualisation purposes (Fig. 7).

We organised field works, photo surveys and workshops to test and analyse digital visualisation methods of landscape elements. The most successful photorealistic results were prepared with the combination of CAD and

GIS software of SketchUp and Google Earth. Photo surveys of local built-up structures and buildings were prepared, involving students work in the photorealistic visualisation of small villages. The visualisation was concentrated on most of the focus area landscape elements from built structures such as the highway or cellars to natural elements like vineyards, specimens or forests (Fig. 8). These visualised elements and especially the buildings appeared to be the most important for locals and raised their interest towards the visually interpreted landscape in their neighbourhood.

One of the most successful and interactive landscape interpretation tools was the photo contest organised in the pilot region. "My Nagyberek" photo competition encouraged locals to illustrate the landscape state, beauties, nature, transformation processes and people-landscape relationships (Fig. 9). The competition was organised on the pilot website (<http://www.e-berek.hu/fotok>). Anyone could upload photos in three different categories:

- Nature Berek - photos of nature, flora and fauna;
- Most beautiful Berek - photos of beautiful landscape sceneries;
- People Berek - photos of people, culture, traditions, everyday work and free time.



**Fig. 7:** Nagyberek landscape bird's eye view photos (Photo: Butterfly Paragliding)



**Fig. 8:** Photo-realistic 3D visualisations of the pilot landscape Nagyberek prepared by Corvinus University of Budapest, Department of Landscape Planning and Regional Development



Whitewater marsh (József Ilácsa)



Boróca (János Marosi)



Cut the reed (Csaba Tóth)



Fisherman's miracle (Ottó Balázs)



Harvest in Csísztapusztá (Zsuzsanna Járfás)



Foggy morning (Csaba Millei)



Pochards (Ádám Nagy)



Sunset (Zoltán Milán Gál)



Aligrette (Márta Újváryné Szabó)



Pasture in Táska (József Ilácsa)

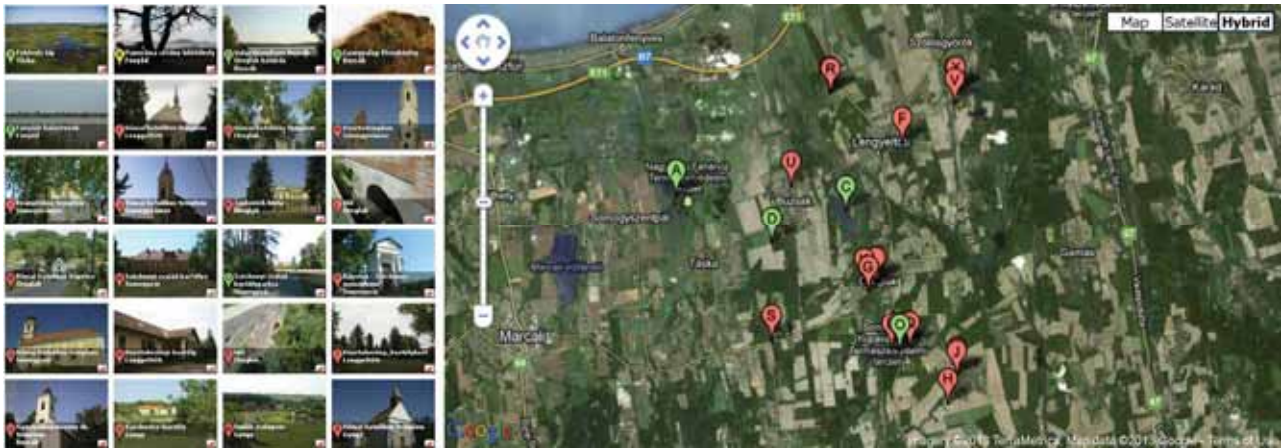


Tatárvár (Csaba Tóth)



Harvest (Gábor Szellő)

**Fig. 9:** Awarded Photos of “My Nagyberek” photo contest



**Fig. 10:** Surveyed landscape values of Pilot Landscape Nagyberék

### 3.3. Appreciation of landscape – Community based knowledge management platform to recognise values

After the landscape identification and interpretation phase, our pilot case study continued with a landscape evaluation phase where the appreciated landscape elements, so called values were defined and collected. In this process, methods of local and regional co-operation in “the guide of community based landscape management” were elaborated. In the sense of the Vital Landscapes objectives at our department, as an educational and research institution, “knowledge management” means continuous collection and maintenance of information, practical knowledge, and know how transfer among distinct groups of society. In this application “community based” means that this management focuses on the knowledge of society about the landscape. It considers landscape values such as tangible buildings, objects, vegetation, sceneries etc., but also the spiritual or so called intangible heritage such as elements related to history, tradition and other human activities which are also part of the landscape (Fig. 10).

The exemplary application in Nagyberék included surveying, mapping, description, evaluation, maintenance, communication and interpretation of community knowledge about landscape values and heritage in order to use it for landscape development and to raise awareness. Professional landscapers or even a local community itself can individually survey, map, describe and evaluate landscape elements online via the Vital Berek website (<http://e-berek.hu/>) and this way influence the management of values in two modules of the online platform (Fig. 11).

This exemplary application of community based knowledge management is an online activity of stakeholders (landscape planners, students, locals, activists). The website describes the landscape values and intangible heritage elements of the area. Two similar modules “Landscape Values” and “Intangible Values” verify the community management running on the website. The applications offer a platform available for

any user to upload landscape relevant comments, photos, surveyed landscape elements, intangible heritage elements. Community has a special role to enhance the usefulness of this application.



**Fig. 11:** Landscape values application with an example on Vital Berek website

We prepared a guide for community based knowledge management that supports local communities, professionals, decision-makers in cooperation, in favour of achieving better life-condition, and to render real vital

landscapes. In our opinion, the diversity of existing living creatures, the active local communities, various social connections, a broadminded and enthusiastic acting of residents in common issues and developments, which have a respect for the landscape and environmental conditions, frame the concept of a vital landscape.

### 3.4. Intentions in the landscape – Integration of local stakeholders’ interests and reaching young professionals for landscape management purposes

Interests and intentions of stakeholders, such as locals, farmers, decision-makers, authorities, are the factors that influence the human utilisation and management of landscapes. In case of Nagyberek this was definitely true, as the landscape characteristics are dominantly artificial at the moment and landscape elements have a human origin. That is why we organised several workshops to experience, list and discuss the intentions of stakeholders who were interested in landscape development (*Fig. 12*).

Workshops, field works and surveys were organised to discuss on lakeshore developments at the scenic Panorama promenade, and the central beach in the town of Fonyód. Particular variants of a conceptual plan were prepared that included and summarised the ideas of stakeholders interviewed, and the views of young professionals. The fresh and lively student or PhD student contributions to landscape management with open minded participants meant that we could integrate the project activities and results into education, and transfer

management know-how to the younger generation (*Fig. 13*). Key factors to reach young professionals appeared to be:

- to use computer technology in landscape management,
- to use visualisation and illustration of development processes,
- to apply web-technology in landscape management,
- to demonstrate fair play, and equal chances for self-improvement,
- to present best practice, best methods, best results, best solutions in the field,
- to present more landscape scenarios, work-plan options, open choices for the future,
- to show landscape and planning process as part of academic student education,
- to establish direct contact with secondary and elementary schools, and students,
- to offer personal participation options for any stakeholder in development process.

With the aim to encourage stakeholders to participate in landscape management with their subjective opinions, we developed an online platform called “My landscape”. Anyone as registered user of the Vital Berek website could show preferences in text and photo using flag placemarks of six categories. It was possible to put comments to any geo-located site by the use of a virtual flag that included the personal opinion of the stakeholder and showed it on the map of Nagyberek (*Fig. 14*).



**Fig. 12:** Consultations, Field trips, Evaluating workshops, and interviews with stakeholders



**Fig. 13:** Questionnaires, interviews, documentation, discussion, and conceptualisation



Fig. 14: “My landscape” application in Vital Berek website

### 3.5. Landscape visioning – Modelling future landscape development

At the end of the landscape management procedure, before making decisions, the visioning phase is when future alternatives or variants of possible landscape development need to be analysed. We developed an online decision support system that presented land use scenarios for the future Nagyberék landscape (Fig. 15). By using the decision support system, particular stakeholders could participate in the preparatory process of landscape management, simply by selecting any kind of management they preferred as an alternative future compared to the baseline scenario that presented the most possible future.

Subsequently, future scenario maps were prepared by the land use modelling system. The basic element of this tool is the CLUE-S model dealing with future land use changes (Verburg *et al.*, 2002). The land use modelling procedure takes into consideration current landscape characteristics (e.g.: soil types, distance from roads, pasture potential etc.), experts’ knowledge, actual landscape transformation tendencies and possible future land use demands/developments (Fig. 16). The CLUE-S model predicts the future land use structure of Nagyberék

from the input information, maps, and statistical data considering tendencies influencing land use.

The results of this tool, available on the “Future Landscape” module of the “Vital Berek” website, are able to interpret the Nagyberék landscape application of future landscape modelling. We show geo-referenced future land use information on a Google Earth based platform. This online version is a free and interactive application of predefined scenario variations. The role of this platform is to support landscape management by presenting future development variations (Fig. 17). The workflow consisted of the definition of the most important social, environmental and economic factors first, then the estimation of the effects by land use changes and finally the analysis of the effects driven by spatial planning policy based on different scenarios:

- “Baseline scenario” (SC0): present tendencies continue,
- Scenario 1 (SC1): strong agricultural expansion,
- Scenario 2 (SC2): increasing role of nature protection,
- Scenario 3 (SC3): intensification of forestry and wildlife management,
- Scenario 4 (SC4): urban sprawl and infrastructural development,
- Scenario 5 (SC5): abandonment and depopulation.

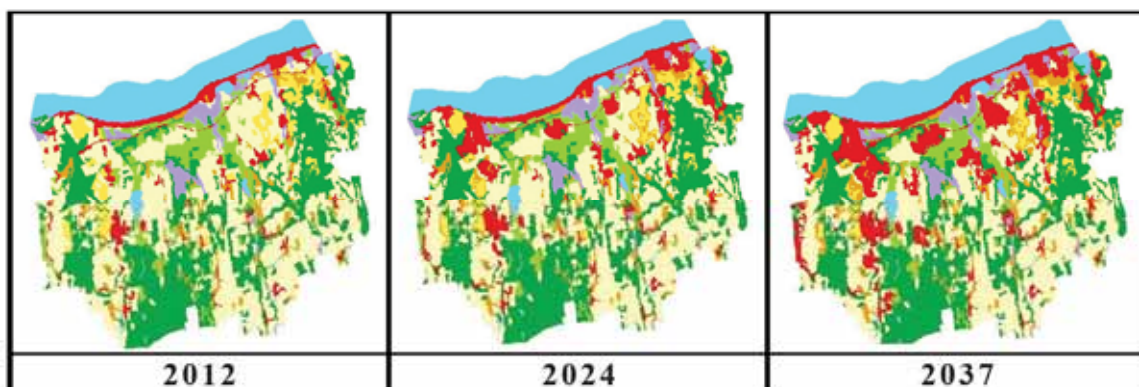


Fig. 15: Strong “urban sprawl and built infrastructural development” scenario results for Nagyberék region

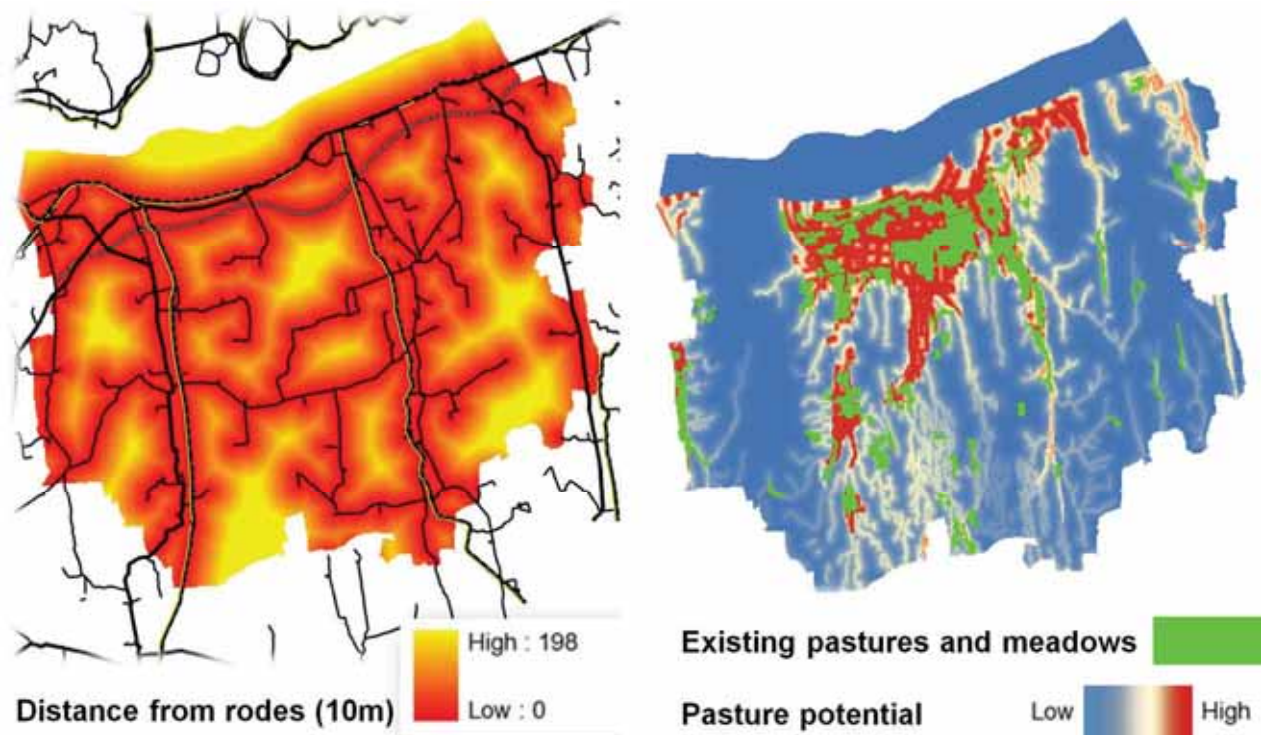


Fig. 16: Examples from landscape knowledge base focusing on capabilities and potentials

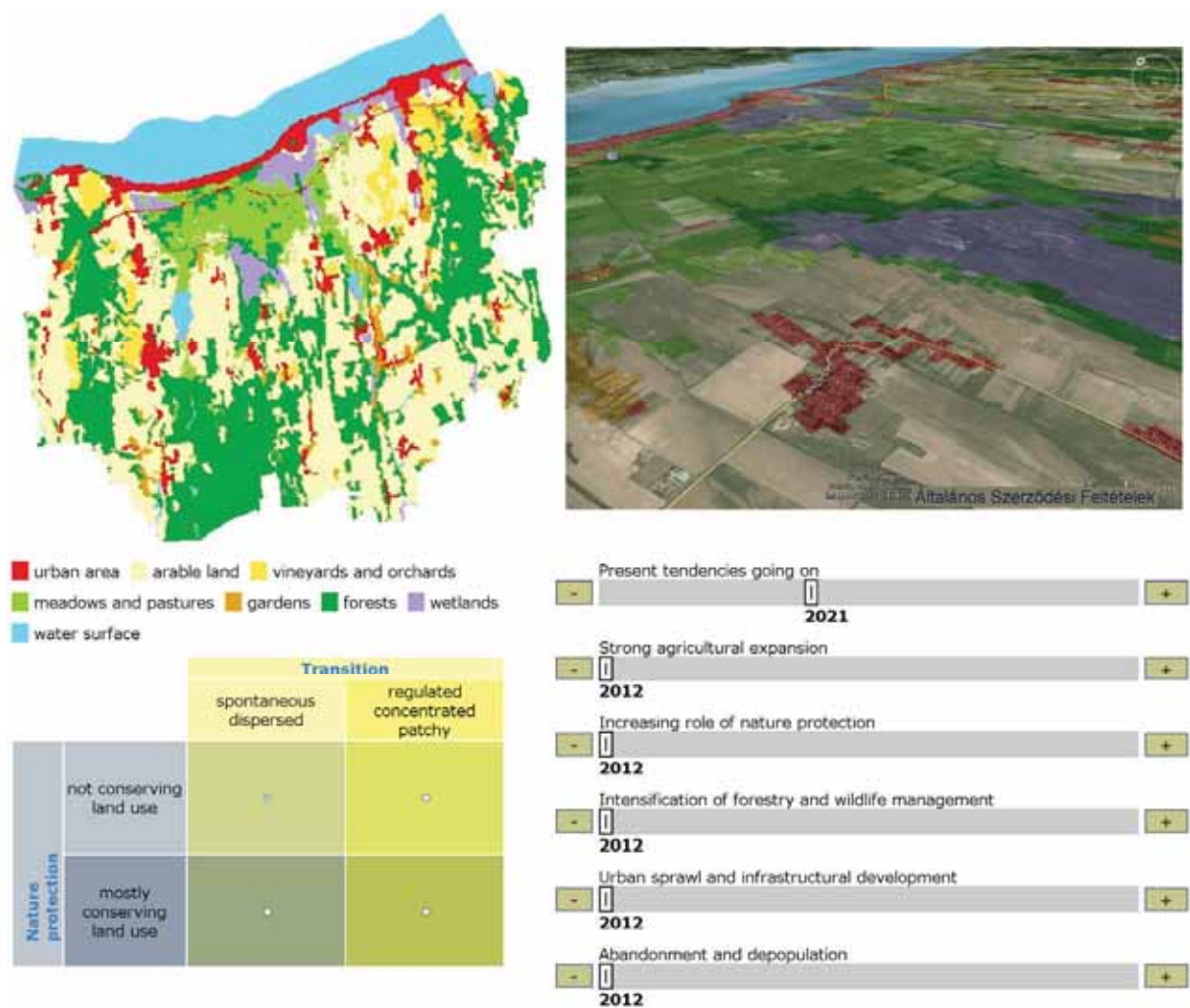


Fig. 17: Scenarios and settings of Future Landscape module on Vital Berek website

## 4. Conclusions

In the Vital Landscapes project, our department aimed to interpret landscape management as an interactive, integrative, conscious and open procedure. The applications using geo-referenced visualisation and landscape modelling approaches support the frames of the research workflow turning to the planning process. In order to show this procedure in its complexity we published and made available all our results on the “Vital Berek” website maintained by us (*e-berek.hu*). It uses various combinations of spatial data and software to interpret landscape in general and in the pilot area involving regional stakeholders. It integrates 3D visualisation, photography, landscape assessment, personal impressions, surveys of tangible landscape values and intangible heritage, analysing future scenarios and providing decision support for a complex online landscape management. This approach has a relevant mission in the project especially as the study site is probably the most controversial non-urbanised landscape of the country. This kind of exceptionally transformed landscape needs interpretation with visualisation and landscape modelling, awareness raising and visions for the future.

Of course there are experiences involved in the approach how in general GIS based 3D visualisation is informative for local stakeholders and how an important tool it is to address local communities in consultations about management (Lewis and Sheppard, 2006) or in case of experts how much of realism and detail matters in visualisation (Appleton and Lowett, 2003).

It is also well known how virtual globe systems such as Google Earth and related applications have rapidly growing popularity (Sheppard and Cizek, 2009). Besides visualisation the “know how” and values of an active society is an important input for vital landscapes. We can find summaries about how much the knowledge of the past influences the preferences towards present values (Hanley et al., 2009.), or how much the social background, ethnic origin does matter, or expert and lay-people preferences differ in evaluation (Swanwick, 2009; Vouligny et al., 2009).

The most challenging part of our approach is the concept that landscape interpretation and management process should have as much online documentation as possible. The Google SketchUp and Google Earth combination provides a simple, freely available, easily understandable platform in a GIS browser application with sketching tools. Due to the holistic approach of the Vital Landscapes Project the website seemed to be the proper platform for the communication of landscape management. It was also expected that the visualisation approach and its related technical applications should be reusable on other pilot areas, and rechargeable with other maps and data. We managed to develop such a universal application that fulfils these requirements. Up to now feedbacks show that huge efforts of NGO-s and young

professionals are necessary to address stakeholders and raise awareness by organising workshops. It is reasonable to integrate the website in education and in everyday life to fulfil the mission of vital landscape management (Fig. 18).



**Fig. 18:** Modules of Vital Berek website (*e-berek.hu*) presenting landscape management process and integration of project results at Corvinus University of Budapest

We experienced that visualisation tools and landscape modelling can become familiar for locals and they like to explore their settlements and think about the future of their neighbourhood watching digital tools or using printed visual tools on site as well. We started to survey the effectiveness of different visualisations with interviews and questionnaires and the results show that people prefer bird's eye view photos, compared to field photographs, 3D visualisations, or 2D maps in case of presenting static images in print, but digitally they prefer the 3D visualisations with individual navigation online. In every case visualisation strengthened stakeholder's willingness to participate in discussions on landscape management.

The most successful activities were raising awareness of locals to participate in practical activities like taking photos for the competition, to give responses for visual questionnaires, to share opinions during workshops about sustainable landscape management. On these occasions participants became convinced that their landscape heritage could be handled or managed as potential for further development. That is why the final conclusion for us is that digital management based on scientific tools and sophisticated applications using visualisation and landscape modelling is an important factor of the authenticity in landscape management, but direct contact with stakeholders and options to involve them is just as important for the success. No matter how photo-realistic you visualise and interactive you model landscape, do look for stakeholders and discuss the choices and challenges with them in order to invite them in a fruitful landscape management process.

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## 5. References

- Appleton, K., Lovett A. (2003): GIS-based visualisation of rural landscapes: defining 'sufficient' realism for environmental decision-making, *Landscape and Urban Planning* 65, 117–131.
- Bishop, I., Lange, E. (2005): *Visualisation in landscape and environmental planning*, Taylor & Francis, London and New York, 3.
- Dockertie, T., Lovett, A., Sünnerberg, G., Appleton, K., Parry, M. (2005): Visualising the potential impacts of climate change on rural landscapes. *Computers, Environment and Urban Systems*, 29 (2005) pp. 297–320.
- Dockerty, T., Lovett, A.; Appleton, K.; Bone, A.; Sünnerberg G.; (2006): Developing scenarios and visualisations to illustrate potential policy and climatic influences on future agricultural landscapes, *Agriculture, Ecosystems and Environment* 114, 103–120.
- Donaldson-Selby, G., Hill, T., Korrubel, J. (2007): Photorealistic visualisation of urban greening in a low-cost high-density housing settlement, Durban, South Afrika, *Urban Forestry & Urban Greening*, 6 (2007) pp. 3–14.
- Falcão, A. O., dos Santos, M. P., Borges, J. G. (2006): A real-time visualization tool for forest ecosystem management decision support. *Computers and Electronics in Agriculture* 53 (2006) pp. 3–12.
- Hanley, N.; Ready, R.; Colombo, S.; Watson, F.; Stewart, M.; Bergmann, E. A. (2009): The impacts of knowledge of the past on preferences for future landscape change, *Journal of Environmental Management* 90 (2009) 1404–1412.
- Jude, S., Jones, A., Bateman, I., Andrews, J. (2003): Developing Techniques to Visualise Future Coastal Landscapes. *Trends in Landscape Modelling* (eds.: Buhmann/Ervis), Herbert Wichmann Verlag, Heidelberg, pp. 228–238.
- Kretzler, E. (2002): Computer Visualisation of Environmental Impacts, *Trends in GIS and Virtualization in Environmental Planning and Design* (eds.: Buhmann E. et al.), Herbert Wichmann Verlag, Heidelberg, pp. 58–67.
- Lewis, J. L., Sheppard, S. R. J. (2006): Culture and communication: Can landscape visualization improve forest management consultation with indigenous communities? *Landscape and Urban Planning* 77, 291–313.
- Lowett A. (2005): Designing, visualizing and evaluating sustainable agricultural landscapes, (eds.: Bishop, I. Lange E.) *Visualisation in landscape and environmental planning*, Taylor & Francis, London and New York, 139.
- Salter, J., Sheppard, S. R. J., Cavens, D., Meitner, M. (2005): Planning, communication, designing and decision making for large scale landscapes, (eds.: Bishop, I. Lange E.) *Visualisation in landscape and environmental planning*, Taylor & Francis, London and New York, 121–122.
- Soliva, R., Hunziker, M. (2009): Beyond the visual dimension: Using ideal type narratives to analyse people's assessments of landscape scenarios. *Land Use Policy*, 26, 284–294.
- Schneeberger, N.; Bürgi M.; Hersperger, A. M.; Ewald K. C. (2007): Driving forces and rates of landscape change as a promising combination for landscape change research -An application on the northern fringe of the Swiss Alps, *Land Use Policy* 24, 349–361.
- Sheppard, S. R. J.; Cizek, P.; (2009): The ethics of Google Earth: Crossing thresholds from spatial data to landscape visualisation, *Journal of Env. Management* 90 2102–2117.
- Swanwick, C. (2002): *Landscape Character Assessment, Guidance for England and Scotland*, The Countryside Agency and Scottish Natural Heritage.
- Swanwick, C. (2009): Society's attitudes to and preferences for land and landscape, *Land Use Policy* 26S (2009) S62–S75.
- Verburg, P. H., Veldkamp, W. S. A., Espaldon, R. L. V., Matsura, S. S. A. (2002): Modelling the Spatial Dynamics of Regional Land use: The CLUE-S Model, *Environmental Management* Vol. 30, No. 3, 391–405.
- The Landscape Institute with the Institute of Environmental Management and Assessment (2002): *Guidelines for Landscape and Visual Impact Assessment*, Spoon Press Taylor and Francis Group, London and New York, 33.
- Tress, B., Tress, G., (2003): Scenario visualisation for participatory landscape planning – a study from Denmark, *Landscape and Urban Planning*, 64 (2003) 161–178.
- Vouligny, É.; Domon G.; Ruiz, J.; (2009): An assessment of ordinary landscapes by an expert and by its residents: Landscape values in areas of intensive agricultural use, *Land Use Policy* 26, 890–900.

## VII. MODERN METHODS OF 3D VISUALISATION OF A LANDSCAPE AND THEIR ROLE IN LOCAL DEVELOPMENT PROJECTS (Village Mściwojów, Poland)

*Urszula Litwin\*, Jacek M. Pijanowski\*, Bartosz Mitka\*, Paweł Szelest\*\* and Mariusz Zygmunt\**

*\* University of Agriculture in Krakow, Faculty of Environmental Engineering and Land Surveying*

*\*\* Malopolska Institute of Culture; Malopolska's Virtual Museums*

### 1. Introduction

Protection and development of cultural landscapes in Poland is based primarily on a system of landscape parks and conservatory protection. In practice, active approaches to landscape protection are not known and hence not practiced as a part of projects prepared and implemented with active participation of residents and local decision-makers. Active protection of landscape is supposed to implement conservation of its resources which leaves them in an unchanged, or improved conditions. This is possible only through creation of active concepts of protection of cultural and natural landscape resources. The implementation of these ideas brings added value, compared to solely protective conservation, aimed only at the passive protection of landscape values. Lessons learned from countries more advanced in active approaches to landscape conservation – such as Germany or Austria – indicate that this is only possible, if it is based on local potentials and active participation of local actors.

An active approach to landscape protection was used in the framework of activities carried out by the Polish Vital Landscapes project, realised in 2011-2012 in Mściwojów (Lower Silesia). In the case of Mściwojów, a local asset is the historical - partly destroyed – estate of the family von Nostitz and a unique, charming atmosphere of the place and the friendly microclimate. The advanced concept of revitalization of the property and its transformation into an extensive weekend destination for the agglomerations of Wrocław and Katowice (Silesia) was developed in order to take advantage of the cultural resource.

The chapter reports on potential advantages of Mściwojów and activities carried out in the process of preparation and implementation of the concept. These activities included introductory analyses, development of an advanced 3D visualization, and studies aimed to assess the spatial and ecological effects of the potential implementation of the concept. The close cooperation with the local community and authorities was an inevitable element of all these activities. It was especially important in the formulation of a commonly shared vision on ways how to utilise the historical estate in future.

### 2. The pilot village Mściwojów and the cultural resources of its landscape

The community of Mściwojów is located in the district of Jawor (Lower Silesia), and is geographically located at the Sudeten Foreland, including the so-called Strzegom Hills. The commune covers an area of 71.42 km<sup>2</sup> and it embraces 12 villages. Mściwojów is located 5 km south of Jawor, 25 km south of Legnica and 65 km west of Wrocław. The commune is cut by the Oder tributaries and the river of Wierzbak which flows into the retention reservoir Mściwojów with an area of 0.7 km<sup>2</sup> (*Fig. 1*). The community has a population of 4,250 inhabitants. It is a typically agricultural community, mainly because of very good soils (chernozem, podzolic soils, brown and alluvial soils), favourable climatic conditions and a limited number of jobs in other sectors of the economy. Natural resources of the community include extensive deposits of sand and gravel, and rich deposits of granite (*Brożek et al., 2013*).

Mściwojów was first mentioned in the 13<sup>th</sup> century. It is located in the district of Jawor, formerly the Duchy of Świdnica and Jawor. The most prominent period for Mściwojów lasted for almost 3 centuries, when it was owned by the von Nostitz family, since the 17<sup>th</sup> century (previously owned by the von Bibran and von Profen families, since the 15<sup>th</sup> century). Otto von Nostitz, who was the governor of the Duchy of Świdnica and Jawor, founded a manor-park complex, which included a vineyard and a conservatory. Chroniclers, such as Friedrich Lucae or Nicolaus Henelius mention Mściwojów in their works. Not only do they admire the size of the property (9.295 hectares in 1689, according to Lucae), but also the gardens, rich with trees, exotic plants and statues (Nicolas Henelius). In the center of the complex, a rotunda was located, with a fountain, waterworks and a statue of Diana holding a corn flowing with water.. The ownership of the complex was passed on to Joseph von Nostitz-Reneck in the 19<sup>th</sup> century, and in 1931 to Konstatina von Pfeil. The war has significantly contributed to the decline of the complex. In 1953 the manor was destroyed by a fire, which erupted for unknown reasons. Needless to say, the unattended garden was completely devastated. In the 1970s there was an unsuccessful attempt to rebuild the complex (*Brożek et al., 2011; Jastrzębski, 1973; Graber, 1930; Koiwchwitz, 1910; Monateschrift 1829*).



**Fig. 1:** The Mściwojów village with the retention reservoir “Mściwojów” at the background (source: [www.msciwojow.pl](http://www.msciwojow.pl))

In the 20<sup>th</sup> century, after the war, the complex was used by the National Agricultural Holdings (PGR). Nevertheless, it is still impressive. Unfortunately, there were no successful attempts to restore the complex, so that it would regain its former splendor. The project group, formed by the employees of the Agricultural University of Krakow, devoted a lot of time and effort to find out as much as possible about the times, when the complex was maintained and prominent. Unluckily, problems arose, as there were not many historical sources, especially those regarding the flora, as the 1953 fire destroyed the library, located in the manor. At present, the most important cultural landscape assets are the ruins of the manor house, the church, and its surroundings, farm buildings in good conditions, remains of the buildings near the vineyard, part of the manorial garden and conservatory rebuilt by the PGR authorities, adjacent pond with island and pavilion. However, the landscape of Mściwojów has been enriched with a new element: the water reservoir, which significantly influences the character of the area (Brożek *et al.*, 2011).

### 3. Creating a local strategy for rural area development based on cultural landscape assets

Limited non-agricultural employment is a very common problem among Polish rural communities. This results in migrations to cities, driven by search for employment.

One reason for this is the wrong perception of development opportunities by the local authorities. Instead of only looking for investors in the production, industry and or services sector (often inapplicable in case of rural areas), they should also seek opportunities in the hidden potentials of cultural landscapes. Mściwojów is a good example of such a situation. Its cultural objects have decayed and remained unnoticed for decades (Litwin and Pijanowski, 2008).

Like Mściwojów, other villages may also possess such hidden potentials, in terms of both landscape and culture. As they may be difficult to discover or recognize, they continue to be neglected as potential touristic attractions. However, they may greatly contribute to the regional development once discovered and properly managed. Mściwojów, which does not come across as particularly interesting at the first impression, is a very good example, because when we look at its history and culture, and remember the times of its prosperity, we see what it could be like today: full of life and splendourous, with its unique manor and park complex, and a flourishing farm and vineyard (Brożek *et al.*, 2013; Litwin and Pijanowski, 2008).

The aim of the project was building a local rural development strategy for the area in question by applying an innovative combination of activities involving local actors as well as the innovative techniques of 3D visualization (Fig. 2). The aim of the working group

established at the beginning of the project was to implement the above methodical assumptions (Fig. 3). The team consisted of local community leaders, representatives of community authorities from Mściwojów and experts from the Agricultural University in Krakow. The aim was realized through a series of regional seminars, devoted to the following issues (Brożek *et al.*, 2013):

- analysis of the Mściwojów area;
- based on the above, definition of its resources and potential for non-agricultural economic development;
- suggestions of potential development objectives;
- conclusion that the renovated park and manor complex with adjacent objects (the farm, the vineyard, and the water reservoir) will be the main development axis for Mściwojów (Fig. 4).

The next step, after the working group concluded the concept work, constituted intensive inventory activities focusing on (Brożek *et al.*, 2013):

- cultural resources of the village, particularly the park and manor complex with adjacent objects,
- spatial patterns of the village and surrounding agricultural grounds.

The inventory confirmed the great non-agricultural potential of Mściwojów based on the ruins of the old manor house of von Nostitz and the surrounding objects, which could be transformed into a large holiday resort with a hotel and recreational facilities. The experts conducted all activities in such a way as to stimulate active participation and initiative of local inhabitants and authorities. Due to the involvement of experts from Germany and the presentations of similar already implemented concepts, it was finally decided to follow the proposed direction and transform the complex into a recreational facility, on the condition that an external investor is found (Brożek *et al.*, 2013) (Fig. 5).



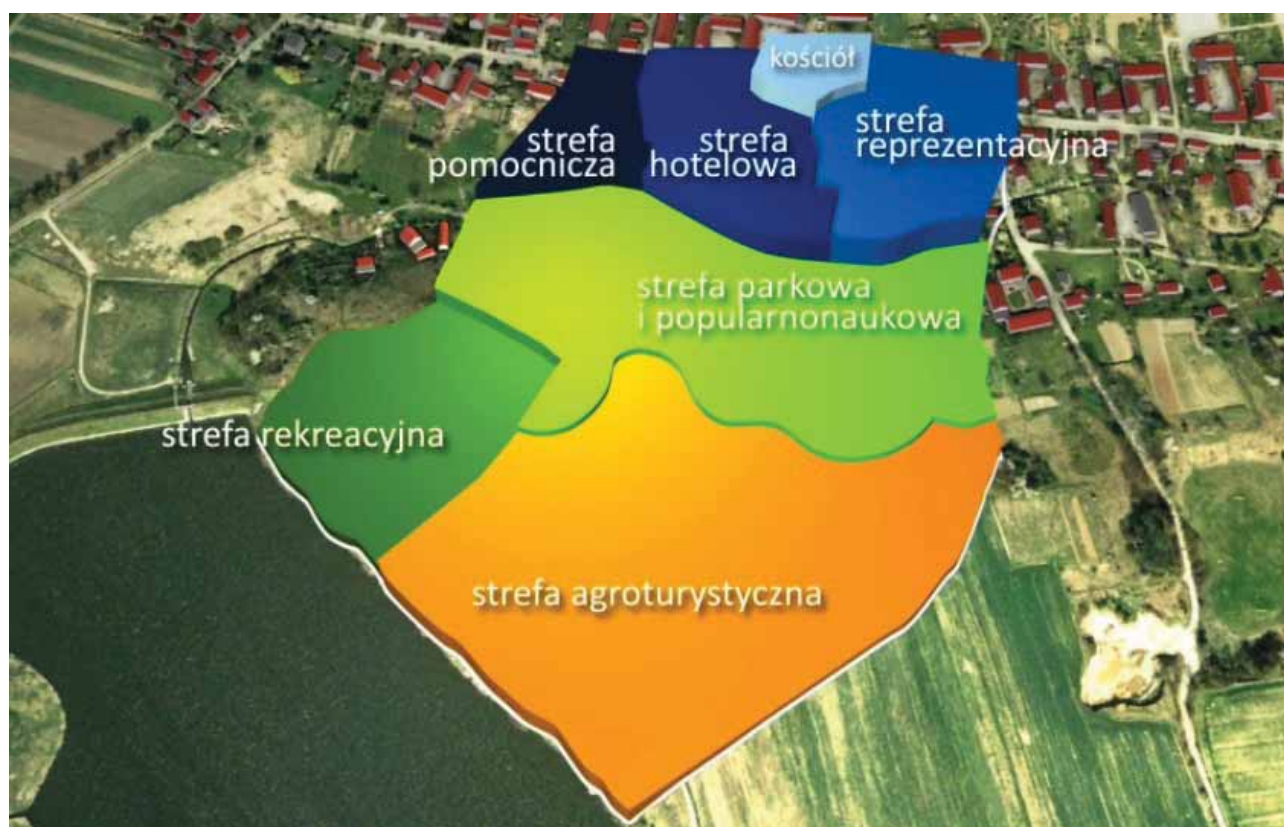
**Fig. 2:** A 3D visualization of the reconstruction of property of von Nostitz family made by I. Szelest



**Fig. 3:** Selected photographs taken during the seminars in Mściwojów (fot. M. Brożek)



**Fig. 4:** A 3D visualization of the concept of von Nostitz family property development in Mściwojów made by P. Szelest – vineyard, stud farm and recreational area are visible in the foreground



**Fig. 5:** Area of study divided into zones<sup>8</sup> made by I. Szelest

<sup>8</sup> Kościół – Church, strefa pomocnicza – auxiliary area, strefa hotelowa – hotel area, strefa reprezentacyjna – representative area, strefa parkowa i popularno-naukowa - park and popular-science area, strefa rekreacyjna – recreational area, strefa agroturystyczna – agrotouristic area.

The changes to be made included the transformation of the farm objects into a modern hotel complex, the restoration of the park and manor complex with the vineyard, and the creation of facilities for sports recreation, including a stable and an observation tower. It would make the area suitable to become a weekend recreation centre for both Lower and Upper Silesia. Taking into account the size of the investment, it could be achieved only when a detailed analysis of the investment's environmental impact is ready, along with a preparation plan for the local infrastructure. Only then an external investor may become interested.

Consequently, the analysis of hydrological conditions was carried out, including environmental aspects of the water network and the reservoir as well as accompanying infrastructure as key conditions for sustainable development. It was extremely important to engage local inhabitants and authorities in this process. Social support is the prerequisite for effective activity of local authorities. In turn, local authorities are usually the actors who are responsible for the concept implementation, which is obtaining an investor, providing support in legal and formal questions related to investment preparation, including changes in the local spatial development plan. The potential inherent in the area was illustrated by the experts by means of advanced 3D visualisations. This increased interest of the local members of the working group. Also thanks to the visualisations it was possible to improve the concept along the way and add new elements (Brożek *et al.*, 2013).

#### 4. Key activities realised

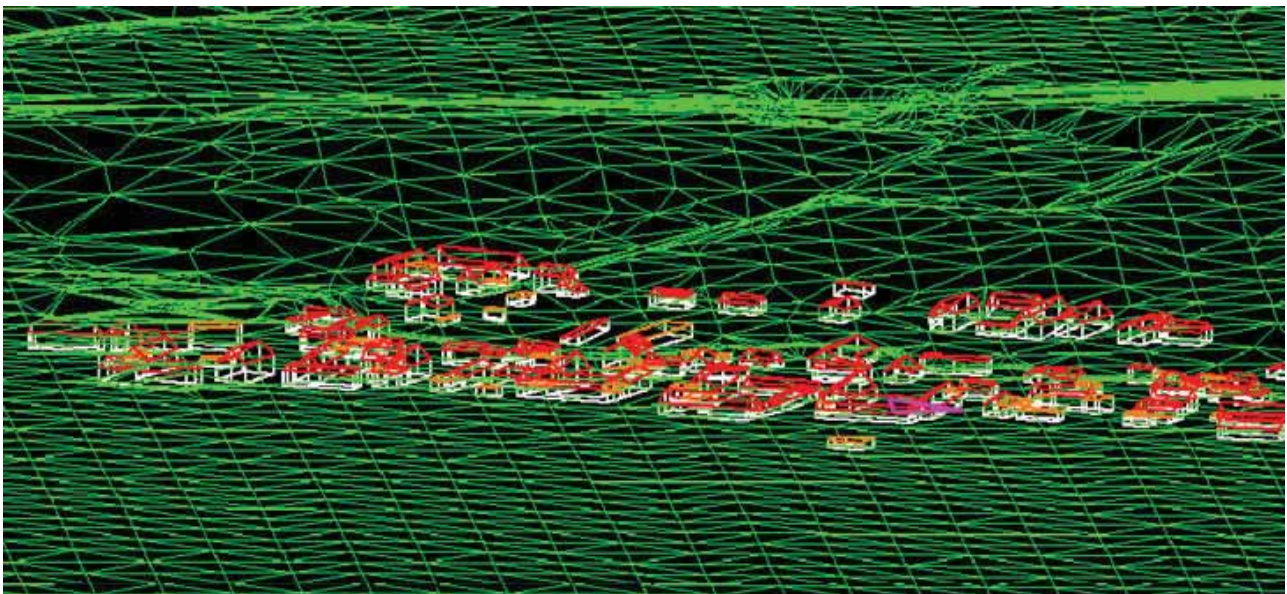
As shown in the previous section, the central element of the work in the project was to create a 3D visualization. It was preceded with geodetic and photogrammetric measurements. This work involved facades of buildings of the property itself, as well as in the whole village of Mściwojów. The measurements were divided into two

parts: geodetic measurements and photogrammetric measurements. Then, a geodetic control network was set-up as a condition for supplementary geodetic measurements. The next stage was the measurement of the buildings along with precise dimensioning of the small architecture elements. The survey included measurements of windows, doors and roofs.

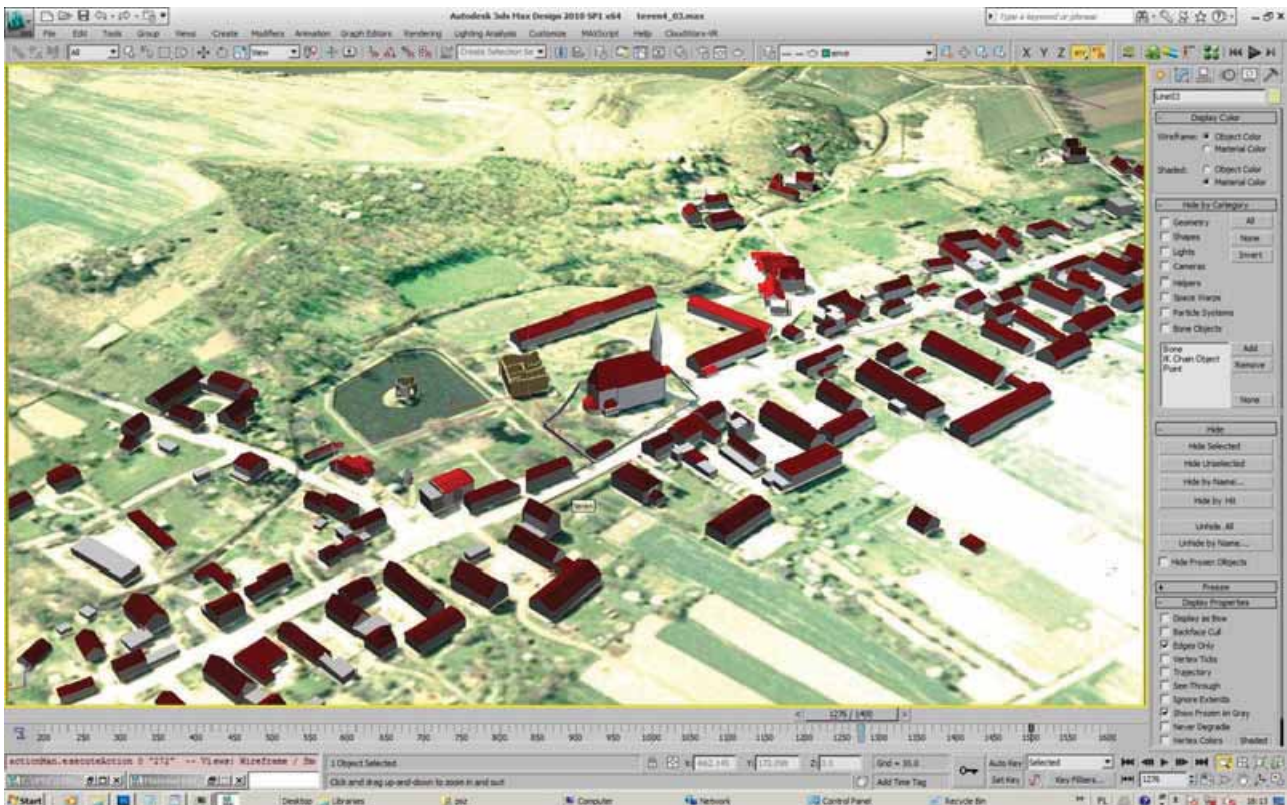
Simultaneously photogrammetric measurements were made in order to both survey and visualize the buildings of the property in Mściwojów along with the whole village (Fig. 6). Basing on the ground-based photographs a simplified 3D visualization of the property and the village was made. The works involved testing of elements of technologies and software, which was extremely important for the later development of the final visualization in 3dsmax software. The idea was mainly to allow the use of data from photogrammetric measurements.

At the same time the historical elements of the property landscape in Mściwojów were reconstructed along with the whole village. It was important for realistic reconstruction of the historical spatial and landscape configuration, which significantly contributed to the final effects of 3D visualization. The next stage was to create a complex 3D vector database necessary to create extensive Full HD 3D visualizations in the 3dsmax environment, keeping the physical properties of visualized materials in a linear light model (32 bit). The work was an essential basis for the creation of complex scenes in the multi-person design team.

The laborious processes of texturing and lighting the visualization were extremely important for achieving the final effect. The work included combining the parameters, mapping, implementing rendering engines and achieving photorealism of generated pictures. The next element of the work was making an animation based on the "firmament" model for the model of the existing state (Fig. 7).



**Fig. 6:** Photogrammetric elaboration of DTM with buildings made by B. Mitka



**Fig. 7:** Current state: Digital Terrain Model + ortophotomap + 3D buildings made by B. Mitka

Because the 3D visualization was an important part of the action in favour of social participation, it was necessary to involve wide promotional activities in the project. In the first stage, a strategy of promoting and spreading the need for protecting the historical cultural landscapes was developed. The development of this strategy was an important part of the preparation for implementing the promotional activities in the project, defined along with the rules of visual presentation. The most important promotional activity was the production of a documentary film about the cultural landscapes of Małopolska. The promotion also involved a promotional folder and a press campaign.

The 3D visualizations and intensive promotional activities resulted in a strong involvement of the local community and authorities in creating a coherent strategy of development of rural areas based on non-agricultural development potentials which could be generated by the revitalized von Nostitz family property (Fig. 8).

The subsequent actions in the project involved two directions:

- Determining a commonly applicable methodology of creating 3D visualizations in cooperation with local authorities and community along with the development of an advanced 3D visualization technology for the needs of other partners of the VITAL LANDSCAPES project.
- Evaluation of possibilities and results of a possible implementation of 3D visualization of revitalization

and development of the historical von Nostitz family property in Mściwojów in practice.

During the work on the 3D visualization methodology an information technology was developed. The technology describes the methodology of creating a numerical terrain model (NTM) in a file format that allows its later application in creating 3D visualizations in 3dsmax software using a Data Acquisition tool. Also, possible ranges of output data for 3D visualizations were defined. The efforts were crowned with the creation of a program called VitalLandscapesTools, used for objects lifting to a 3D model based on the numerical terrain model (NTM) in a form of triangles mesh and exporting the data to text files for further processing in 3dsmax software.

Simultaneously, a methodology for the necessary harmonization of data allowing 3D visualization of very large areas was developed. A significant part of the methodology was developing a technology of “grasping” the horizon, not only from the point of view of an observer on the ground, but also from the bird’s eye view. This part also involved a systematization of the methodology of preparing and creating extensive 3D visualizations by combining advanced technical-information works with participation of local community and authorities in an innovative way. The study suggests that the range of data should precisely result from the defined system of development goals of a particular area, meeting the rank-and-file needs and the endogenous development potentials. The broad experience of the University of Agriculture in Kraków gained from 3D visualization related actions was the basis for the

elaboration of a universal Manual of application of the tools and 3D visualisation software (Fig. 9).

Another very important part of the work was an a-priori evaluation of possibilities and effects of the possible implementation of the concept developed as a part of the 3D visualization. These analyses involved especially the influence of the concept on the sphere of water and ecology, including the impact on the Mściwojów reservoir and the possibility of sewage treatment and supplying the designed complex with water, which is extremely important in the context of sustainable development and environment protection. The agricultural landscape of the village was also analysed, as it was found that for the proper social and economic development, the revitalized and developed property should be surrounded by vital and functional agricultural lands, instead of being an “enclave” detached from the surroundings.

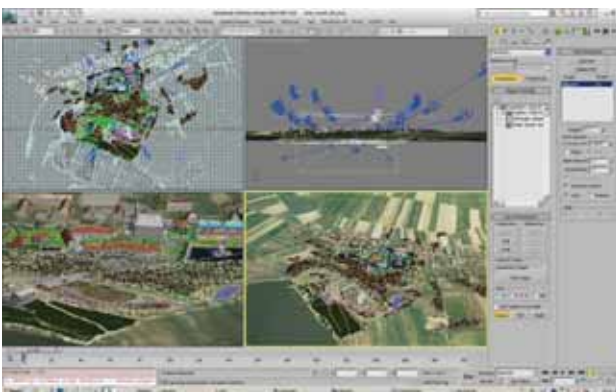
For this purpose, firstly the water resources of the cultural landscape of the village and the agricultural surroundings of Mściwojów were analysed, based on the detailed characteristics of the catchment. Besides the hydrological calculations of extreme flows, the watercourses supplying the catchment of Mściwojów reservoir were characterized and analyzed using the GIS techniques. The obtained data are meant to serve the landscape planners and the

designers of property reconstruction, mainly in terms of an increasingly important issue of flood safety of the project (Fig. 10).

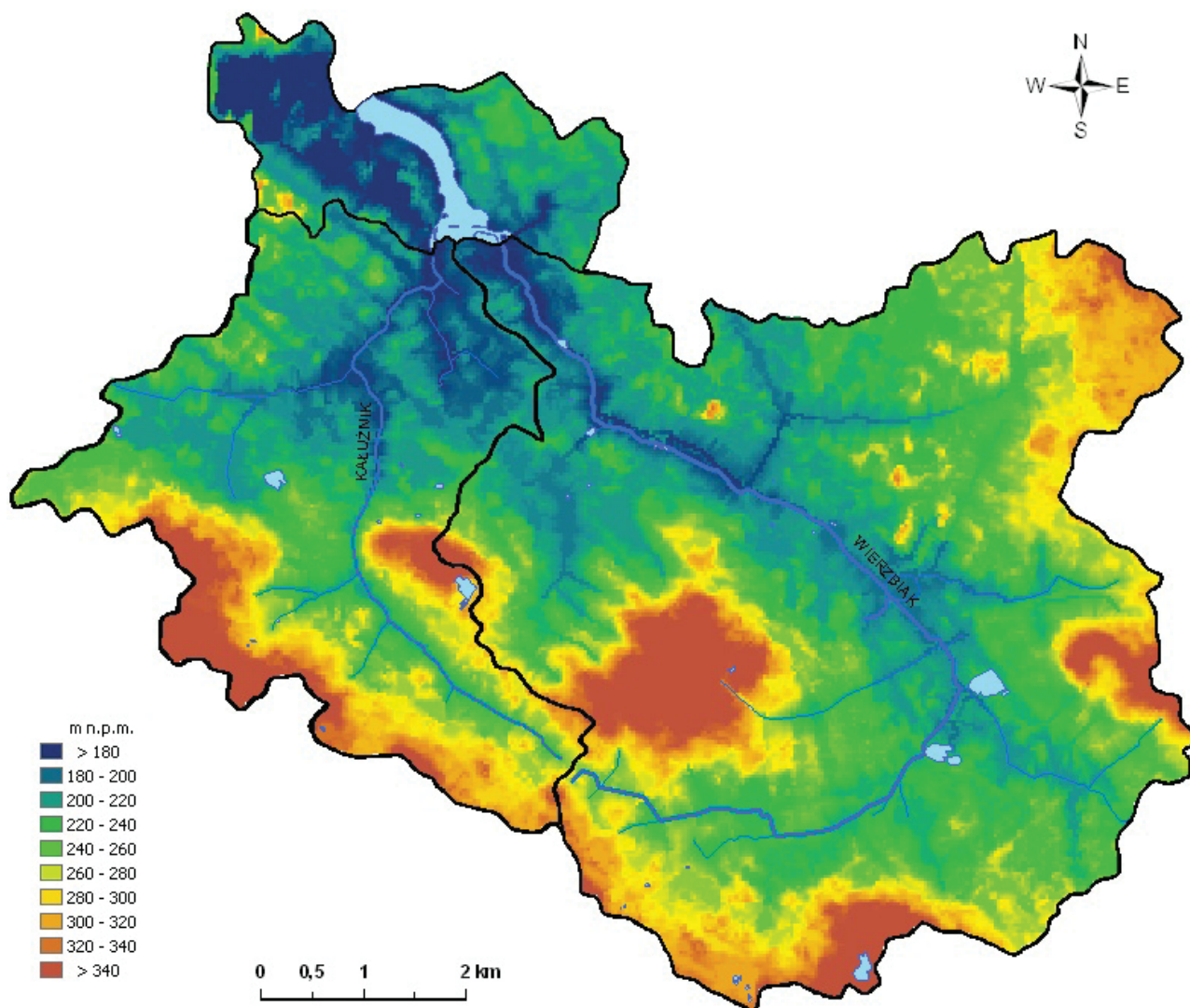
Next, the environmental and biological spheres of the Mściwojów reservoir were subjected to analysis. This study was important for the evaluation of real ecological values of the Mściwojów reservoir, as it detected harmful surface runoffs from the immediate catchment of the reservoir, including forests, fields, meadows and pasturelands, leading to contamination of the reservoir. The inflowing waters should be monitored, as the Mściwojów reservoir has many functions, including recreation and leisure. Moreover it is a refuge for birds. Also, the outflowing waters should not be underestimated, as they influence the water quality of the Wierzbak River below the reservoir. The next analysis involved the influence of Mściwojów grange reconstruction on the functioning of the water reservoir and the hydrological regime of its micro-catchment. It was an important element of the environmental impact evaluation of the possible future implementation of the concept based on the 3D visualization. The study evaluates the impact of this concept on the functioning of the water reservoir and the hydrological regime of its micro-catchment. The study showed no negative impact of the concept on the size of water resources.



**Fig. 8:** One of the grange buildings in present state (at the top) and the vision of its revaluation (at the bottom) made in 3D technology by I. Szelest



**Fig. 9:** Works on complete scene of 3D visualisation made by B. Mitka and I. Szelest



**Fig. 10:** Hypsometry of the catchment area of Wierzbak and Kałużnik rivers (Radecki-Pawlik et al., 2012)

An extremely important study was the evaluation of the possibility of supplying the commune of Mściwojów with water and sewer drainage in case of implementing the assumptions of the 3D visualization, regarding the revitalization and reconstruction of the von Nostitz family property. The study presents two possible ways of supplying the commune of Mściwojów with water after the possible implementation of the concept developed for the 3D visualization. The first variant is to expand the existing water supply system. It will be necessary in order to supply the future objects with water (orangery, hotel with a restaurant, stud farm, vineyard with a restaurant). In order to increase the reliability of the water supply and to ensure fire protection of the object, another variant was developed. Variant II assumes the construction of an auxiliary underground water reservoir, which would supply the stud farm, the vineyard and the restaurant with water. Another pipeline would supply the hotel and the other restaurant. The concept also includes an analysis of the sewerage system in Mściwojów, including the investments planned as a part of the 3D visualization. As the concept of revitalization and reconstruction of the historical property in Mściwojów had to take into account

the neighbouring agricultural lands of the village and the agricultural surroundings, it was necessary to recreate the historical spatial configurations on the agricultural lands. So the aim of the study was to analyse the available historical cartographic materials of the village of Mściwojów. The study involved the cartographic materials and maps, starting with the Prussian cadastre and the analysis of historical building configurations (Fig. 11).

Another basis for creating the 3D visualization was the study of 2D cadastral maps of Mściwojów showing the spatial transformations of the use and configuration of land that was given to the settlers in 1948, and a cadastral map from 1964 (after collectivization). The maps were prepared also using the present cadastral map and the digital orthophotomap. As a result of the study, geodetic maps were obtained, necessary for further design and concept works.

The proper development of the agricultural lands must not be treated separately from the economic and spatial conditions of the development of the main function of the open space of Mściwojów, which is agriculture. This is

why it was necessary to develop a cadastral map optimization model for the purpose of the pilot project, especially the planned 3D visualizations of the areas outside of the village. The presented process of optimization of the land configuration of Mściwojów allowed to propose a proper configuration of lands belonging to particular farms, including both minimizing the average distance from the land in the whole village and the necessity to relatively uniformly distribute the benefits resulting from the new land configuration among particular owners.

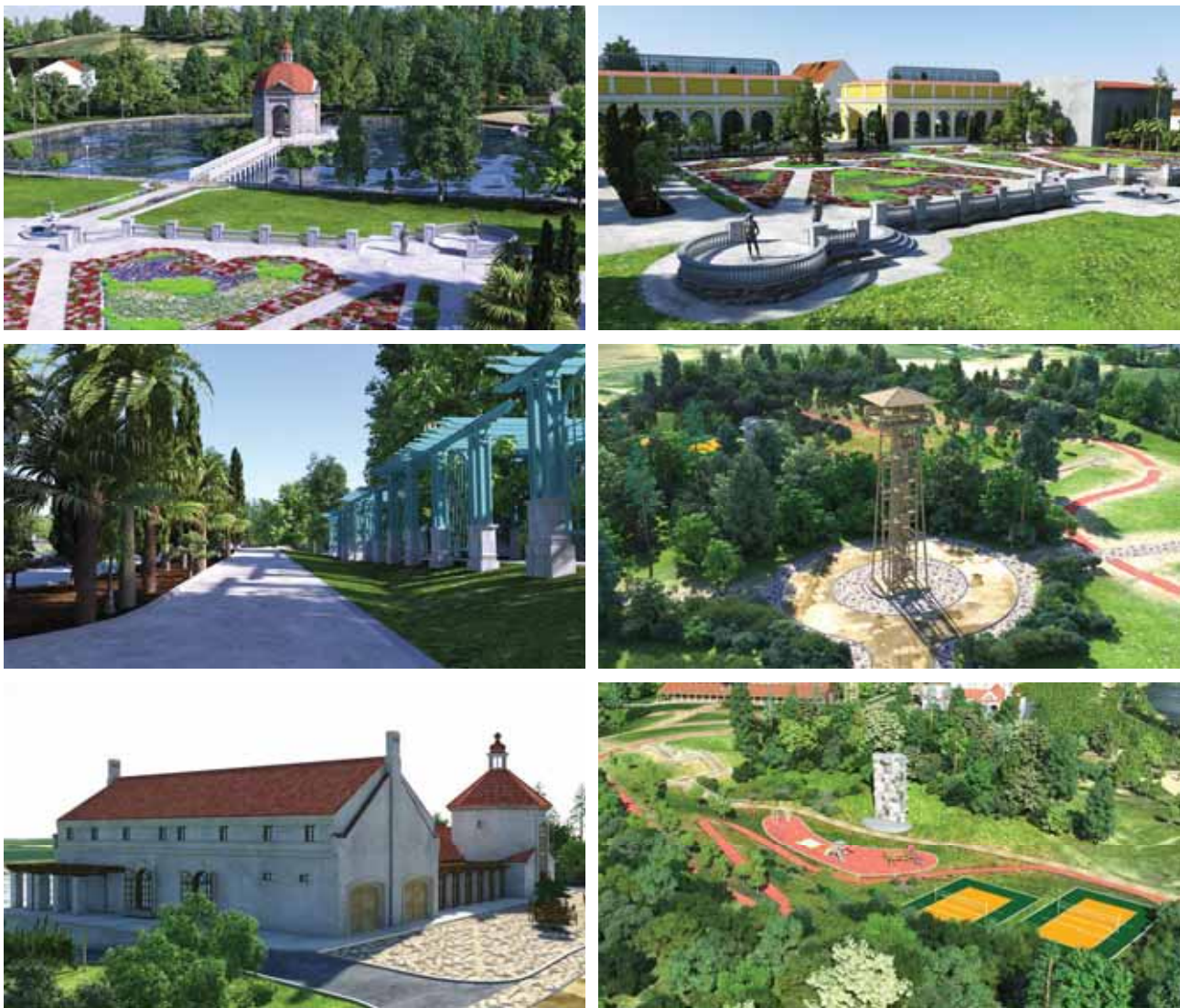
Moreover, as a part of the actions of the University of Agriculture in Kraków, studies regarding regional landscape development scenarios were elaborated. The first one involved the cultural landscape characteristics and the regional cultural landscape development scenario form Małopolska. The works were carried out for each rural district of Małopolska. In general, it was pointed out that the necessary condition for obtaining the desired landscape state by implementing the developed assumptions is a common enacting of local spatial management plans for possibly large areas – whole villages and the agricultural surroundings or communes. The next issue is the necessity to introduce development models in the sub-regional context – exactly the district one – and a model of a rural farm, adapted for local conditions of agriculture and settlement development.

The second study involved landscape cards for the needs of the regional cultural landscape development for the communes surrounding Kraków. The aim of the study was to document the elements of cultural landscape characteristics for the near Krakow communes on the background of the natural environment. In the first stage, communes surrounding Kraków were delimited. Next, 4 communes were selected, and 5 representative villages were chosen on their territories for the detailed analyses. The works have shown two main regularities. Firstly: the agricultural function is decreasing as a result of suburbanization, which causes “devastation” in the economic sphere of agricultural farms taking into consideration: farm condition/field production/economy and a multigenerational village family model and landscape aesthetics. Secondly, architectural chaos is increasing, as a result of unprecedented investment pressure of citizens of Kraków with no local spatial management plans.

It should be noted that the works make up an exceptionally complex and coherent entirety. They involve working on the concept with the use of modern 3D visualization techniques and social participation, evaluation of possibilities and the consequences of implementing the concept in practice. The works were not limited just to the property, but they also involved the area of the whole village, including the agricultural lands and the water reservoir (*Fig. 12*).



**Fig. 11:** Agricultural areas surrounding the village and the property reveal the lack of harmony and low level of aesthetic values of the landscape made by I. Szelest



**Fig. 12:** Realisation of the scenario of changes which was presented in 3D visualisation of von Nostitz family property in Mściwojów would enable creation of very charming and idyllic recreational space (vizualisations made by I. Szelest)

## 5. Conclusions

An increasingly important aspect of such projects is public participation. It helps to adjust investments and development plans (e.g. spatial development plans, infrastructure investments, etc.) in a way, so that they do not come in conflict with the local community's needs (Brożek et al., 2013; Litwin and Pijanowski, 2008; Meyer et al., 2008; Spiegler et al., 2008). It found a reflection during the realisation of the project in the following issues (Brożek et al., 2013):

- firstly, we noticed strengthening of the participation of the local actors in management of village;
- secondly, a local cooperation network connected with the group of experts.

The above mentioned phenomena resulted in raising awareness and engagement with the landscape of the local people, in the matter of utilizing landscape heritage as a potential for further development.

The cooperation of the Agricultural University in Krakow with partners from Austria, the Czech Republic, Germany, Hungary, Slovakia and Slovenia has significantly contributed to the work. The project results are particularly valuable and ensure their long-lasting impact, because of intensive communication between the project partners, and thanks to the involvement of local and regional stakeholders. Germany and Austria are the most experienced countries, and the local communities and authorities of Mściwojów were acquainted with their know-how. We found, that for the realisation of such conceptions, it is very important to listen to the bottom-up initiatives and fulfil them. The project work described here, was aimed at the improvement, protection and development of the landscape cultural values in Central Europe. It helped to confirm the thesis that: *the protection of natural and cultural landscape assets is possible only if we manage to maintain and develop traditional local economies in rural areas, bound to this landscape, by generating non-farm jobs and developing potential in the region.*

## Acknowledgements

The Polish Vital Landscapes team would like to express gratitude to the municipality of Mściwojów – to the authorities and to the residents – for the good cooperation and openness. We are also pleased that politicians on county and voivodeship level took interest in the results of the 3D-supported visualisation of the von Nostitz estate Mściwojów development concept.

## 6. References

- Brożek M., Możdżeń M., Pijanowski J. M. (2013): Cultural landscape potential and local strategies of rural area development. *Geomatics, Landmanagement and Landscape (GLL)*, No. 1-2013. Publishing House of the University of Agriculture in Krakow. Krakow, p. 7-17.
- Brożek M., Możdżeń M., Pijanowski J. M. (2011): Analiza historyczno-ikonograficzna ruin zabytkowego folwarku rodu Nostitzów w Mściwojowie (Gmina Mściwojów, Powiat Jaworski, Województwo Dolnośląskie) na cele przestrzennej wizualizacji 3-D. Ekspertyza na potrzeby wdrażania projektu VITAL LANDSCAPES. Uniwersytet Rolniczy w Krakowie.
- Graber E. (1930): *Die Inventare der nichtstaatlichen Archive Schlesiens. Kreis Jauer. Codex Diplomaticus Silesiae*, Band 35, Breslau.
- Jastrzębski S. (1973): *Jawor i okolice*. Wydawnictwo Ossolineum, Wrocław-Warszawa.
- Koiwchwitz O. (1910): *Ein Wegweiser durch die Heimat und ihre Geschichte*. Jauer.
- Litwin U., Pijanowski J. M. (2008): Aktywna ochrona i kształtowanie krajobrazów kulturowych a waloryzacja ich zasobów. *Kwartalnik naukowy nr 1 Wyższej Szkoły Przedsiębiorczości w Nowym Sączu. Seria: Geodezja i Kartografia*. Nowy Sącz, p. 37-43.
- Meyer H.-H., Pijanowski J. M., Hernik J., Schreiber W., Dorozhynskyy O., Glink Ch. (2008): Catalogue of Cultural Landscape Elements with a Glossary of Terms. [in:] *Protecting Historical Cultural Landscapes to strengthen Regional Identities and Local Economies*. Monografia, Infrastruktura i ekologia terenów wiejskich 12/2008 PAN – Komisja Technicznej Infrastruktury Wsi. Kraków, p. 339-351.
- Monateschrift von und für Schlesien, Mai (1829): *Aus Lucae Denkwürdigkeiten: Lustgärten, Gartenbau und Blumefiliebbaberei in Schlesien um 1689*. Breslau.
- Radecki-Pawlik A., Wałęga A., Wojkowski J. (2012): Analiza zasobów wodnych krajobrazu kulturowego sołectwa Mściwojów. Ekspertyza na potrzeby wdrażania projektu VITAL LANDSCAPES. Uniwersytet Rolniczy w Krakowie.
- Spiegler A., Pijanowski J. M., Hernik J. (2008): Landscape identification and evaluation research with the help of the ECOVAST method, as a contribution to the process of implementation of the European Landscape Convention exemplified by the municipality of Wiśniowa. [in:] *Protecting Historical Cultural Landscapes to strengthen Regional Identities and Local Economies*. Monografia, Infrastruktura i ekologia terenów wiejskich 12/2008 PAN – Komisja Technicznej Infrastruktury Wsi. Kraków, p. 28-42.



## VIII. LANDSCAPE AS INSPIRATION FOR LOCAL DEVELOPMENT (Ljubljansko barje, Slovenia)

*Maja Simoneti and Urška Kranjc*

*LUZ, d.d., Ljubljana, Slovenija*

### 1. Introduction

This contribution describes how the development of new landscape awareness and new local products can be supported with active participation of local people. As experienced in the Vital Landscapes project active participation of local people works in favour of a better understanding among stakeholders as well as empowerment of local people for the development of new products that originate in the landscape. Both of those are useful predispositions for good cooperation when landscape as development asset is in question. So when questioning about how to reach an agreement about landscape development across several municipality borders and diverse interests, the participation of local people seems to be an obvious idea. The local people are landscape developers by their everyday actions and, thereby, the most important partners for any kind of new vision, program, plan or policy related to landscape.

The Slovenian project group in the Vital Landscapes project decided to test active participation as a tool for the promotion of pilot area landscape identity and for identifying new development opportunities. The pilot area, Ljubljansko barje (*Fig. 1*), was chosen due to two sets of reasons: (1) the outstanding landscape and distinguished nature quality; (2) the diverse ideas and expectations about the landscape development in the area since hundreds of individuals, landowners and residents are sharing their perspectives with seven municipalities, the nature protection and the cultural heritage programme. The project idea was to raise awareness about pilot area landscape identity as a common base for the further development and to mobilise local people to ambitiously participate in the area development towards nature protection goals and landscape quality. Doing this the landscape should become a common base for the development of new activities and products that are inspired by landscape and originate in balanced land use. Both local residents and involved audience should become more aware of landscape as a common development base and cultural heritage.

The Ljubljansko barje pilot area case is interesting in both the context of Slovenia's landscape and nature protection policy practice as well as the context of the common European perspective of landscape development. The case demonstrates the cohesive role of local residents in the implementation of nature protection policy and

landscape development goals (*Mose, 2007; Horlings, 2010*). It reaches into the fields of (1) nature protection which is traditionally well organised and supported by a strict legal framework; and (2) landscape policy which – at least nowadays in Slovenia – has almost no such structure. In a way it also shows the importance of (yet unreliable) political support for the implementation of certain development policies.

In the times of growing ambitions for Slovenia's independency, in the late eighties and nineties, landscape development in Slovenia was treated as of great national interest which resulted in the preparation of numerous important landscape databases and studies including a national landscape typology (*Hudoklin, 1994*), landscape regionalisation (*Marušič, 1998*), outstanding landscapes (*Hudoklin, 2001*) and landscape transformations expected because of the access to the EU (*Ogrin, 1999*). At that time landscape development was as well incorporated into the National Spatial Policy (2001) and the National Strategy of Spatial Development (2004). Because of this work Slovenia was also supporting the preparation of the European landscape convention (ELC) and easily adopted and ratified it (*Zakon o ratifikaciji evropske konvencije o krajini, 2003*). In the next decade the economic prosperity influenced major weakening of the spatial planning measures and along with those also the ones of spatial/landscape policy. In 2005, the last professional groundwork was prepared as a two year long research work about the visibility of Slovenian landscapes (*Hudoklin et al., 2005*).

After that period the interest in landscape, landscape change and development drastically changed. With the new spatial planning act (*Zakon o prostorskem načrtovanju, 2007*) landscape planning was omitted and funding for professional work and research was cut to zero. Today, landscape development in Slovenia is supported by a general policy framework and implemented in practice through the measures of spatial planning on the quite fragmented municipality level. In landscape, the main developmental role is played by agricultural policy measures. For these reasons and the lack of regional planning in Slovenia's planning system, numerous Slovenian landscapes are endangered as well as unevenly developed within fragmented responsibilities of a multitude of small local municipalities and different sectorial policies (*Hudoklin and Mlakar, 2010*).



**Fig. 1:** Ljubljansko barje (author Masa Sorn)

As noted before, the Slovenian pilot area in the Vital Landscapes project is significant for the circumstances: there are seven municipalities sharing the single area of an outstanding landscape, which is recognised as nationally important nature protection area and declared as Landscape park (*category by IUCN: V; Uredba o Krajinskem parku Ljubljansko barje, 2008*). As a result of that different fields and levels of authority are supposed to cooperate in the pilot area in favour of common development goals. The pilot project activities were supposed to demonstrate that common goals must be defined through open and early enough public participation because the fulfilment of common goals depends highly on how local people feel about them. The starting hypothesis was that if the local actors get the opportunity and time to co-define and personify the common goals, they are to become natural allies in the process of implementation.

When the European landscapes started to be widely mentioned as development assets, the traditional approach to landscape development faces new expectations (*Bensen and Roe, 2000; Horlings, 2010*). These expectations are rising from the growing interest of European citizens for nature and landscape as well as from the general economic crisis which makes us to search for new business opportunities within landscapes. These expectations link physical landscape characteristics with landscape development potentials such as food production, traditional arts and crafts, tourism, or the production in the forest-wood chain (*Mose, 2007*). The

new expectations can be identified in various EU and national activities, starting from territorial cohesion policy or the ESPON programme and ending in concrete projects, programs and policies. This means that landscape as less traditional development resource is being complexly studied and observed with a new interest of wider and greater public than before. Generally speaking, it is believed that landscapes would evolve their full potential only if new approaches to integrative management will be developed (*Council of Europe, 2006*). Considering different international project activities (ESPON TANGO, ESPON LIVELAND, GreenNet, ...) the search for the new development model by all means involves the recognition of the role of local people as a driving force behind each landscape. These mean that new ideas are being developed within the local community and people who are expected to live and work with the new programs and concepts. This should strengthen further sustainable development of an area and the development of the community. On the contrary, excluding people from the development process would be a loss and could cause opponents and indifference among local community and this way omit the possibility for fruitful interactions (*Jones and Stenseke, 2011*).

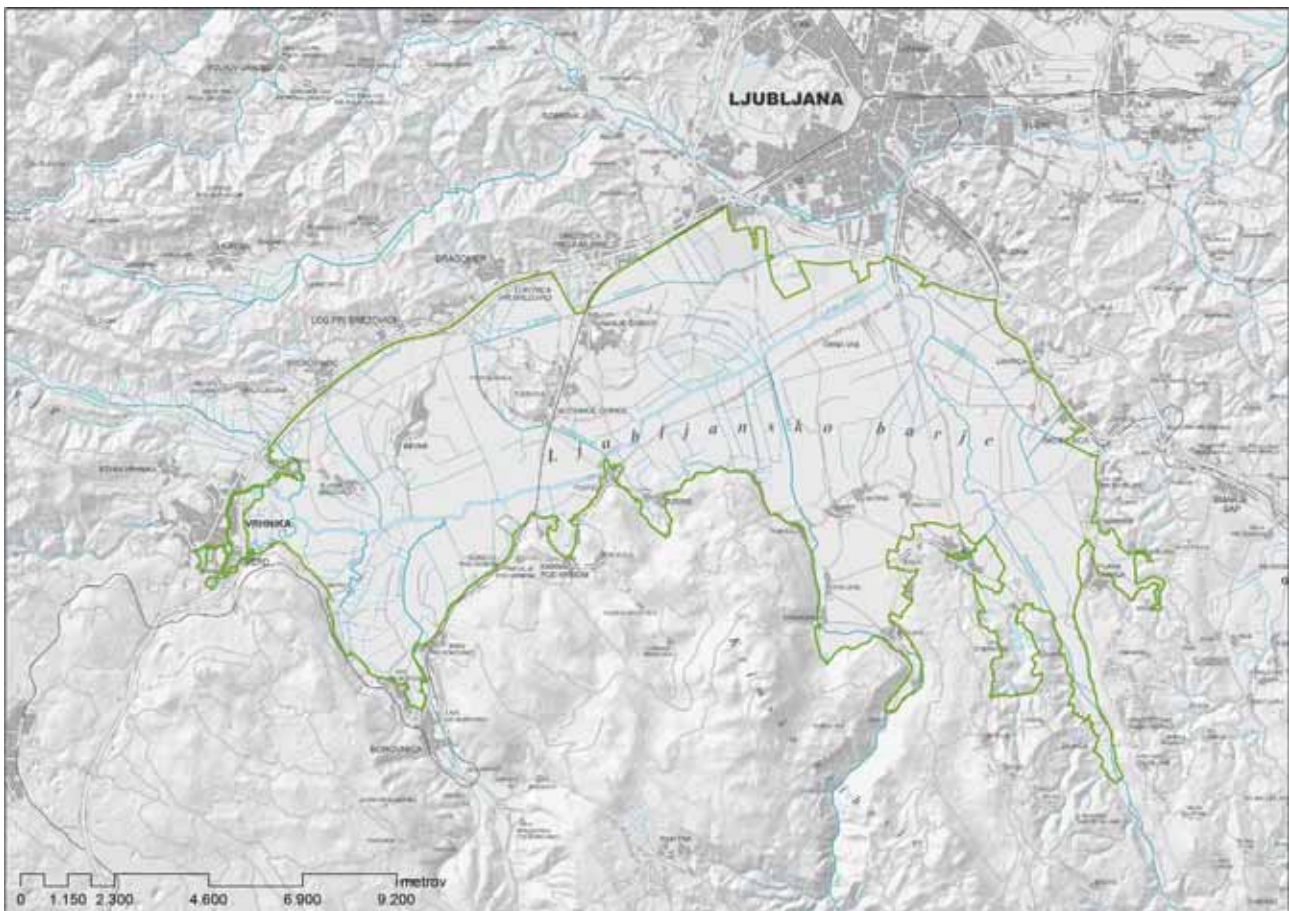
Wondering about the sustainable future of cultural landscapes in the next century, Vos and Meekes (1999) proposed “*integration between disciplines; matching of scales in time and place with users, researchers and decision makers to enhance interaction and understanding*” and thereby stressed active public

involvement in landscape development from its early stage. In Slovenia, where public participation in the last ten years became narrowed to formal and last minute necessary information, this has a special importance. Namely, when landscape was recognised as development potential worth of protection already in the late 1960ies and later when the ELC was willingly ratified in 2003, these solutions were imposed to local communities without proper public participation process.

Today, the declared public opinion in Slovenia is highly in favour of nature protection but in practice there is a lot of scepticism about the protected area around as well (Kos, 2011). At the same time the decreasing role of spatial planning in the last twenty years and the increasing role of sector policies caused that also other tools for coordination and conflict mitigation are missing. Without a dialogue this gap is getting deeper and Slovenian landscape is being changed radically while managed partially, largely through instruments of agricultural policy (subventions) and nature protection. In addition, the management practices differ area by area, however, showing two main common features: (1) the inability to control landscape transformation and (2) the inability to optimise achievement of different development expectations of particular stakeholders. Under these circumstances, there is a constant need for highlighting the role of local people as a development

factor in a governance model that would better reconcile a number of different interests. From the perspective of Slovenian landscape every chance to introduce people into the development debate and to motivate them for active enrolment in its development is of great exemplary value.

In the pilot area, Ljubljansko barje, the main development challenge is how to sustain the long lasting balance between its natural character and land use practices and how to incorporate this into the already existing prosperous local economy. It is a classical dilemma of sustainable development of a cultural landscape with particular features. These are mainly related to outstanding natural and cultural heritage, also internationally acknowledged and to the vibrant local communities that stopped being dependent on farming long time ago. As such, according to Pleininger, Höchtl and Spek (2006) the pilot area belongs to cultural landscapes where traditional land-use systems should be preserved, and new tools for their economic viability must be designed, rather than to landscapes where key elements of traditional land use and ecological services should be identified and integrated into future, more productive land-use systems. The search for new economic viability started with the Vital Landscapes project.



**Fig. 2:** Ljubljansko barje pilot area location



**Fig. 3:** Ljubljansko barje character (author Masa Sorn)

## 2. Ljubljansko barje as the pilot area

### 2.1. The features

Ljubljansko Barje (The Ljubljana moors) is an outstanding landscape, a wetland area, located in the immediate surroundings of Ljubljana, the capital of Slovenia (Fig. 2). Due to its natural and cultural heritage, the area is a solid proof of the long lasting cohabitation of people and nature that nowadays results in attractive living conditions for both people of seven local municipalities and natural species.

The area is most significantly marked by water activity that defines the land use and agriculture as well as the visual character of the landscape (Fig. 3). The network of ditches and channels presents a form of long lasting man intention to control the water level but not to drain the area. The evidence speaks of more than 200 avian species, 89 species of butterflies, 84 species of dragonfly, etc. which based the enrolment to EU Natura 2000 area and the establishment of Landscape park. In year 2011 the area was enlisted as UNESCO World Heritage site due to locations of the pre-historic pile-dwellers (Landscape park Ljubljansko barje).

Besides the extreme nature and culture richness, the area divided among seven municipalities hosts 25 small towns and 35.000 inhabitants. The majority of residents, diverse in their professions and interests, are in large number every day commuters, while the rare farmers take care for

farmland, which forms 85% of the area (*Statistical office of the Republic of Slovenia, 2011*). The area is demographically and economically prospering, mostly due to the close vicinity of the national capital. Farming as land maintenance is promising but interesting for significantly small number of residents. The profitable farming is stepping over the classical land-use patterns and causing potential problems from the nature protection perspective.

### 2.2. The challenge

Due to different reasons recently nature protection has become the most publically apparent asset of the pilot area. The fact that this ecologically valuable environment is a cultural landscape, a man-made creation, is much less apparent. From the perspective of future development expectations this could be an obstacle. Low level of public awareness about landscape quality could lead to landscape degradation while ignorant users are poor partners in the process of planning. Therefore, the Slovenian Vital Landscapes project team emphasized the human perspective as a key factor for a successful management of the pilot area. This issue became a challenge of the Slovenian Vital Landscapes project.

Today's landscape in the pilot area is a result of a long confrontation among the powers of nature and man's effort to cultivate land. The outcome of this confrontation is a fragile balance, which needs constant collective effort in order to sustain. In the recent past this balance was

shaken by two processes. The value of nature, of area's biodiversity and ecosystem values, started to get stronger through common European policy and Natura 2000 programme, while the interest for farming was downsized partially due to overall economic prosperity and partially due to nature protection measures. Along with these the core area was proclaimed a Landscape park by the national government on the agreement of the local authority. The park authority is appointed and financed by the national government. This way today the developmental dialogue and the reasoning behind the park management is supposed to be led among the park authority, the seven municipalities and a numerous and diverse community of local people. When the three parties were still mostly looking apart, the detected state became a challenge for the Vital Landscapes project group. Through pilot area activities the apparent unbalance was addressed so that the human perspective of the landscape origin was highlighted and a voice was given to the local people.

### 2.3. Starting points

The Slovenian Vital Landscapes project team believes that conceptualising landscape development should start with people in mind and with a strategy that would activate them in productive and participatory processes. It is believed that public participation works better than top down approach when landscape management is in question since active support of local people is the most important guarantee for long lasting land-use management success (*Smith, 1973; Jones and Stenseke, 2011*).

Through this perspective the project team priority became to raise awareness about the human role in the former and especially in the future landscape development. The project activities aimed to raise self esteem of local actors, to enable people to discover the development potentials in local landscape and to motivate them for active participation in the further development. The idea was to gain this through a process that would combine research with practical work, residents with young and creative professionals, children with adults, traditional knowledge and resource with new design and idea.

Based on these starting points the project team decided to reach for the interest of local people with a variety of activities in four steps:

- First step – basic research and work conceptualisation, designing and labelling of the whole pilot area activity (spring 2011),
- Second step – creative participation: workshops and new local products, GIS supported website as a new platform for the project's "landscape community" collaboration (summer 2011),
- Third step – further research and involvement of new stakeholders: land use research, development scenarios, farmers workshop and local markets (year 2012),
- Fourth step – innovation and education: creative workshop as a touristic offer and educational tool (winter 2012).

In this manner different tools and techniques, such as a new web-GIS supported working platform, field research, creative workshops, promotion of local food production and markets, development and promotion of innovative local products, community meetings, lectures, international conference, landscape ambassador meetings, brochures, leaflets, were to be used to reach local residents' and stakeholders' interest for the landscape of the area as a common development asset and to widely present the human capacity of the pilot area.

While doing so the project team also kept in mind that activity must cover the whole pilot area to overcome the municipality borders and spread strong message about the community who stands behind the pilot area landscape.

The project was initially presented to the relevant local, regional and national partner organisations. The actions were later realised with support of the seven municipalities and in close cooperation with Landscape park and Regional tourist organisation while the Regional Development Agency and the three Ministries: for Agriculture and Environment, for Culture and for Spatial Development were regularly updated with project events and results.

### 2.4. The innovative approach

The project approach is innovative in the perspective of the working process and of the final products. As working process we subsume the activities and how they were performed, by products we have in mind project outputs and results, e.g. five creative workshops as new innovative tourist offer. The project demonstrated that active participation of local people is a suitable method of work. When landscape development is in question it helps to raise awareness of cultural identity attributed to landscape and gives promising results in the common development of new programs and products. The approach can be easily transferred to other cases.

The work is supposed to be carried on with the core project team extended with a creative team and joined by participants from local communities. The idea is to combine local people with external professionals, the traditional knowledge and skills with modern ones, the older generation with younger ones and the traditional working methods and tools with new ones. Also every activity should serve for more purposes.

Also an early project labelling is needed and must be developed together with the general graphic design layout. In this way the project visibility is taken seriously into account and the role of labelling in the development process of the new program can be demonstrated. Therefore, also the label "Ljubljansko barje – my inspiration" was set out in the project early beginning.

Using different tools and techniques the process brought together the participants from the pilot area and reached a diverse outer population. The project outputs and results include brochures, flyers, workshops, the new promotional film and new demo local products, the innovative tourist offer of creative workshops. All results support activity, promote landscape identity and demonstrate the benefits of cooperation.

In the pilot area the work started with searching for the inspiration. A group of local people was detected that is already searching for inspiration and job opportunities in the local area. During the project time they became the so called “ambassadors” of the pilot area, the carriers of innovative products that supports sustainable development of the area, and members of the new community being very interested in local development.

In the next step an active cooperation started through creative workshops. The project team was extended with an external creative team, local craftsmen and children as workshop attendees with a mission to test the possibilities for the development of new products within the traditional arts and crafts. The team and its activities also served as a set for the filming of a short promotional movie. In autumn, everybody participated in the first meeting of the ambassadors of Ljubljansko barje.

The next year the project team raised a question about framing in the area and managed to organise an interesting workshop. There a selected group of farmers from all the municipalities presented their experience in the wide range of classical meat farming to small family run gardening and motivated attendees to discuss vividly about the future of farming in the area. The most important result of the workshop gathering was the recognition of the role of local markets for further development of farming and of the promotion of the quality of local agricultural products. The timetable for local markets was prepared and local markets are getting organised in cooperation of all of the municipalities. The Vital Landscapes project raised interest for local food production and the newly developed products were offered at the project final conference event “Taste your landscape” as well as at the final project ambassadors meeting in pilot area.

In the last step the experience from the first year creative workshops was tested with new attendees and further developed to an innovative tourist offer. In this way, the visibility of the project activities and the Vital Landscapes core message about the connection of people and landscape is disseminated. The workshops are now offered as regular tourist offer in Ljubljana and surroundings and can be also be organised for the schools. Those are targeted with another project product that was derived from the pilot area landscape, the Water educational guide. As the project team found out that the main driving force in the development of the pilot area landscape is water, this guide was prepared to enable active learning about water activity in the area. Together

with the experiments the guide can serve as a teaching tool and a base for the local informational centre.

### **3. Vital landscapes activities**

#### **3.1. Starters**

##### **3.1.1. [www.visitbarje.si](http://www.visitbarje.si) geoportal**

The geoportal [visitbarje.si](http://www.visitbarje.si) was created as a supporting tool, which enables information sharing, promoting of local products and services, natural and cultural assets, synchronising the timetables of events and debating on a forum (*Fig. 4*). Once the portal was filled with initial databases, three local editors were engaged who are still posting and preparing the local information.

The overall goal of this action was to overcome the municipality borders and to support the development of the community that belongs to the pilot area landscape, to encourage participation and cooperation between stakeholders in the area, and to support a joint marketing of local services and products.

##### **3.1.2. Landscape as a trademark**

Since landscape identity has a special meaning in the circumstances of limited landscape productivity that is caused by landscape’s ecosystem functions, cultural heritage, natural character or else the landscape benchmarking is very important. Smart marketing of landscape identity can seriously raise the economic value of local goods and services. This means that attention to labelling is of high importance in the local economy, which is deprived in a classical manner of production.

Having this in mind the project team invited a copywriter, Igor Medjugorac, an economist and entrepreneur in the field of eco-design, Alenka Repič, and a public relations specialist and university professor, dr. Miro Kline, to define the labelling of the pilot area activities. The idea was not to develop a new overall landscape brand but to demonstrate the role of branding and open the debate on it among the local users. As noted to spread the idea the pilot project was named: Ljubljansko barje – my inspiration and the integrated graphic design was prepared (*Fig. 5*).

As found out in the pilot area basic research early in year 2011 there are hundreds of different producers in the pilot area. Most of them produce semi-products, such as crops for processing and other agricultural products. Among them there are also craftsmen and suppliers of different services. The trade market is limited to a confined circle of users and occasional visitors. Each producer manages production, sales and promotion by himself, and searches for opportunities in an already over-saturated market. For most producers, achieving greater visibility and informing the public about their products is a highly complex and risky process that requires special skills, extra time and has unpredictable effects.

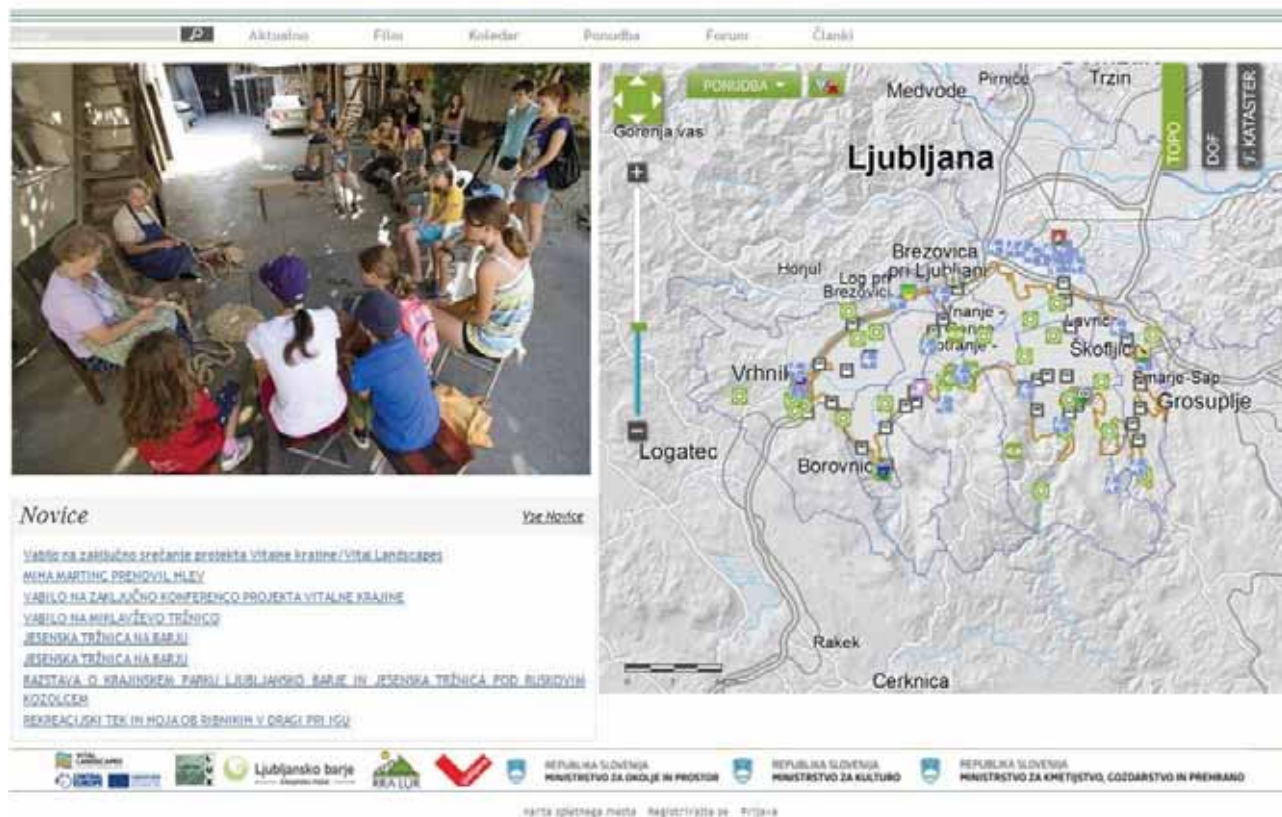


Fig. 4: Geoportal visitbarje.si

The purpose of uniting the pilot's area producers of goods and services under a joint trademark is to overcome the obstacles of self-marketing and to increase the effects of investment in joint branding and marketing. A partnership of Ljubljansko barje providers offers opportunities for a more effective presence on the market and works as additional stimulation for development. With joint branding all products gain added value and are raising their level of visibility and place of origin at the same time. This also helps to manage the quantities and qualities of products and increases interest in the market. The trademark distinguishes products from Ljubljansko barje from other products and provides visibility and identity of the product origin, both in location and production.



Fig. 5: Ljubljansko barje – my inspiration graphic design

## 3.2. Creative approach

### 3.2.1. Ljubljansko barje – My inspiration: arts, crafts and film workshops

In order to make a short promotional movie a set of workshops for kids was organised and a film competition for children was prepared. Doing both at once enabled the project team to get in contact with local craftsmen and to experiment with typical local products (Fig. 6 and 7). By engaging the creative team the workshops were carried out and ideas for new products were tested (Fig. 8).

The workshops provided opportunities to learn about traditional arts and crafts and enabled the generation of new, innovative products while recording short promotional videos about local arts and crafts (Fig. 9). The activity involved local craftsmen and children (Fig. 10), cooperating with creative young professionals (Fig. 11-14) and a film making mentor (Fig. 15). The workshops involved about 20 participants. They got to know six locally characteristic crafts in one week, worked together with a young creative team and explored how the old crafts could become more innovative, shot short videos that tended to present old crafts and their potentials for innovative use.



**Fig. 6:** Ljubljansko barje local craftsmen (author Luka Vidic)



**Fig. 7:** Ljubljansko barje local craftsmen (author Luka Vidic)



**Fig. 8:** Project product – short promotional film



**Fig. 9:** Workshop – making short promotional video (author Luka Vidic)



**Fig. 10:** Workshop – craftsmen and children working together (author Luka Vidic)



**Fig. 11:** Workshop – young professionals and children (author Luka Vidic)



**Fig. 12:** Workshop – products (author Luka Vidic)



**Fig. 13:** Workshop – products (author Luka Vidic)



**Fig. 14:** Workshop – products (author smetumet)



**Fig. 15:** Workshop – video menthor (author Luka Vidic)



**Fig. 16:** New local product – Tea for bath

### 3.2.2. Searching ways to develop new innovative local products

Small parts of the activities were aimed to explore options of developing new local products from local ingredients and local traditions. One product was developed out of the cooperation among two local herbalists and young designers. They joined their work and developed a new local product called “Tea for bath”. In line with other project activities, three types of “tea for bath” from local herbs were produced and nicely packed together with a short story about the healing effects of local herbs, picked by local inhabitants (Fig. 16). By doing this the process of the development of a new product was demonstrated and the expected quality of the output was demonstrated to local people, investors and the wider audience.

## 3.3. Activities related to agriculture

### 3.3.1. Local food production workshop

The Ljubljansko barje – my inspiration project also focused on the farming activities in the pilot area. Local farming is well adjusted to natural and cultural environments and specifics. But the potential for food

production could be none the less explored more than it is, especially in line with its coherency to the nature protection measures. The farming culture shows a good possibility to ensure and develop products, which could mean quality of life as well as an interesting offer for the visitors and wider community. Local environmental friendly food production could flourish with better visibility of local trade marks. The project was a chance to support the efforts of local municipalities in organizing local food markets and thereby to support regular opportunities for selling the excesses of the crop (Fig. 17).

In order to stimulate farmers for farming and selling, a workshop was organised in cooperation with few farmers that shared their stories with the attendees and initiated the interesting discussion (Fig. 18). The majority of the participants were local farmers, but they were also joined by decision makers, such as municipality representatives, the landscape park director, representatives from the Ministry of agriculture and the environment and press. The presented career cases showed that there are several ways to succeed in farming and food production in the pilot area with the condition of being open, persistent and determined. There is a common interest for ideas revolving around a common trademark and more cooperation between stakeholders.



Fig. 17: Local food markets month calendar



Fig. 18: Workshop to stimulate farmers for selling

### 3.3.2. Food markets

The project team directly supported the organisation of local markets as they were detected to be the most important tool for the future of local small and medium size farming. Those farms are the key for effectively maintaining vast proportions of the cultural landscape and landscape identity of the pilot area. The project team insisted to develop an annual food markets calendar in cooperation with municipalities and other market-organisers. The team took an incentive in promotion of local markets and food products and prepared promotional material such as posters, flyers (Fig. 19) and market shopping bags (Fig. 20).

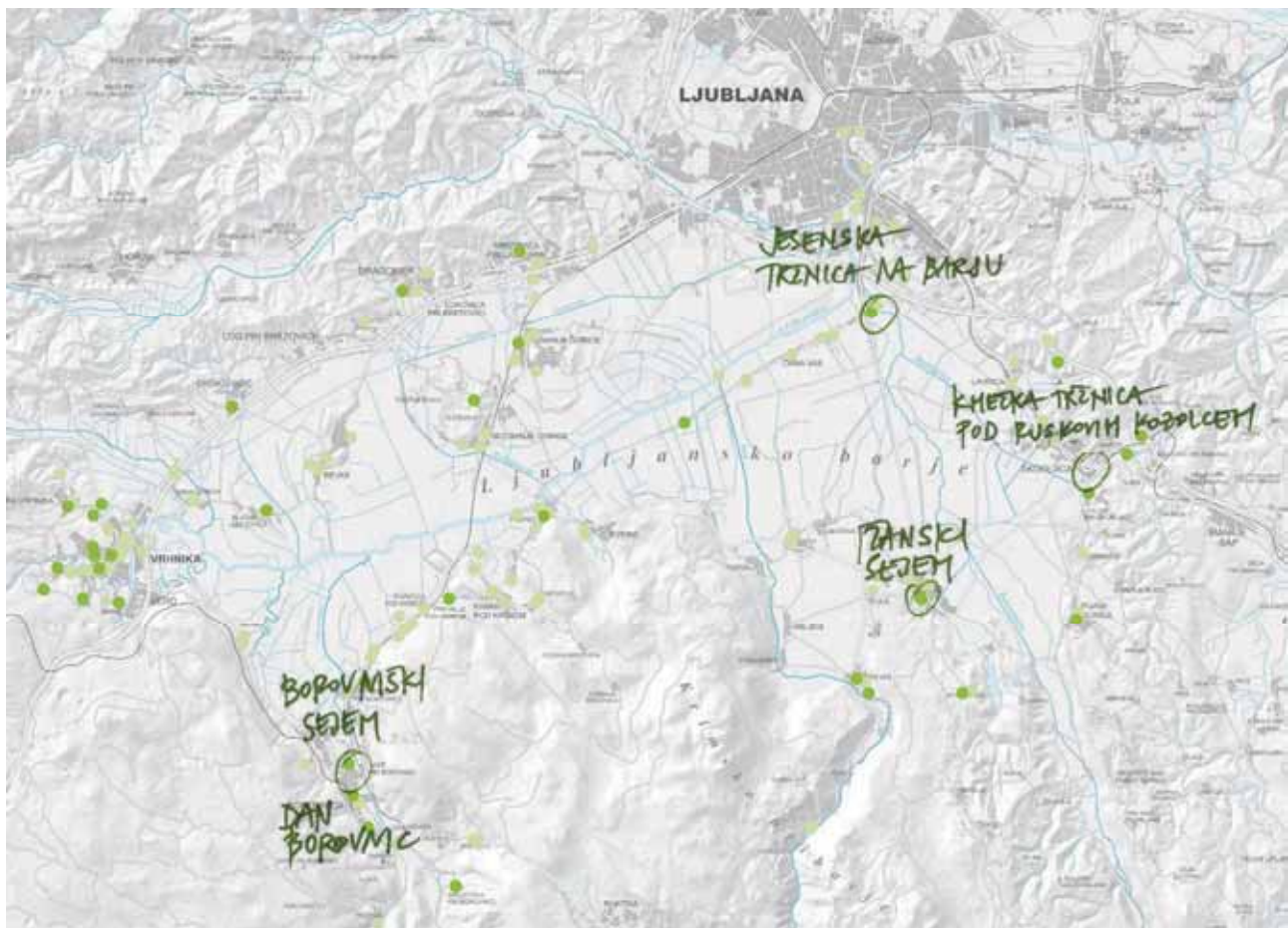
In this activity a local market calendar was developed and stressed two important things: the necessity of organising local markets all over the pilot area and the necessity to always host producers from the whole area. This territorially adopted map (Fig. 21) raised awareness about a common landscape identity and started to build a base for landscape-bound food branding. At the end of the project the calendar map with symbols of all local markets was printed on food bags that are going to be Vital Landscape's symbolic support of the market activity in next year. The efforts were accepted very well by the local authorities and private market organisers as well as influenced the ambition of labelling the local products with farmers.



Fig. 19: Promotional material – flyers



Fig. 20: Promotional material – shopping bags (author Tadeja Vadjnal)



**Fig. 21:** Local markets spread in pilot area

### 3.4. Novelties

#### 3.4.1. Ambassadors meeting

During the first project year, an idea developed to name all the participants of the project the “Ambassadors of Ljubljansko barje”. The external expert prof. Kline explained: *“When the users, guests or investors come, it should be ensured that they get to know our landscape, to grow fond of it and to report of it to others. The experiences must have an impact on all five senses of the visitors, and win over their hearts. Therefore, they have to get to know the stories and the people originating from the landscape that function in it, and should be proud of the community. If the local participants, inhabitants, producers and others interested in landscape development learn to provide strong and authentic experiences, they can effectively support the process of landscape development as a trademark. When the visitors are familiarised with the landscape, inspired by adventures, and in favour of the products and services, they can become heralds and partners in landscape development and protection.”* With an intention to gather and connect stakeholders, a workshop was organised with a reward ceremony for a short film, a promotional film presentation, a presentation of innovative approaches to design new products out of local material, a presentation

of successful case studies, and with lots of valuable opportunities to learn from other's experiences.

The final project meeting in March 2013 was also declared as an ambassador meeting. At that time of the project new bonds were developed among local people and even new organisations and working teams were formed.

#### 3.4.2. Innovative tourist programme – creative workshops

The innovative tourist programme was developed from creative workshops organised for kids in the first project year under the title: “Ljubljansko barje – my inspiration: arts, crafts and film workshops”. The feedback to the workshops was so good and positive that creative partners of Slovenian Vital Landscapes project team “Smetumet”, developed them further, organised a few more and decided to offer them to the tourists, too.

The new tourist programme was developed in collaboration of the Slovenian Vital Landscapes team, local craftsmen, the creative team of Smetumet and the associated local partner, Tourism Ljubljana (Fig. 22). It offers a visit to the pilot area with the themes of meeting local people and traditional handicrafts including the following activities: coming to the site, meeting local people, learn about traditional handicrafts and gain new

skills and knowledge by participating in a workshop. The innovative tourist programme invites visitors into the area and offers them the opportunity to explore, to be creative and to learn by active participation and own experience.

By creating their own souvenir, a crafted useful object, such as a piece of jewellery, woollen slippers, a painted bag, all-natural body cream or a jar of wild pesto, people are likely to develop a lasting emotional attachment for the destination which is to talk about it and return again. Instead of passive observation of the provided natural and cultural experiences, The Ljubljansko barje – my inspiration workshops programme offers an authentic experience in engagement with local communities. In the case of Ljubljansko barje, the local experience is combined with the experience of nature, in a possible bird-watch or horse-ride addition to the standard workshop programme. The programme is an alternative to the many forms of mass tourism that could not be welcomed in a Landscape park due to its many delicate natural assets.

This innovative invitation to Ljubljansko barje enables visitors to gain deeper experiences about landscape and people as well as supports interest for the development of local crafts among residents. The tourist programme opens the possibilities for the new production as well as widens the group of tourists interested for a visit of Ljubljansko barje. It can be consumed as individual one time visit or as a series of visits since there are five different thematic workshops in a package.

### 3.4.3. Water educational set

The landscape of Ljubljansko barje originates in water activity. The word “barje” means “bog” or “marsh” and it defines a type of wetland, characterised by constant or occasional water resistance. The main watercourse in the area is Ljubljanica river with its numerous tributaries, most of them regulated. Landscape identity is defined by

the water and typical mosaic structure, formed by lines of ditches, around long and narrow parcels of grass lands and fields. Due to the impermeable surface, the water often overflows its banks and the surroundings are then flooded (Fig. 23).

Management of water resources is historically speaking the human activity that deserves to be recognized as most important for the state of the highly valued nature in the area. It is thereby very important that local residents understand how water works in the area and what the human role in the management of the water level is that enables farming and other land uses.

To empower the meaning of regular water management, the Slovenian Vital Landscapes project group decided to develop an educational set that would enable experimental learning about water activity. A brochure with a set of valuable resources on the topic of water at Ljubljansko barje is published (Fig. 24) and spread among schools in the pilot area territory while the wider community could use its electronic version. The educational brochure includes 5 different topics, 14 DIY (do it yourself) educational experiments and a number of particular curiosities about water in the Ljubljansko barje area. The brochure is suitable for pupils and the general public. The Ljubljana House of Experiments joined the initiative with its own water-related educational resources, which are presented in the brochure as well as in the House of Experiments in Ljubljana.

Initially the set meant to be a teacher’s tool for work in schools but the revision proved that the experiments have wider capacity and could be used for other occasions of non-formal education of children and adults as well. Thereby, the set is waiting for other users like experimental educational institutions or a new information centre in the pilot area or other wetland areas.



Fig. 22: New tourist programme brochure



## 4. Conclusions

The Vital Landscapes project managed to fulfil most of the Slovenian project group expectations. It raised wide public interest for the pilot area landscape, for the local food and craft production and it effectively pointed out the role of local people for the state and maintenance of this outstanding landscape. Especially the last is a valuable contribution of the Vital Landscapes project to the further development of the area.

The most important proofs of success are probably: the ongoing scheme of local markets, the creative workshops as new tourist offer in the pilot area and the newly organised local partnerships and new food products on the market. But above all, the better understanding among local residents and the Landscape park authority must be mentioned. Since the role of local people for the landscape development was exposed by their active participation in the project activities and the representatives of Landscape park authority and local municipalities were part of these actions too, a new, productive level of understanding is gained.

The project results are probably a consequence of many reasons but among them it is good to name those which seem to be most important for reaching the project goals and which can be helpful in similar situation elsewhere. Those are: the carefully planned interesting activity, the participation of a wide range of people from the pilot area project team and wider community and the good project visibility.

In lines with the whole project the idea in the pilot area was that all of the project activity should be used for multiple purposes, like building new people-landscape attachment, testing the production of new local products, making new promotional films by kids and by the professional team as well, educating school children as well as the general audience. Another idea was that different groups of people should be mixed and thereby supported the faster transfer of new ideas, knowledge and skills. The fact that workshops were organised in cooperation with an external creative team at the local craftsmen workshops and with children from the wider region as attendees worked in favour of opening the communication and spreading it around really fast and easy. The mix of generations and professions, inner and outer actors made the knowledge sharing in all the directions very easy. Because project activities were at the same time shared also with institutional partners like municipalities, ministries, tourist operators and the Landscape park authority we newly opened the formal communication channels as well.

The planned activities worked great. The local people were relaxed in the familiar surroundings of their workshops and farms as well as also very open to young visitors who made them proud of what they are doing and where they belong. Altogether this led to a very nice experience for everybody and raised interest for new products and further cooperation. The good experience

was also documented in a new promotional film "Ljubljansko barje - my inspiration" that reached the wide outer community for its unique way of promoting the area's landscape identity. The overall satisfaction was quite obvious at the first pilot area ambassador's meeting in the autumn of 2011 when the bonding already started to overgrow the project itself. In this way also a new set of self-initiated workshops happened in summer 2012 and further developed to a new tourist product in the pilot area. So as a living legacy of the Vital Landscapes project from spring 2013 there is a set of five creative workshops offered to the visitors of Ljubljansko barje at Ljubljana tourist office as a unique and pristine experience of the pilot area landscape. This means that people can visit the area, meet local craftsmen in their workshop, listen to original explanations about traditional handicrafts and then follow the instructions of a young designer and manage to produce a natural souvenir from local materials like natural cosmetics, for example.

The Vital Landscapes project managed to address some of the open questions about the further development of the pilot area. It evidently contributed to the enhancement of the role of people in this outstanding landscape and nature protection site. All in one the project activities managed to start a step by step changing of the perspectives. Among those are definitely the ones of the Landscape park about the role of traditional farming and farmers for the landscape development and nature protection. At the final event it was obvious that the Vital Landscapes project started a promising set of activity and cooperation as well as it gave some lasting results in new products and associations. This all together proved to the local people that new ideas can work and be productive, that new people and skills are needed for the new or better production and that cooperation works better than individual action. Hopefully, the new energy will help not only the new entrepreneurs but also the process of the preparation of the Landscape park management programme. The management plan will have to involve a much larger number of interested people than it was the case in the time of park establishment. And the conditions for such kind of cooperation are now a bit better than before the Vital Landscape project. The project team, activity and partners managed to cross some prejudices about farmers on the side of the park authority and enabled the farmers to change the observation of the park mission.

Project activity also raised awareness of landscape quality and value among the residents who actually knew the value before, but were not aware and proud of it. The awareness and related proud were raised by practical interaction rather than by simple classical promotion. The fact that everybody interested in events, workshops and activities was appointed "the landscape ambassador" made people much more realistically aware of landscape as well as of their role in its creation, than any classical advertising would do. The fact that they participated in setting the promotional film worked in favour of raising local self esteem and was very well accepted all over the

country. The fact that people found inspiration for new products guarantees that this landscape would be taken care for.

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## 5. References

Bensen, J. F., Roe, M. H. ed. (2000): Landscape and Sustainability. Spon Press, London, Taylor & Francis.

Council of Europe (2006): Landscape and sustainable development. Challenges of the European Landscape Convention. Council of Europe Publishing. Strasbourg: 213.

European Landscape Convention. Implementation in Slovenia. (2011) Ministry for the Environment and Spatial Planning. Ljubljana.

ESPON TANGO. [http://www.espon.eu/main/Menu\\_Projects/Menu\\_AppliedResearch/tango.html](http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/tango.html)

ESPON LIVELAND. <http://www.espon.eu/>

GreenNet. <http://www.greennet-project.eu/>

Horlings, I. ed. (2010): Vital Coalitions, Vital Regions: Partnerships for Sustainable Regional Development. Wageningen Academic Publishers.

Hudoklin, J. (1994): Tipologija krajin in opredeljevanje krajin posebnih vrednosti v Sloveniji. Magistrsko delo. Biotehniška fakulteta Inštitut za krajinsko arhitekturo. Ljubljana.

Hudoklin, J., et al. (2001): Krajina in prostorski razvoj Slovenije – zasnova. BF, Oddelek za krajinsko arhitekturo, podizvajalec Acer Novo mesto d.o.o.

Hudoklin, J., et al. (2005): Podrobnejša pravila za urejanje prostora: Ohranjanje prepoznavnosti slovenskih krajin. Zaključno poročilo. CRP: Konkurenčnost Slovenije 2001-2006. Naročnik: MŠZŠ, MOP. Izdelovalec: Acer Novo mesto d.o.o.: 72.

Hudoklin, J., Mlakar, A., (2010): Načrtovanje, upravljanje in varstvo krajine v Sloveniji. Mesec krajinske arhitekture, april 2010, Društvo krajinskih arhitektov Slovenije.

Jones, M., Stenseke, M., ed. (2011): The European Landscape Convention: Challenges of Participation. Springer, Landscape Series.

Kos, D. (2011): Dan za prostor: Podnebne spremembe in mesta. Posvet, oktober 2011. IPoP. Ljubljana.

Landscape park Ljubljansko barje. <http://www.ljubljanskobarje.si/?lang=en>

Landscape and sustainable development: challenges of the European Landscape Convention. (2006) Council of Europe Publishing.

Marušič, J. in sod. (1998): Regionalna razdelitev krajinskih tipov v Sloveniji. Ministrstvo za okolje in prostor. Ljubljana.

Master plan (1984): Dolgoročni plan občin in mesta Ljubljane za obdobje 1986–2000.

Mose, I. Ed. (2007): Protected Areas and Regional Development in Europe. Ashgate Studies in Environmental Policies and Practice, Ashgate Publishers.

National spatial policy. (2001): Spatial Management Policy of the Republic of Slovenia. Ministry of Environment, Spatial Planning and Energy. Ljubljana: 13. <http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/publikacije/drugo/en/policy.pdf>

Nature Conservation Act. (1999) [http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/en/ohranjanje\\_narave.pdf](http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/en/ohranjanje_narave.pdf)

- Ogrin, D., Simonič, T. (1999): Preobrazba kulturne krajine Slovenije kot posledica strukturnih sprememb v kmetijstvu zaradi pridružitve Evropski uniji: raziskovalna naloga. Biotehniška fakulteta Inštitut za krajinsko arhitekturo. Ljubljana: 306.
- Plieninger, T., Höchtl, F., Spek, T. (2006): Traditional land-use and nature conservation in European rural landscapes. *Environmental science & policy* 9, 317-321.
- Smith, R.W. (1973) A theoretical basis for participatory planning. *Policy Sciences* September 1973, Volume 4, Issue 3, pp 275-295.
- Spatial Development Strategy of Slovenia. (2004). Ministry of the Environment, Spatial Planning and Energy, Ljubljana. [http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/publikacije/drugo/en/sprs\\_eng.pdf](http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/publikacije/drugo/en/sprs_eng.pdf)
- Spatial planning act (2007). [http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/prostor/nacrtovanje/prostorsko\\_nacrtovanje\\_en.pdf](http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/prostor/nacrtovanje/prostorsko_nacrtovanje_en.pdf)
- Uredba o Krajinskem parku Ljubljansko barje (2008) Ur.l. RS, št. 112/2008.
- Vos, W., Meekes, H. (1999): Trends in European cultural landscape development: perspectives for a sustainable future, *Landscape and Urban Planning* 46, 3-14.
- Zakon o ratifikaciji Evropske konvencije o krajini (2003). Ur.l. RS št.74/2003.



## CONCLUSIONS



# I. THE DECLARATION FOR VITAL LANDSCAPES

*Gernot Stöglehner\*, Georg Neugebauer\*, Lukas Löschner\* and Burkhardt Kolbmüller\*\**

*\* University of Natural Resources and Life Sciences Vienna,  
Institute of Spatial Planning and Rural Development*

*\*\* Salve Consult*

The “Vital Landscapes”-project comprises a multitude of actions to gain a holistic view on landscape development. In line with the ELC (*CoE, 2000*) the project puts the perception of landscape by the people who live there and use landscapes, in the centre of the project activities. The “Vital Landscapes”-project focuses on participatory approaches to discuss landscape issues with the population and to involve civil society in landscape planning, protection and management on the local and regional level. Therefore, the knowledge gained in this project is widely based on grass-root-level actions, in line with principles of action research stating that the best way to understand complex issues is trying to change them (*Lewin K. quoted in: Greenwood and Levin, 1998*). In accordance with Thomas Huxley's aphorism “the true meaning of learning is not knowing but doing”, all partners of the Vital Landscapes projects worked with pilot regions to implement knowledge gained in baseline studies and to transfer it to applicable methods for landscape development processes on the local and regional level throughout Central Europe.

Summing up, in the Vital Landscapes actions, firstly, a common ground which elements constitute a “vital landscape” had to be defined, taking into account environmental, social, economic and process criteria. Furthermore, a comparison of the legal planning frameworks relevant for landscape protection, planning and management was conducted. Good practice of landscape development throughout Central Europe and with a special focus on Local Agenda 21 in Austria was analysed. In this way, a common understanding of “vital landscapes” could be gained and the baseline for the pilot area activities could be drawn, which targeted three main lines of action, always having in mind that all issues of a “vital landscape” should be addressed:

- Participatory planning approaches: several project partners designed participatory planning processes for different aspects of landscape development, carried them out and analysed them with respect to issues of content and process. These processes did not only contribute to landscape development in the pilot areas, but also gained insights in driving forces and the behaviour of key stakeholders for landscape development.
- Visualisation techniques: participation needs support tools for starting discussions, for analysis and for assessing visions for landscape development. Visualisation can be helpful to assist these steps and to create awareness for landscape change. Therefore,

some partners experimented with innovative visualisation techniques and implemented them in discussions in the pilot regions. Some of these actions were expert-driven, like 3D-visualisations, some were participatory by their nature, like photo contests.

- Educational activities: Creating awareness for landscape development is an important issue for education. Raising awareness how landscape changes and how landscape contributes to local and regional identities, what and how stakeholders can contribute to landscape development, what natural and cultural elements constitute landscapes, how landscape resources can be used for the benefit of society in a way that does not harm environments and sceneries, how participatory processes with regard to landscape development can be designed, and many more issues with respect to landscape development were covered in educational activities. Among the partner structure the Vital Landscapes Project team could reach school pupils, university students as future professionals in landscape development, and adults via further education activities. Different educational programmes were customized to the target groups and at least carried out once in the project with the perspective of continuous activities and programmes in some partner countries, as documented in the case studies before.

From these manifold activities some key findings can be drawn concerning (1) landscape perception and their influence on local identities; (2) the provisions of landscape services for humans; (3) the landscape-bound economic and resource basis for societies; (4) community life in vital landscapes; (5) landscape dynamics and visions for landscape development; (6) participation of the general public in visioning and action planning for landscape development; and, finally, (7) about community-based learning. These conclusions are put together in seven key findings concerning landscape development that form the “Declaration of Vital Landscapes”. For each of the key findings the status quo, a vision and a mission are drafted. We recommend to consider these key findings in all levels and areas of decision making that influence landscape development throughout Central Europe. The Declaration of Vital Landscapes as stated below was put up for discussion with the expert audience at the Vital Landscapes Final Conference on February 14<sup>th</sup>, 2013, in Vienna, and also published in Newsletter #10 of the Vital Landscapes Project ([www.vital-landscapes.eu](http://www.vital-landscapes.eu)).



## 1. Declaration for Vital Landscapes

### 1.1. “Vital landscapes” are perceived by people. They play an important role in shaping regional, local and personal identities.

*Status Quo:* The European Landscape Convention (ELC) defines landscapes as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (*Art. 1 lit. a ELC*). Whether in urban areas or in the countryside, in everyday areas or in those characterized as being of outstanding beauty [ELC, preamble], people value different aspects and qualities of landscapes. Landscapes are constituted through perception and are the result of human-nature interactions. A comprehensive understanding of landscapes includes near-natural and cultivated landscapes as well as settlements in urban and rural areas. Humans form an intrinsic part of these landscapes. In our regional processes we found out, that people are aware of their landscapes, and that landscapes are already an important part of local and regional identities. But people often do not realize what exactly creates identity and how their behaviour influences landscape development, and, thus, their local and regional identities.

*Vision:* In vital landscapes the general public, planners and decision-makers are aware of, and value the elements and ways how landscapes and their elements, may they be natural or man-made, contribute to local and regional identities. Identity via landscape is part of the public discussion and local and regional policy making, in order to preserve, manage and develop the landscape features and elements that constitute local and regional identity.

*Mission:* In planning processes key landscape features and elements have to be identified that contribute to local and regional identity. Landscape quality objectives (LQO) for these features and elements have to be formulated in order to define the target states. Awareness has to be generated, that even simple everyday action, like the choice of regional foods and products, has an influence on the state of landscapes, and, thus, on the shaping of local and regional identities. This awareness has to be transferred into everyday action in line with the agreed LQO. Participatory planning processes on the local and regional level provide useful frameworks to achieve these issues (see point 1.4. of this Declaration).

### 1.2. Vital landscapes are expected to meet diverse demands. Healthy environments provide a wide range of ecosystem services.

*Status Quo:* In the past few decades, developments in several economic sectors and subject areas have accelerated the transformation of landscapes and led to a loss of landscape diversity and biodiversity. For instance, on-going structural changes in agriculture (decrease in the number of farms, increasing farm size etc.), afforestation or uncontrolled urban sprawl and permanent sealing of surfaces comprise such challenges for vital landscapes.

*Vision:* High diversity of landscape elements, a variety of plant and animal life, diverse landscape functions as well as socio-spatial diversity are key features of vital landscapes. As multifunctional landscapes they have the potential to fulfil ecological, economic, cultural and aesthetic functions. Vital landscapes have the distinctive characteristic of being able to provide for a wide range of ecosystem services. These span from provisioning (food, water, energy etc.) to regulating (climate, floods etc.) and cultural (recreation, aesthetic enjoyment e.g.) as well as supporting services (e.g. soil formation or nutrient cycling).

*Mission:* It has to be proved that each use of landscape resources has to comply with environmental capacity limits (1) by introducing regionally differentiated environmental objectives, inter alia LQO, in any planning process relevant for landscape protection and development, (2) by defining measures within action plans related to landscape protection and development, and (3) to assess if proposed actions are in line with environmental and landscape protection and development. In relevant planning processes the relation between environmental and other desired objectives, proposed actions and environmental impacts has to be made visible, so that decision makers and local/regional communities are empowered to adjust objectives and measures in a way that environmental capacity limits can be met.

### 1.3. Vital landscapes are economically self-sufficient and provide the resource base for sustainable societies.

*Status Quo:* Unsustainable economic activities impair landscape services. Actions to increase one landscape service often cause the degradation of other services. Economy – as a sub-system of society – overshoots the limits of the surrounding system(s) society and/or environment and endangers the stability of the overall system.

*Vision:* Landscapes are/provide resources for a multitude of goods and services and, therefore, support economic activities. The use of regional resources is a main factor of endogenous regional economic development. Economic activities based on own regional resources (e.g. agricultural products, processing of primary products, energy generation, tourism or new (social) services) offer the opportunity to strengthen the quality of life for local communities and to create income from landscape resources. This means closing regional economic cycles between production and consumption to keep spending capacity in the region. In this way the multi-functionality of vital landscapes enhances sustainable development.

*Mission:* For each region it has to be elaborated in which way landscape quality is already, or can be developed into an important economic factor, and which sustainable economic activities can be based on regional resources. Entrepreneurs have to accept their ecological and social as well as macro-economic responsibility, e.g. by offering resource-efficient products and services or promoting the use of best-available technologies. Public and private consumers are requested to assume their responsibility for sustainable development in the choice of products and services as well as in the use and disposal of goods. Synergies between sustainable production and consumption on the one hand, and landscape preservation and development on the other hand, shall be systematically questioned.

#### **1.4. Vital landscapes are home to vital communities.**

*Status Quo:* The degradation of landscapes by e.g. loss of landscape diversity affects the quality of life because landscapes are a key factor for physical, intellectual and spiritual well-being. Policy and decision makers as well as the general public regularly underestimate their influence on landscape development. Across policy domains (e.g. agriculture, economy, energy) regulations have a considerable impact on landscape development. Local and regional decision makers influence landscape transformations, inter alia, by implementing land use regulations. Finally, the general public is also responsible for landscape degradation via every-day activities, such as car-based commuting or consumption of resource-intensive products.

*Vision:* Natural processes and human activities together with human attitudes and values shape vital landscapes. Humans do not simply live in landscapes, but are integral parts of vital landscapes. “Burning souls” initiate and sustain landscape related activities, that strengthen local and regional identity, raise awareness for and create “ownership” of the landscapes, and the societal and economic processes shaping them. They take responsibility and motivate others to take part in conscious and self-organised action. The consideration of economic, social and cultural landscape issues opens new perspectives for sustainable development that is based on existing skills of local people or skills that can be

developed within the local/regional community and consequently contribute to the improvement of quality of life and local/regional knowledge utilizing local and regional landscape resources.

*Mission:* People are invited to take the shaping and utilisation of their living environment into their own hands. Participation processes dealing with landscape issues allow for the identification and implementation of sustainable landscape development in day-to-day thought, decisions and (economic) actions. Furthermore, they provide help towards self-help by making potentials visible and by activating local know-how. Furthermore, landscape protection and management shall be supported by community-based and civil-society-based (voluntary) work. Landowners, e.g. farmers, should be partly released from the duty of landscape management, but shall at least tolerate landscape protection and management activities on their properties. In this way, relevant stakeholders and the general public work together for the protection, management and development of vital landscapes.

#### **1.5. Vital landscapes are dynamic. Clear visioning prevents arbitrary landscape developments.**

*Status Quo:* Visions for landscape developments are an integral part of current Central European planning strategies. Though they explicitly address current challenges in land use and aim at limiting negative human impacts on landscapes, problems in landscape development persist. In particular, urban sprawl, land consumption and loss of landscape diversity and biodiversity pose serious threats to Central European landscapes. Current instruments in spatial planning and land consolidation have, thus far, not been able to confine these adverse effects. On the contrary, in some regions they have accelerated landscape degradation.

*Vision:* Shaped by anthropogenic and natural influences, landscapes evolve over time and are subject to perpetual transformation. To prevent arbitrary developments and regulate human impacts, landscape dynamics, however, need to be managed and steered according to societally accepted visions for landscape protection and development. Visioning provides a frame of reference for the future, desired state of landscapes. Formulated as landscape quality objectives, these visions may also address current challenges in land use (e.g. urban sprawl or soil-sealing). Visualising the actual state of landscape, landscape changes and development scenarios provides an effective method to support visioning for vital landscapes in participatory planning processes.

*Mission:* Formal and informal planning procedures have to be applied to limit and counter negative human impacts on landscapes. Political decision-makers and authorities must strengthen the legislative basis, ensure a more effective implementation of land-use regulations, reassess subsidies with adverse landscape impacts (e.g. commuter allowances, certain housing subsidies) and limit energy and land consumption through coordinated

energy and spatial planning. This can provide the necessary top-down frameworks for developing sustainable and vital landscapes in bottom-up processes.

### **1.6. Vital landscapes constitute an essential part of quality of life. Visions and action plans for vital landscapes shall be elaborated in participatory processes involving the general public.**

*Status Quo:* As outlined in the European Landscape Convention, landscapes are a key factor in individual and social well-being. People assess their quality of life with reference to the quality and state of the landscape they inhabit. Participatory planning in landscape development is not equally common in Central European Member States, regions and local communities. Visions and action plans for landscape development, though included in strategic planning documents, are very often not elaborated through intensive active public or stakeholder involvement.

*Vision:* The public shall be involved in the elaboration and implementation of visions and action plans for vital landscapes. Active participation as “local experts” and “stewards of landscape” – e.g. in form of landscape dialogues, photo competitions or school workshops – allows people to reflect challenges and opportunities of current landscapes and elaborate visions of future vital landscapes. This enhances people’s ownership of the participatory process and fosters self-organization in regional and landscape development. Participatory visioning for vital landscapes may furthermore increase the public acceptance of future landscape developments as well as landscape protection and management measures.

*Mission:* Local and regional planning authorities must assume key roles in initiating participatory processes in landscape development. In cooperation with agents of local and regional development (such as village renewal, LEADER or Local Agenda 21), they are encouraged to promote a more active public involvement in elaborating

visions and action plans for vital landscapes like co-planning and co-design, co-decision-making or co-implementation.

### **1.7. Vital landscapes are spaces of learning. They encourage social interaction and knowledge-based actions.**

*Status Quo:* Educational institutions and agents of regional development (e.g. village renewal, LEADER, Local Agenda 21) – though enhancing knowledge-transfer and enabling social processes of learning within their institutions – currently do not sufficiently exercise their roles as agents for landscapes of learning. The potentials of landscapes as learning environments, thus far, are not used to their full extent.

*Vision:* As the result of human-nature interrelations, landscapes themselves constitute environments for learning. Learning about, with and in landscapes are key elements of vital landscapes. Learning fosters a comprehensive understanding of landscape dynamics and knowledge-based actions in everyday life (e.g. housing, mobility, economic activity, consumption) as a prerequisite for developing vital landscapes.

*Mission:* Decision-makers and planning authorities, especially on the local level, shall assume key roles in promoting landscapes as spaces of learning. By actively involving educational institutions and regional/local development organisations in participatory processes of landscape visioning, they can encourage a comprehensive understanding and a critical reflection of current landscape developments.

## **2. References**

- CoE – Council of Europe (2000): European Landscape Convention. ETS. No. 176.
- Greenwood, D., Levin, M., 1998. Introduction to Action Research – Social Research for Social Change. Sage Publications, London.

## II. ABOUT THE AUTHORS

### VITAL LANDSCAPES – Main activities and outputs

#### *Burkhardt Kolbmüller*

Burkhardt Kolbmüller is operating the consulting office SALVE.consult in Weimar (Germany). He was one of the initiators of VITAL LANDSCAPES and accompanied the Project as technical co-ordinator. In addition to his activities as co-ordinator of European projects he has a long practical experience in landscape related issues, e.g. as member of the LEADER Action Group Saalfeld-Rudolstadt. Furthermore, he is involved in several NGO activities in the field of culture and landscape protection, e.g. as Chairman of the Heritage Association Thuringia and member of CIVILSCAPE.

### The concept of vital landscapes

#### *Gernot Stöglehner, Georg Neugebauer and Lukas Löschner*

The Austrian Vital Landscapes project team entirely consists of researchers affiliated with the Institute of Spatial Planning and Rural Development (IRUB) at the University of Natural Resources and Life Sciences, Vienna. All three authors share the common academic background of landscape planning with specific academic and professional experience in integrated spatial and energy planning, regional development and political science. The participatory process in the LEADER region Mühlviertler Kernland reflects an interdisciplinary approach and involved different regional stakeholders and actors. Core aspects of the regional participation process included issues of (1) landscape change due to structural changes in rural economies, (2) the emergence and transformation of “energy landscapes” or (3) the relevance of community engagement for landscape development.

### Compensation Measures for Impacts on Landscape – Factor of Regional Development (Unteres Saaletal, Germany)

#### *Jörn Freyer and Ines Pozimski*

The authors belong to the interdisciplinary staff of “Landgesellschaft Sachsen-Anhalt mbH” which is based in Magdeburg. As non-profit settlement company for the development of rural areas in Saxony-Anhalt, the organization aims to preserve and strengthen such regions as residential, working and living environments. With academic background in geography respectively landscape planning and practical experience in land use management the team together with regional stakeholders utilize the opportunity of Vital Landscapes to detect suitable areas for compensation measures in “Unteres Saaletal” Nature park. Beyond that the project team of “Landgesellschaft Sachsen-Anhalt mbH” coordinates the transnational activities of Vital Landscapes partner organizations.

Local Associations and their Role in Strengthening Local Control over Landscape Management (Unteres Saaletal, Germany)

#### *Annette Schneider-Reinhardt, Bernd Reuter, Diane Gerth and Henrik Hass*

The “Vital Landscapes” team in the “Landesheimatbund Sachsen-Anhalt e.V.” puts the interaction of people with the cultural landscape in the centre of its activities. Various professional backgrounds, such as ethnology, geography, agriculture and landscape architecture make it possible, to do comprehensive works in the field of landscape research and landscape development. The Landesheimatbund Sachsen-Anhalt e.V. being the umbrella organisation of the many native country and Historical associations of Saxony-Anhalt sets the frame and the focus for the activities. Thus the project “Vital Landscapes” supports the work of the Landesheimatbund Sachsen-Anhalt, what consists of the strengthening of the civil engagement by spreading knowledge, mediation, and interlinking.

### Participatory Visioning for Landscape Development (Mühlviertler Kernland, Austria)

#### *Gernot Stöglehner, Georg Neugebauer and Lukas Löschner*

see above

### Historical Cultural Landscapes – Problems and Reflection (Sub-Little-Carpathian region, Slovakia)

#### *Ján Hanušin, Martina Cebecauerová, Mikuláš Huba, Vladimír Ira, Ján Lacika, Michala Madajová, Ján Oráhel', Róbert Pazúr, Peter Podolák, Dušan Šebo and Martin Šveda*

Common to authors is the geographically oriented research into different aspects concerning the history of landscape - changes of structure, way of use, economic, socio-cultural and demographic development, as well as the visual characteristics. Authors, scientists of the Institute of Geography, Slovak Academy of Sciences in Bratislava, fully applied the experience gained in several international and national projects with theoretical and applied outputs in the Project of Vital Landscapes devoted to the territory of the Sub Little Carpathian Region. The mentioned territory situated on the foothills of the Little Carpathians is the most important vine-growing region of Slovakia with several hundred-year presence of the historical cultural landscape. Immediate neighbourhood of Bratislava, the capital of the Slovak Republic, is one of the reasons why it has been subject to heavy pressure of suburbanization in the last two decades often resulting in alteration of the historical cultural landscape.

Biosphere Reserve – Platform to Communicate Nature Protection with Local Development (Šumava Mts., Czech Republic)

*Jan Těšitel, Drahomíra Kušová, Vladimír Silovský and Karel Matějka*

The authors are affiliated to several institutions – University of South Bohemia in České Budějovice, Faculty of Agriculture; Regional Development Agency Šumava; and data processing company IDS. Landscape management is the general field of expertise that makes common ground for the authors to cooperate in their trans-disciplinary research. Management of protected areas has become subject of their interest in a long-term perspective. Thanks to the professional background of its particular members – regional economist, sociologist, biologist and manager taking practical decisions - the team combines theoretical knowledge born in social and natural sciences with its practical application, building thus on ideas of action research. Practically it is done by combining projects of applied research with projects of theoretical nature. In this scheme, the project Vital Landscapes, aimed at institutionalisation of the concept of the UNESCO biosphere reserve in the Šumava Mts., represented the practical aspect of the research while the project “Protected areas – Social Deal on Nature Protection” run in parallel, funded by the Czech Scientific Foundation, reflected the process of biosphere reserve implementation theoretically.

Visualisation and Landscape Modelling to Understand Landscapes in Transition (Landscape Management of “Nagyberek”, Hungary)

*Sándor Jombach, László Kollányi, Áron Szabó, Krisztina Filepné Kovács, Gergő Gábor Nagy, József László Molnár, Tádé Dániel Tóth, Veronika Magyar, Zsolt Szilvácsku, Ágnes Sallay, István Valánszki and Attila Csemez*

Landscape visualisation and modelling is a key activity to understand Central European landscapes in continuous transition. Department of Landscape Planning and Regional Development at Corvinus University of Budapest educates landscape architects, settlement engineers and researches landscape development procedure, methods of planning in Hungary and Central Europe. One of the key activities at the department is to apply digital technology, geographic information systems (GIS) and computer-aided design (CAD) in landscape visualisation and modelling. In Vital Landscapes Project the role of the department was to analyse, to apply visualisation of landscapes and their changes generally furthermore to test and to present these in Nagyberek study area at the Southern shore of Lake Balaton, so that the international partnership can experience the landscape management results. Presentation and exchange of know-how in use of visualisation and modelling tools, with special focus on integration of local stakeholders in planning process, was a key activity.

Modern Methods of 3D Visualisation of a Landscape and their Role in Local Development Projects (Village Mściwojów, Poland)

*Urszula Litwin, Jacek M. Pijanowski, Bartosz Mitka, Paweł Szelest and Mariusz Zygmunt*

In Poland, landscape protection and development as new approaches in dealing with landscape issues gradually gain in importance. Instead of centring conservatory measures as requirements and prohibitions (landscape parks), concrete large-scale projects aiming at the vitalisation of landscapes are brought into focus. The University of Agriculture in Krakow is one of the pioneers in this research subject in Poland. The Polish Vital Landscapes team consists of geodesists dealing with a manifold spectrum of subjects – from rural development, landscape planning to IT-supported surveying methods and photogrammetry. For several years, the research team has been successfully working on new approaches, focussing on modern 3D visualisations aimed at supporting of concrete projects with realistic scenarios of landscape development. These are based on comprehensive analysis of several spatial and economic factors, surveys as well as participation of local actors in the planning process.

Landscape as Inspiration for Local Development (Ljubljansko Barje, Slovenia)

*Maja Simoneti and Urška Kranjc*

The authors are landscape architects within LUZ, d.d., a private Slovenian company that operates in a wide range of activities related to spatial development and building. They are both known for innovative approach to solving the issues of spatial design and development. They believe that working hand in hand with local people - interested community is most important for the success of any spatial policy, program and project. In this spirit they work on raising awareness of quality of space, education for participation, building common language of spatial development as well as organising workshops and other opportunities for fruitful cooperation of stakeholders. Regarding landscape development they also promote participation of local people as strongest development force and more, they strongly recommend to widen the participatory community with external expertise and partners. In this spirit they approached the Vital Landscapes project and tried to motivate local people in the pilot area of Ljubljansko Barje for active cooperation in the development activities and debates.

The Declaration for Vital Landscapes

*Gernot Stöglehner, Georg Neugebauer, Lukas Löschner and Burkhardt Kolbmüller*

see above



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