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Agrotowns as a Development Factor of Belarus Rural Area

***Antipova Ekaterina, Fakeyeva Ljudmila*[1]**

Crisis phenomena in the socioeconomic development of the Belarusian rural area in the beginning of the 1990s caused the need for their development of the National program of the rural revival and development over the period of the years 2005—2010 in the Republic of Belarus. With a view to the sustainable development of the rural areas, the program provided for the formation of a qualitatively new settlements – agrotows, comfortable rural localities, in which industrial and social infrastructure was to be created, to assure the social standards for the population living there and the inhabitants of the bordering areas.

Agrotowns have been created in the Belarusian rural areas on the base of the existing administrative-territorial units, territories of which are the established administrative formations, as well as central farmsteads of the agricultural organisations. 1481 agrotowns were created in the Republic of Belarus, including 222 in the Brest region, 254 - in Vitebsk region, 238 - in Gomel region, 239 - in Grodno region, 325 - in Minsk region, 203 - in Mogilev region.

In the Belarusian rural settlement structure, agrotowns account for 3% population, the average rural localities population size is 839 people. The largest agrotowns are concentrated in the Southern part of Belarus, in Polessye (980 people) and in capital city region (970 people).

The size of the rural population, living in agrotowns, amounts to 542.9 thousand people, or 20% of the total Belarusian rural population. The largest population size of agrotowns is in Minsk and Brest regions — 122.2 and 102.9 thousand people accordingly, where on the average lives one rural dweller in five. The smallest population size of agrotowns is in the agrotowns of the Vitebsk region — 61.9 thousand people, or 16%.

Belarusian agrotowns are characterised by different demographic development potential, and this allowed us to select four types according to the demographic development opportunities and the source of increase in the demographic potential:

1) *With favourable demographic status* (1% agrotowns and 3% rural population) - belong to the central capital-city urbanized geodemographic type of rural districts that are situated in the Minsk district. There agrotowns are capable of the self-reliant demographic development because of the natural increase of local population and migrants,
2) *With relatively favourable demographic status* (41% and 42% accordingly) — belong to the central (urbanized) demographic type, located primarily in the Southern zone with large rural localities settlement type by population size and in the zone of large cities' influence. These agrotowns are capable of self-reliant demographic development, and the natural population increase is expected to be its main source,
3) *With conditionally favourable demographic situation* (16% and 25% accordingly) — belong to the rural semi-peripheral demographic type and are located in the southern zone with large rural localities settlement by population size, central-western zone with medium and small rural localities settlement by population size and zone of large cities' influence. These agrotowns are selectively capable of self-reliant development. Agrotowns in the zone of the large cities' influence can develop due to decrease in the natural decline, while other agrotowns can develop thanks to attracting young people, and
4) *With unfavourable demographic situation* (42% and 30% accordingly) — belong to the rural peripheral geographic type and are dispersedly situated an all the regions. These agrotowns are incapable of self-reliant demographic development. Migration can be the main reason of demographic potential growth there.

All in all, in the years to come the nature of the natural population movement and age population structure of the Belarusian rural areas will not essentially change, therefore, on the basis of the strategic goal of their creation, all the agrotowns, on condition of the sociodemographic monitoring, should become the centres of the demographic growth in the rural areas against the overall development of the Belarusian countryside.

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Rural Development and the Role of Farmers: Peasants, Producers and Entrepreneurs

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According to Moseley (2003), rural development refers to the process of improving the quality of life and economic wellbeing of people living in relatively isolated and sparsely populated areas. Rural development has traditionally been based on the extraction of natural resources and agriculture but changes in public perceptions and political priorities has meant that these activities have been supplemented with others such as tourism and recreation.

The fact that the majority of the world's land mass may be seen as rural means that rural development has a role to play in countries across the globe. In countries ranging from the UK, through the USA (Prince, 1998) to China (Chen, 2010), India (Kannabiran et al, 2008) and Africa (Nwanna, 1998), rural development is seen as an issue of great significance.

Numerous studies of the factors serving as antecedents of rural development have been undertaken. For instance, Kannabiran et al. (2008) investigated the role of E-governance and ICT, Naim and Marshall (1999) looked at credit management, and Chakrabarty and Ghosh, (2009) considered organisational structure.

Rural development may take many forms including tourism (Pavlickova and Kysilkova, 2004), education (Bosworth, 2009), and care (Hine, et al., 2008). In the past non-agricultural activities undertaken by farms were treated as externalities (Grega, 2004) but now it has been recognised that many successful farm enterprises are a combination of activities and this trend has contributed to the emerging concept of agricultural multi-functionality.

The World Trade Organisation (2012) provide a macro-economic definition of agricultural multifunctionality as the numerous non-trade benefits that agricultural policies may provide for a country or region which may include environmental protection, land preservation, and food security. However, agricultural multi-functionality may also be defined at the micro economic level where it may refer to farms that engage in non-farming activities. This second definition appears just as valid as the WTO definition and on the basis that there is growing evidence that it is an economic model necessary for success in the 21st century (Van Acker, 2008; Lenihan and Brasier, 2009) is the one adopted by this paper.

One very important aspect of rural development is the role played by the entrepreneur (Goetz et al., 2010). Normally, the competencies associated with entrepreneurs include characteristics such as idea generation and environmental scanning (Mitchelmore and Rowley, 2010) but these skills are typically associated with unifunctional business and so agricultural multi-functionality would appear to suggest the need for a different skill set.

The paper therefore, goes onto consider the entrepreneurial competencies required of farmers under conditions of multi-functionality and suggests a typology based on the nature of the business and its objectives. The paper concludes with an evaluation of the policies needed to encourage the development of the appropriate competencies.

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Network for the Hungarian Rural Development? Examination of the HNRN from the aspect of the Network Society

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Based on the idea of Manuel Castells (1996), in this paper I attempt to perform a brief examination on how much and in which degree, the Hungarian National Rural Network (HNRN) is considered to be a well-functioning network. Firstly my approach may seems to be way-out due to the fact that originally the network discipline - which has been in public and academic debate for decades – is highly related to global scaled phenomenon such as financial capital, economical productivity, political ideologies, etc. Since the academic recognition of the importance of networks in which single actors can use their resources in a much more effective way, actors of lower social and spatial level can be examined according to the same idea and methodology. My task is introducing the HNRN as an existing network in which academic and other professionals work together where the main goals are organizing a network of all parties interested in rural development that means the organization of a network of interested governmental, local government and civil contributors, business and social organizations, professional bodies, as information and cooperative network, and the harmonization of its activities. Another, but not less important aim is to develop inter-regional and international relationships in a practice-oriented manner, and to represent Hungarian national interests and values in Europe. As a result of the activities of HNRN, 27 countries participating in the European Network for Rural Development can obtain information about and get acquainted with Hungarian development results, and the national rural development communities can learn from the international examples.

Dominant functions and processes in the information age are increasingly organised around networks. Networks constitute the new social morphology of our societies and the diffusion of networking logic substantially modifies the operation and outcomes in the processes of production, experience, power and culture. While the networking form of social organization has existed in other times and spaces, the new information technology paradigm provides the basis for its pervasive expansion throughout the entire social structure.

In my examination, I make an attempt to reveal the background and the spatial structure of network, in respect of its members, their profession and connection. It means that every single member gets into my consideration but some kind of hierarchical order is also set up for distinguish the node-persons (Presidium) and the council members.

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The Soil Strategy Network in the Danube Region (SONDAR) and its role for multifunctional rural development

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After decades of neglect and decline, soil issues are gaining increased importance. In June 2011 the Danube Strategy was introduced within the Danube Region, a region covering some 817,000 km² with almost 90 million people in 19 countries of the Danube River Basin out of which we find 14 with more than 2000 km² share in the Danube River Basin. Activity 6 of the Danube Strategy deals with landscape, biodiversity and soil conservation. This topic is so far covered by three trans-boundary cooperation EFRD projects of the EU. Before the Soil Strategy Network of the Danube Region (SONDAR) was established upon initiative of the Lower Austrian provincial government, which had supported practical activities in the field of soil conservation since 2004.

Soil issues cover a broad range of topics such as soil erosion, soil sealing, soil remediation, soil neglect and soil marginalization. The good state of soils is increasingly declining from the viewpoint of biological processes. In the EU alone, every year 1,000 km² are lost by soil sealing (2012). This includes the best soils in the close vicinity of towns regions. The number of soils affected by soil erosion or desertification is much larger; this is widely a consequence of mechanization and rationalization. And an even larger number of agricultural soils are disappearing; in a more positive case land is converted to forest land or a more extensive use and in a more negative case the land is not managed at all, providing many possibilities for destabilizing the landscape.

Soil is the natural basis of food production, but today land seems to be more important as an arena for other cultural processes than agriculture. Due to the availability and access to external resources farmers depend less on the natural fertility of soil and more on imports and exports of energy, fertilizer and pesticides and their prices, while consumers depend to an ever increasing part on the import and export of food, which is often produced far away in a perhaps not sustainable way.

Soil as a local source of food production, protection against disasters or as a buffer to temper extreme weather events, or as a resource for future needs has to be preserved. An appropriate awareness, combined with a good soil policy will lead to the provision of incentives to make soils more valuable. However, we do not find a single solution but many solutions, in particular in the Danube Region, where standards widely differ due to a different history and development.

The difference in economic development and access to financial resources is larger than in the EU. It is in the range of 1:20 if we take Moldova and Austria as the two extremes of the region. Additionally we find the difference between urban and rural, which can give further alterations to particular favourable or unfavourable conditions. More income is everywhere desired, but it is not correlated to good soil practices. Economic changes can either be the reason for a better or worse soil management and lead to measures of soil improvements or to the acceleration of soil degradation.

Several examples from the Danube Region are provided in the light of soil management and multifunctional rural development. A Gaugasian village in Moldova still living on subsistence agriculture, the Rumanian municipality Nufaru, the Russian village Sfistofca, both situated in the Romanian Danube Delta are good examples on how rural development proceeds differently in poorer parts of the region. In addition mountain villages in Austria and Ukraine are examples for different strategies in how to use soils. Particular locations were affected by war in Croatia and Serbia also effecting soil policies and will shed light on the given diversity in the Danube Region.

A range of best practice examples are presented from Lower Austria as a start to a region wide collection of good soil practice. Soil protection and soil awareness became integral part of provincial programs in Lower Austria in 2004. Based on the experience with local soil protection and awareness programs, the SONDAR program was established in 2010 and presents now the largest initiative with regard to soil protection, which is activity 6 of the Danube Region Strategy, a particular program of the EU directed to European macro regions. Three projects in the frame of the European Regional Development Fund are currently running under the name of SONDAR and will be presented.

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Post-Mining Areas in the Rural Area of Central Europe: What Happens after?

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Majority of mining regions in Central Europe were at the outset of mining predominantly agricultural. Some of these areas were examined within project ReSource[3] which in the period 2009–2012 engaged with the analysis of post-mining potentials of regions and especially with their utilization in a redevelopment process. This paper presents results of the European Initiative Analysis in which the cases of good practice were collected, evaluated and integrated into the on-line database. 16 cases out of 50 included were designated as rural by the partners. Eight of them including Ferropolis, F60, IBA Grossräschen and Energy Forest Welzow come from Germany, whereas other Central European countries are presented with only few cases, for example Poland with Lake Przykona. It was difficult to distinguish between the projects in rural and urban areas due to the fact that mining activity to great deal was the major factor of transformation from the rural area into industrial and urbanized one. The final distinction was between the mining regions which are located in the countryside and have a recognisable rural character and the others which are usually part of large agglomeration or in the vicinity of towns.

Rural areas are similarly to urban ones exposed to the mining in terms of socio-economic and environmental impacts. The most common environmental problem is degraded landscape as a consequence of non-rehabilitated open pits. Among socio-economic problems high unemployment rates are coupled with unfavourable demographic development, e.g. ageing and brain drain. Rural areas in new member state countries of EU also underwent significant political reforms to which national economies have not corresponded always in time.

The analysis of utilization of post-mining potentials in these regions has been multi-step. Firstly, scientists from Austria, Czech Republic, Germany, Hungary, Poland and Slovenia with a help of pre-designed good practice project questionnaire of 22 questions collected data from the project representatives. Then evaluation of the cases followed on the bases of seven pre-defined criteria: efficiency, feasibility, sustainability, transparency and openness, legitimacy, innovativeness and transferability. A simple “yes/no” correlation was selected regarding the scope and the nature of collected data. To prevent subjectivity of one person evaluation, two expert teams evaluated each case. Final evaluation score presents the compound of these scores.

The results imply that most of the “rural examples” belong to the group of projects which utilize natural potentials. These are the potentials presented in the form of available land(scape), wood, salt or any other natural element such as geothermal water or solar energy. Success of these projects heavily depends on stimulative legislative and state financial support as well as on the level and quality of co-operation between engaged actors such as politicians, self-government officers, business sector and scientists. An important stimulating factor is EU energy policy which demands high share of use of renewable energy and the introduction of national subsidies. The natural potentials are in some cases not fully exploited due to their small scales, economic inefficiency, lack of formal and financial institutional encouragement for project’s start-up and due to long term rate of return.

From the cultural potential perspective sources such as technical heritage, infrastructure, buildings for production, housing, mining events and tradition are included. One third out of 15 cases are located in the rural area. Potentials are utilized in form of tourist routes, concert venues, mining related events, museums and tourist attractions. Success of these projects depends on level of public support, investors’ interest, type of mining, level of attractiveness, uniqueness of story, co-operation of different actors, long-standing museum tradition, and practice in exchange of knowledge. Cultural potentials were on average recognized as feasible, legitimate, sustainable and transferable.

As findings have shown, rural mining regions appear to have certain advantages over more urbanised areas. They have better natural potentials than their more urbanised counterparts. Despite damaging

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effects of mining, the natural as well as cultural and historical values of the landscape offer good possibilities for development of ecotourism. However, transformation from heavy industrial to service-orientated society is often slow and difficult. Rural mining areas have often also rather disadvantageous location and poor accessibility or inadequate accessibility for new developments and activities. To successfully overcome these weaknesses, one might empower local and regional identity which can coincide with creation of tourist offer or engage in more innovative approaches oriented towards energy provision – use of renewables and sufficiency.

Sustainability of Agricultural Policy in Slovenia Agriculture

***Cunder Tomaž, Bedrač Matej*[1]**

Introduction
Slovenia stresses the importance of sustainable agriculture in each of its strategy papers. Long-term objectives of agricultural policy, which have already been identified with the Slovenian agriculture development strategy in 1993, emphasize the so-called integrated role of agriculture in the society. The reform of agricultural policy at the end of the nineties has enabled the establishment of mechanisms that are still largely following the objective of providing non-production role of agriculture. By joining the European Union and taking over the Common Agricultural Policy Slovenia fully follows the European model of sustainable agriculture.

Description and methodology
The analysis of sustainability of agricultural policy in Slovenia represents a part of broader scientific project "Parameters of sustainable development of Agriculture". The main aim of the present paper is to find out to what extent the elements of sustainable agriculture actually pursue the goals of agricultural policy.

The measures of market price policy and those of structural and rural development policy were estimated in the light of presence of economic, environmental and social aspects of sustainability in the objectives of agri-policy measures. The presence of individual parameters of sustainable agriculture in the objectives of agri-policy measures in the years 2000 and 2010 was conducted with standard evaluation methods where slightly modified Delphi method was used. With the ranking 3 are assessed all the measures on the strategic level that directly affect the individual parameter of sustainability. If the measure partly affect the individual parameter ranking 2 is used and if the measures have only indirect impact on the sustainability the ranking 1 is used. Where the measure does not affect the parameters of sustainability of agriculture the sign 0 is used. The obtained score was combined with committed funds of agricultural budget for individual measure in the year 2000 and 2010. In this way we've got total assessment which indicated how individual measures of agricultural policy contribute to selected parameters of sustainability and sustainable role of agriculture.

Results and conclusions
The importance of individual aspects of sustainable development has significantly changed in the period 2000–2010. While in the year 2000 economic aspect absolutely prevailed and it presented more than 70% of calculated weight points, in the year 2010 its percentage has decreased on 51.4%. On the other hand the share of environmental aspect in the observed period increased from 17 to 31% while the social aspect only slightly increased (from 14 to 17%).

We may conclude that the at least on strategic level Slovenian agricultural policy is consistent with the sustainable development paradigm. Provision of economic and environmental components of sustainable development remains the main objectives of agricultural policy while social and especially spatial issues are not adequately addressed.

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Achieving Multifunctional Agriculture through Care Farming in the United Kingdom: An Illustrative Case Study

Custance Paul, Walley Keith[1], Tate Gaynor[2], Armagan Goksel[3]

Introduction

Until recently land use has been viewed in a single function context whether it be farming, biodiversity, or history and heritage. Now it is recognised that land can provide many different environmental, recreational and health services at the same time and hence be considered to be "*multifunctional"* (Hine et al., 2008). The concept of multi-functionality fits in well with the concept of sustainability especially in terms of the natural environment being essential to a healthy society.

Indeed, care farming, which fully embraces these principles, has been developing steadily in the United Kingdom with the number of farms involved in this activity increasing from 40 in 2005 to170 in May 2011. Care farming combines farming with the restorative benefits of the natural environment to create a new form of multifunctional enterprise. This paper uses a case study to examine the extent to which care farming in the United Kingdom enables farmers to be truly multifunctional and to examine the range of enterprises and services which have made this possible.

Multi-functionality and Care Farming

Care Farming UK (2012) states that "care farming is the therapeutic use of farming practices" through the provision of a supervised, structured programme of farming-related activities. Benefits identified with health services include improved mental and physical health arising from exposure to green places as well as engaging in physical activity.

In the UK, care farms generally cater for more than one client group but, according to a survey by Hine et al., (2008) they most commonly work with people with learning difficulties (83%), disaffected young people (51%) and people with mental health needs (49%). Together, care farms cater for nearly 20 different client groups. All care farms had some degree of farming (crops, livestock, woodland) combined with such 'care' services as health care, social rehabilitation or education or training (Hine et al., 2008; Custance et al., 2011).

The Magdalen Project – a case study

The Magdalen Project is an educational charity which provides a centre of learning for children and adults of all ages, abilities and backgrounds to explore sustainability, organic food production and ecological land management. The care farming enterprise is an important part of the business which contributes to its financial sustainability.

Eight key services identified by Hine et al. (2007) can be used to give an indication of the multifunctional nature of Magdalen. Farming services involve animal husbandry, crop and vegetable production. Regarding biodiversity the organic farming system ensures the preservation of wildlife in the fields and in non-farmed habitats and care of the overall ecosystem of the farm. While no scheduled monuments are present, the original farmhouse and buildings have either been or are in the process of being sympathetically converted (historic and heritage).

Ponds, streams and a river flowing on the boundary of the farm are carefully managed to minimize the risk of pollution. Natural springs are also used on the farm (water services). The use of a biomass boiler and voltaic cells are positive contributors to the issue of climate change. As a consequence carbon is saved by biomass-based renewable energy production (climate change mitigation). The landscape character of the farm has been preserved and enhanced with woodland, hedges, ponds and traditional farm buildings. The farm has been developed to deliver Leisure and recreation services such as walking and playing in the rural landscape. Health services concerns the mental and physical benefits to individuals arising from exposure to green places and engaging in physical activity.

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Conclusions

The Magdalen Project provides an example of a farm which is extremely 'care' and 'carer' orientated with the farming element primarily developed to produce benefits for a range of clients rather than emphasising agricultural production and commercialisation. Physical benefits to clients include physical health improvement and the generation of farming skills. Improved self-esteem, well-being, and improved mood coupled with increased self confidence, calmness and trust in other people comprise the mental health benefits. Social benefits identified by Hine et al. (2008), and demonstrated by the project's clients include greater independence, the development of social skills and personal responsibility and formation of the work habit.

Future investigation of the membership of Care Farming UK will examine the extent to which care farming enables all such enterprises to be truly multifunctional and to determine the range of enterprises and services which have made this possible.

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Supporting Sustainable Rural Tourism in Romania through Strategic Incentives

Druțu Maricica (Ivan)[1] , Butnaru Gina Ionela[2]

The aim of this paper is to illustrate the potential incentives have on driving behaviour change towards the adoption of sustainable business practices by rural tourism operators in Romania. Even though operators in rural Romania have recognized the importance of making their business practices sustainable so that future generations are able to enjoy living and visiting these communities, they claim there is a lack of incentives from the rural tourism industry. To support the Romania rural tourism industry in attaining its aspiration to enhance the social, cultural, environmental and economic well being of the areas, a model and corresponding recommendations on how to better support operators through strategic incentives was developed. Using the lens of strategic sustainable development, understanding the mechanisms of behaviour change and the role of operators as early adopters of sustainable practices, this research takes a whole systems perspective to identify in what methods sustainability can be encouraged by the tourism industry through the use of incentives in the context of rural Romania. Given the concept of "sustainable development" consider that it is in essence, resources, all indications are a serious concern for our planet and natural resources limited quantity of our environment is increasingly polluted planet and the population is constantly increase, causing the main problem of sustainability is not confined to purely economic issues, but rather try to combine in a most optimum possible economic issues (resource) with the social (related to social class) and ecological (related to environmental protection and pollution reduction).

A clear definition was given in the World Commission on Environment and Development of the UN, known as the Brundtland Commission or Brundtland Report (named after then Prime Minister of Norway, Gro Harlem Brundtland), namely: "development of sustainable development that meets present needs without compromising the ability of future generations to meet them your own "(Ardelean, Major, 2000). With the political changes of 1989, concerns for regional development began to expand rapidly. Many NGOs following the existing trend in Western Europe were created in a short time.

The first theory on regional development has emerged as a necessity of a time when economic growth was insufficient. Dumitrica (2012), in his doctoral thesis "Applying the principles of regional development in Romania", states that regional development theory both born of the efforts of economists and those charged with planning, the proposed objective being to understand and characterize growth processes in the regions.

Romania has experienced economic and social disparities at regional level over its entire state developments. In the economic and political situation that occurred in Europe and in Romania, since 1989 has also taken steps already have been important in substantiating a new concept and a new regional development policy. Romania's regional development policy is now an important component of the Government Programme. It is defined under the new concept developed by the European Union, is a step in the process of accession to European structures (Ungureanu, Mateoc, 2009).

In Romania, the theory underpinning the development of regional development strategies and regional policies, which means that understanding the concept of regional development in the context of EU membership is a prerequisite (Buruiană, 2009). Could be applied to regional development policy, have established eight development regions, which comprise all over Romania.

Regional development policies in recent years increasingly taken more into account and agri-tourism as a strategic sector to ensure economic growth of regions that have an important tourist and agro. Regional development must correlate and integrate tourism among other components of the local economy (Avramescu, 2005).

Currently, the Regional Operational Programme 2007–2013 (REGIO) is one of the Romanian operational programs agreed with the European Union and an important tool for implementing the

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national strategy and regional development policies. It applies to all eight development regions of Romania (Ministry of Regional Development and Tourism, http://www.mdrl.ro/index.php?p=205, accessed on February 5, 2012).

One of the priorities of Regional Operation Program involves tapping existing tourism and rural tourism, as well as those still not entered the tourism and agro (tourist resources - historical, cultural and natural) and the main types of tourism development and tourism, identifying market niches, creating new jobs and increase income from tourism and rural locations and not eventually create revenue streams in remote areas, a beauty.

Balanced development of tourism and tourism throughout the country can contribute to economic and social growth, potentially leading to higher living standards and quality of life. Tourism and rural tourism can become a component of the national economy, to determine important changes in territorial, thus contributing to the development of regions lagging behind or lacking resources. Therefore, regional development is a process by which you want to change the conditions and factors acting at the community level so that at the end of these changes, community level to achieve high standards of living. Tourism and rural tourism are present in everyone's lives and presents the content and its role, a different field of activity, a key component of economic and social life for a growing number of countries across the globe. In Romania, after 1989, with the transition to market economy, there have been changes, which affect mainly tourism and agro-tourism. Therefore, solutions were sought to revive this sector, the policy-development and marketing strategies.

So, for the European Union, economic activity is tourism and agro-oriented. With regard to our country, it has made commitments signing EU accession agreement. Thus, adherence can be a boost to economic development and cultural heritage of Romania. The period between 2007-2011 brought changes in tourism and agro practiced in Romania, in terms of accommodation capacity, the number of arrivals and nights spent by tourists and which are elevated compared with the run ROP 2007-2013.From the analysis showed that the main beneficiaries of EU funds in the North-East tourism were local government, county councils, municipalities and private beneficiaries eventually.

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Sustainability, Fair Trade and Local Development across the Green Line: The Case of Olive Oil in Israel's Galilee and the Palestinian West Bank

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Multifunctional Agriculture comprises the various roles of agriculture besides agricultural production. The scope of multifunctional agriculture is greatly significant in the case of poor rural communities where a paradigm beyond production contributes to general social welfare.

This research paper is about the impact of the Fair Trade movement on small agricultural enterprises in Israel and the West Bank, focusing on the Fair Trade olive oil sector as a case study. The research applied ethnographic fieldwork and economic research.
In this paper the implementation of the global Fair Trade movement is examined locally, observing whether local Fair Trade has managed to contribute to sustainable development in the production of olive oil. This question is examined using the Environmental Kuzents Curve Hypothesis and model.

The state of the Palestinian economy, along with movement restrictions and the policy of separation constitute a central factor in the creation of increasingly severe poverty for the Palestinian agricultural community. Under these conditions, in conjunction with the strength of local civic social organizations the Fair Trade movement has found a channel for agricultural, economic and political action for the Palestinians. It is interesting to observe the development of the process and to see that the movement on the West Bank has not remained under the patronage of solidarity based actions but has developed beyond that. The movement reaches an audience of environmental-social consumers in organic food cooperatives and health food stores in the Western world and is also expanding in the wake of the blooming of post-materialist values in developing countries.

A central finding of this work relates to the social environmental and economic development model that local Fair Trade offers. Fair Trade has brought environmental benefits, as well as economic growth processes for producers everywhere, except in the management of olive press wastewater. Nevertheless, I contend that Fair Trade in the West Bank has created opportunities for grassroots democratization processes and has eventually brought about and enhanced a development process which is different from the hypothesis of the Environmental Kuznets curve. This is shown by the fact that at low income conditions, research is being undertaken to improve wastewater management, and a massive transfer to organic certification is being implemented. Although most Western development passed through a stage of industrialized agriculture and environmental deterioration before achieving sustainable agriculture practices, the Fair Trade scheme shows that a rise in polluting practices is an unnecessary step for economic growth.

This research indicates that even though olive oil wastewater is not as well managed as organic certification requires, massive certification of Palestinian producers has been undertaken. I argue that this failure of wastewater management is the consequence of the interface between Palestinian lack of national regulations and organic regulations. Since the policy regarding olive press wastewater management is determined locally, the Palestinian farmer from the West Bank has a comparative advantage compared to the Palestinian farmer in Israel who is subject to stronger environmental regulations on the path to achieving organic certification.

This research contributes to several fields that are applicable to the study of multifunctional agriculture: the ongoing debate over Fair Trade; the research into sustainable development alternatives in the developing world and in small communities; the growing theoretical attempt in the social studies to inquire the interconnectivity between the social, the environmental and economic spheres.

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Possible Utilization of Tourism for the Development of the Country in the Drahanská vrchovina (Upland)

***Holásková Adéla, Fialová Jitka*[2]**

The modern times are very favourable for the development of tourism. Tourism has become trendy. As the influence and volume of tourism grows, the influence of consumers grows and these have more and more specific requirements concerning spending their leisure time.

The paper deals with an evaluation of the potential of selected municipalities for tourism based on literature study and our own survey. Measures as well as possible ways of obtaining financial subsidies were proposed for the municipalities. The practical part consists of a questionnaire survey, interview with municipality mayors and a field survey.

The Drahanská vrchovina (Upland), where the analysed municipalities are located, offers a wide range of possible ways for spending leisure time and develop tourism (especially rural tourism). There are beautiful sceneries of the Rakovec Valley, Nature Park Říčky, many cycling and hiking trails, historical monuments and a rich cultural life. In spite of this, the area is not visited as much as it could be. One-day tourism prevails, especially related to seeing relatives, acquaintances; the majority of visitors are from close surroundings who know the area and its beauties.

The area is also visited by cyclists who use the accommodation services of the region. These are also used in the time of fairs in Brno by their organizers and visitors. We can hypothesize that the area would benefit from a better presentation and a complex product that would make visitors stay longer.

Municipalities Luleč, Račice-Pístovice and Olšany tackle the problem of insufficient financial means: they even lack enough money to repair the most fundamental things, such as local roads, and there is insufficient attention to the care for historical and cultural sites. The municipalities have great potential for tourism development – the surrounding countryside, the castle of Račice, quarry U Libuše, Pístovice Lake and forest springs around Olšany. Therefore, the study focuses on proposals for measures including reconstructions and innovations leading to further development of tourism in these municipalities. However, first some financial means need to be directed to these places so that the municipalities can later get some returns. Therefore, possible sources of financing were found. The tourism potential of these areas can only be realized when the area has a good fundamental infrastructure. From this perspective, the worst situation is in Olšany, where relevant measures were proposed. From the point of view of accommodation and dining services, the worst situation is in Račice-Pístovice. Olšany and Luleč offer a wide range of accommodation and dining facilities.

The questionnaire survey shows that most of the interviewed perceive the tourism development positively and are convinced that the municipalities have sufficient prerequisites. They expect the development to bring them more financial means and revival of the municipality. An influx of visitor could also be increased by the new nature trail in Luleč which is in preparation.

Tourism brings a high amount of positives into territories and these positives need to be used sensibly. It is important to remember the local inhabitants and their living space. If the cooperation with these people works and sources for tourism development are not misused, the territory and the service providers can profit.

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The Historical Development of Roads in the Rural Landscape Related to Forest Roads

***Hrůza Petr*[1]**

The forest road network is an inseparable part of the rural landscape and a fundamental means for forest management. The aim of this study is to evaluate the historical development of the forest road network construction in relation to the surrounding residential areas.

For the study of the forest road network development we chose the transport area of "Babický potok" Brook in the Training Forest Enterprise 'Masaryk Forest' Křtiny in the cadastral territories of Babice, Řícmanice and Kanice, Czech Republic. The forest roads in this area represent the historical development of roads well and their variability illustrates the wide range of possible ways of forest road surfacing.

The evaluation of the forest road network development includes an assessment whether and how the road planning and layout changed in relation to the surrounding municipalities based on the changing density of the forest road network and the changing technologies for surfacing. Map data for the territory were created for this purpose, specifically for the first half of the 19th century, second half of the 20th century, and the present. We used mapping work from the 2nd Austrian-Hungari an military mapping, mapping work of the 1st Czechoslovakian military mapping and basic maps of the Czech Republic. This provided us with three map layers for the analysis of the territory conducted in ArcGIS. The first historical layer was created based on the imperial obligatory prints of the stable cadaster ordered by Francis II in his edict of December 23, 1817; the mapping of the cadaster in question was conducted in 1826. The second map layer was created based on the first aerial photos, obtained in the 1950s; the photos of the area in question were taken in 1953. The historical orthophotomap created from these photos digitally is located in the CENIA map application. The map of the current state, which forms the third layer for our analysis, was created by connecting web map services and displaying the map layers in ArcGIS based on the territory orthophotomap from the the CENIA map application and the map server of the Forest Management Institute. This map server provides map layers containing information on the forest road network from the Territorial Forest Development Plans.

Subsequently, a set geodatabase was created in the ArcGIS environment and the individual map layers were exported to it. Vector layers of the forest road network and forest boundaries were created in each of the map for the calculation of the forest road network density, which is defined by the ratio of the length of hauling roads in meters to the area to be accessed in hectares. The density and quality of the forest road network is an indicator used for the level of development of forest management.

The forest roads that are captured in the created maps and are used to haul timber even nowadays were selected. These roads use the technology of corduroy roads and the technology of stone pitching, which are technologies of the 18th and 19th centuries, partially the beginning of the 20th century, further, the technology of bituminous surface, which belongs to the second half of the 20th century, and the technology unbound mixtures used currently.

The analysis of the research area shows that the roads were constructed gradually. The forest roads, as we see them today, were not originally forest roads – until 1826 they were constructed as connection lines between municipalities. Forest management was only their secondary function. Therefore, the roads were designed as the shortest possible connection of neighbouring municipalities in an easily accessible terrain. The density of the forest road network was 8.6 m/ha. Only in the second half of the 19th century and at the beginning of the 20th century forest roads gained in significance. The density increased to 13.7 m/ha in 1953. The road network layout met the needs of

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forest accessing based on a regular distribution of forest roads in the forest. The original roads from 1826 remained. Then the forest road network density rose to 18.4 m/ha in 2011. The roads constructed before 1953 did not change; the road network was only expanded reaching the areas that were not accessed before. Some forest roads were reclassified as 3rd class roads, i.e. 'district roads' serving the purpose of connecting municipalities – these roads were thus excluded from the forest road network density calculations. While the period of 1928–1953 was mostly oriented to construction of forest roads, in 1953–2011 attention was also devoted to sufficient reinforcement of the surfaces of roads constructed in the previous times. Parts of the road network originally reinforced by hardcore or logs were provided with unbound mixtures or bituminous surface.

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Multifunctional Rural Development: Consequences for Local Traffic Flows and Planning and Design of Rural Road Networks

Jaarsma Catharinus F.[1], de Vries Jasper R.[2]

Rural areas were traditionally connected with agriculture. Despite its tradition, in a global trend the European countryside develops quickly into a multifunctional space where other sectors penetrate into the originally agricultural land and tourism and agro-tourism develop on a large scale. These developments inseparably change traditional rural traffic flows and generate new ones. It is not at all granted that the present rural road network that has historically been developed mainly for agricultural use fits the new demands. Notwithstanding, a specific and careful planning method comparing the new traffic flows with existing road capacity limits and solving demonstrated bottle necks in practice often remains in abeyance.

To this background we aim to explore the contours of such a planning method and we therefore enter into four underlying research questions:

(1) What are the new and/or changing/disappearing economical functions in the rural area?
(2) How to estimate the consequences of these developments for rural traffic generation?
(3) How to calculate the present road capacity and the one needed to fulfil the requirements of a multifunctional rural area; and – if the present capacity is insufficient?
(4) Which approaches in planning and design can be applied to adjust the network to actual demand?

The transformation towards a multifunctional rural area becomes visible through different developments. Among farmers the three most common ones are terminating active farming, enlarging their farm or widening their scope with activities such as on-farm sales of products, agro-tourism and care-farming. In the secondary and tertiary sectors there is the moving of firms from urban areas to the countryside, just residents moving towards “a greener environment”. These “new” inhabitants of the countryside and firms either or not move to former farm buildings that became redundant by enlarging of scale. In many peri-urban rural regions all these developments appear simultaneously, be it with considerable differences in character and intensity.

New functions may either replace existing traffic flows or add new ones. In transportation planning empirical ‘trip rates’ are used to estimate traffic generation for a wide range of economical functions. Examples are the amount of traffic estimated per m^2 gross floor space for commercial functions or per room in a B&B. If type and dimension of the functions in the area are available, the number of motor vehicle movements can be estimated with this method.

Considering the large proportion of minor rural roads (MRRs) in the rural road network we will focus on this type or road. MRRs have only one lane for 2-way traffic and a limited pavement width (mostly below 4.00 m). MRRs serve a mix of road users with large differences in speed and vehicle mass. When motor vehicles encounter or overtake each other on a MRR they must use the verge, potentially causing damage. To avoid this, average volumes should not exceed empirically decided values. These values depend on the type of subsoil, the pavement width and the proportion of heavy vehicles and are represented in nomograms. On the other way, the pavement width of a MRR decides its technically acceptable maximum volume. For example, in a region with clay sub-soils and 14% trucks and agricultural vehicles, the capacity limits for pavement widths of 3.00, 4.00 and 5.00 m are 250, 500 and 1,100 motor vehicles per day respectively. Depending on the local situation the position on the network of specific road users, for example, bicycles or agricultural vehicles, may call for specific attention.

In practice some new functions generate more traffic than the traditional ones and also multifunctional activities on farms generate additional volumes to existing flows, potentially exceeding the capacity limits of MRRs. Then it is necessary to take action timely, at least for specific overloaded road links but preferably in a region wide approach for the rural road network as a whole with ‘rural traffic calming’. This concept aims at a concentration of diffuse flows within an area on a limited number of roads around the area, fitted to deal with somewhat higher volumes and speeds. Traffic calming leaves the roads within the area for mainly or exclusively local access, with low volumes and speeds and as such creates an attractive environment for vulnerable road users within a multifunctional rural area.

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Traditional Agro-Technical Practices in Relation to Physical Soil Attributes on the Historical Terraces in Budina Cadastral Area, Slovakia

Jakubec Bruno[1], Slámová Martina[1], Gallay Igor[2]

Cadastral territory of the village Budina is situated in Ostozky Mountains in the central part of Slovakia. Studied area consists of neovolcanic andesites and paleosoic granodiorits in the northern part. Altitude varies from 400 to 900 meters ASL. Agricultural activity is limited by cold (annual rainfalls average is 650–900 mm and temperature average is 16–18°C). There prevail saturated and acid modal cambisols and cultisoils with associated rankers and pseudogley cambisols on the middle heavy and light mantlerocks with skeleton. Soils have good water retention capacity and middle level of permeability with wet humidity regime. Forests are in the lower parts of narrow valleys. Upper parts are wider and there are agricultural terraces on the slopes of highlands. Land consolidation began there later (in seventies) comparing to other regions in Slovakia. Studied type of agricultural landscape is valuable. It is rapidly disappearing due to inhabitants withdrawal caused by bad socio-economic conditions. There live only few famers and prefer cultivation of larger consolidated fields which are not characteristic for mountainous agricultural landscape. Subject of the research are historical agricultural terraces on the slopes. Main goal is study of relationship between traditional agro-technical practices and physical soil attributes on terraced slopes. The main reason for results elaboration is that terraces are not included in process of landscape production potential evaluation in official classification of soil typological-production categories. The first we evaluate coverage and compare area of historic landscape structures in 1949 with actual situation (2010) in cadastral area. We diversify them into typological-production categories, define soil production potential and compare with land-use. The second, at local level, we identified vital farms with cultivated terraced fields. We evaluate slope and terraces parameters and collect soil samples for evaluation of soil productivity attributes. Selected physical soil parameters (soil grain size, skeleton content and soil deepness) are analysed in detail. Cambisols are naturally fertile, but they contain a lot of skeleton and large scale grains. Agro-technical practices as ploughing, skeleton removing and top soil deepening contribute to soil characteristics improvement. Using traditional practices, small light machines or animals, prevent soil before compression. Our research can provide a part of the argument for continuation of traditional agricultural use of the terraces and support it. Farms represent basic functional unit and specific model of agricultural land-use. Activities of farmers affect composition of land-cover structures and traditional fields represent valuable characteristic landscape features. We have to preserve it as cultural heritage and bring into decision making processes of spatial planning. Assessment of final landscape quality should be done together with local inhabitants with respect to principles of the ELC (Florence, 2000). Hrinova is the region with similar genesis and vital farms and it is example of valuable, identical and functional landscape. We would like to compare results with this region in the future. It requires deeper study of agricultural land-cover structures arrangements, crops rotation and evaluation of cattle breed in the areas.

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Abandonment and Losses of Agricultural Land in Czechia since 1990 from a Regional Perspective

***Kabrda Jan*[1]**

The **aim of the paper** is to present our research focused on land use extensification – i.e. grassing-over on arable land and afforestation and abandonment of agricultural land – in Czechia since 1990. We put stress on regional aspects of these processes and on revealing factors and driving forces influencing them. In our research we combine several methods and data sources. However, currently we adopt a prevailingly quantitative approach utilising statistical land use databases on the levels of cadastres and districts. Additionally, we analyse detailed geographical data on the level of parcels for selected model areas, derived from maps, aerial photographs and field survey.

The **loss of agricultural – especially arable – land** has been the major land use change in Czechia since the collapse of the communist regime in 1989. According to cadastral statistics, Czechia lost more than 2,000 km sq. (ca 7%) of arable land during last two decades, most of it due to grassing-over. The Ministry of Agriculture also estimates that further 3,000 km sq. of agricultural land (also ca 7%) are unused (abandoned). Our research shows that most of these extensification processes were concentrated in naturally less favoured areas and peripheral regions, where they can have environmental benefits, but can also add up to the threatening socio-economic marginalisation, depopulation and general rural decline.

Changes in agricultural policy, foreign trade and **volume and structure of agricultural production** during the transformation from centrally-planned to market economy have been the major driving forces. A huge slump in agricultural output – e.g., according to the Czech Statistical Office, the production of milk dropped by 45%, that of pork by 50% and of beef even by 65% between 1990 and 2010 – resulted in a decrease in the area of used agricultural, especially arable, land.

In this presentation I would like to illustrate these phenomena with three examples from our research. Firstly, I will briefly look at **afforestation** between the years 1990 and 2000 on the level of the so-called Basic Territorial Units (N = 8,907, average area = 8.9 km sq.). Then I will analyse **grassing-over on arable land**, using data on the level of districts (N = 76, average area = 1,020 km sq.) for every fifth year between the years 1960 and 2010. Here I will also comment on the changing spatial variability of the arable land/grasslands ratio, its dependence on local natural conditions and its political and socio-economic driving forces.

And finally, I would like to focus on the processes of grassing-over and land abandonment on **the level of parcels in several model areas** (5 km sq. each). Comparing land use information derived from detailed maps from late 1980s with the results of recent field mapping, our objective is to attempt to explain the spatial pattern of the processes of land use extensification with a set of quantitative variables for individual parcels. We use natural variables (e.g. soil type and fertility, altitude, slope), socio-economic ones (e.g. information on land ownership and use, application of EU agricultural policies, proximity to settlements and roads) as well as purely geometrical variables (e.g. size and shape of parcels).

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Rural Municipal Amalgamation between External and Internal Barriers; the Palestinians Case

***Khamaisi Rassem*[1]**

Amalgamation reform is one approach to escape local government crises, particularly in rural areas. This reform could be premised on physical-spatial, economical-structural and functional-administrative dimensions. The lack of resources, inability to secure a minimum basket of goods and services to serve local communities, and the need to provide these services, often lead governments to apply municipal reforms, mostly through up to bottom approach. The main assumption being, that this reform will improve securing sustainable services parallel to developing good governance and practice. Such reform faces external barriers that are relevant to geopolitical and governmental structure and status; and internal barriers which are relevant to socio-cultural stakeholders' local groups, which form an obstacle to the implementation of reform.

The Palestinian National Authority (PNA), which was established in 1994 as part of the interim agreements with the Israel, rebuilt the local government by establishing decentralized local authorities in most of the urban and rural localities. This policy of decentralization imposed a burden on the central and local authorities which still function within the frameworks of pre-statehood building. The lack of land and financial resources, on one hand, and the postponement of establishing a sovereign Palestinian state, continuation of Israeli occupation of the West Bank with full control over Area "C" (which consists about two third of West Bank) on the other, have led to the need of restructuring the Palestinian local government in the West Bank. PNA's Prime Minster Salam Fayyad's plan of ending the occupation and building the Palestinian state in 2009, addressed the need for reform in local government through amalgamating the rural community. This decision faced a large local, national, and external challenges and barriers.

The main theme of the paper is to shed light on the process of amalgamation of rural communities and its implications to discover and discuss the internal socio-cultural and external geopolitical barriers, with the Israeli occupation representing the primary reason for such local governmental reform. The paper is based on the process of applying a strategy development plan and Master Spatial plan prepared for Marj Ibn Amer Municipality, which was establish in the end of 2010, as part of the municipal reform to amalgamated nine villages, managed by traditional village council, as a case study. The paper will discuss the process of establishing and restructuring of the rural local government in Palestine, and the challenges accompanying the reform initiated by the central government through the support of international agencies. Additionally, the paper will present the barriers of the amalgamation process and its impact, particularly in spatial planning and development.

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Agricultural Advice versus the Problems of balanced Development of Rural Areas in Poland

***Kowalak Adam*[1]**

Despite significant, dynamic changes of functions of rural areas that occur in Poland since 1990 as a result of political transformation, agriculture remains a decisive factor for the state of the environment natural village.

Concern about the nature and to preserve cultural amenities rural areas, both tangible and intangible assets, depends largely on the state policy and its levarege for the local authorities and social acceptability taken upon. Acceptance of sustainable development is closely dependent on the environmental awareness of the rural community.

In Poland as EU Member State liable to implementation of the Community agricultural policy and the national rural development programme an important role in protecting ecosystems play host agri-environmental programmes.

The functioning of the financial instrument is the payment of compensation for action to protect nature and landscape. The question raises, whether it is sufficient to ensure continuity and efficiency of protective measures. Whether or not investing in the form of agri-environment payments should not go hand in hand with educational activities aimed at development attitudes pro-environmental?

An institution which task is to implement agricultural policy and to concern for further training of farmers is the state advisory service organized in advice centres to farmers (ODR being exceeded).

These centres shall carry out educational activities directed both to farmers and the inhabitants of the villages, not engaged in agriculture.

These are the courses, training, seminars, conferences and demonstrations. During a year more than 3000 such actions are organised. Advice covers a wide range of issues.

The most important are: plant production and animal production, rural economics, organic farming, environmental protection, principle of mutual compliance, multipurpose rural development.

Of the educational activities on issues of environmental protection may provide the fact that in the very only voivodeship Pomorskie 969 training programmes for agri-environment were organised in the years 2004–2010, in which participated 24 thousand people.

In year 2010 the researches have been carried out with the aim of determination of the impact of educational activities of ODRs on the state of ecological awareness of organic farmers implementing agri-environment programmes. The analysis of the results of researches gave to assess the effects of these activities to develop pro-ecological attitudes for farmers. The researches were carried out by the method of survey. Researches covered 400 farmers pursuing agri-environmental programmes in five provinces. In all five provinces interviews with advisors dealing with issues of environmental protection were also carried out. Also, the field and the theme of training carried out by ODRs have been analysed. As a result, it was found among other things, that: 1. The main motivation for agri-environmental commitment was willing to obtain the payments-(97% of the responses), 45% gives alongside other reasons than the payments; Low state of awareness of organic farmers implementing agri-environmen programmes and provide inter alia the following facts: - 33% of respondents not can defined concept of sustainable development; 79% of the "I don't have an opinion" on the need to protect biodiversity; 38% does not know whether the farmer has an impact on delimitation of the NATURA 2000 area in his own farm; 3. Positive environmental effects (organic of implementation of commitments agri environmental. This is because these programmes necessitate a series of actions

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which improve the natural environment, such as: compliance with principles of good farming practices and rules cross-compliance, having current contract on removal of waste, waste separation. According to the agricultural advisers the reduced spreading, the catch, and the competent rotation also contribute in a clearly visible way to the improvement of environment; 4. A large activity of advice centres in the preparation of farmers in the implementation of the agri-environment programmes in the researched Voivodeships annually from 110 to 204 training are organised on issues of environmental protection which is more than 27% of the total number of training organised by these centres.

When analysing the causes of relatively low effectiveness of training carried out by advisory centres (despite a substantial number) it was found, that mainly techniques of preparation and the clearance of applications had been trained. This prevented the environmental content from proper implementation. The implementation of agri-environment programmes should serve not only ad hoc improvement of natural environment, but also shaping farmers attitudes, guaranteeing relatively stable implementation of environmental objectives in the future.

Experience in carrying out its activities educational establishment and potential centres in Poland makes it possible implementation of this postulate.

But it is necessary to change training programmes, which will make it possible not only acquiring the technical-administrative, pro-environmental knowledge concerning implementation of the activities but also affect the relationship between human and natural environment.

The experience gained in carrying out its educational activities and human potential of advisory centres in Poland allow implementation of this postulate. But it is necessary to change training programmes, which will make it possible not only acquiring the technical-administrative knowledge of implementation of the pro-environmental activities, but also affect the relationship between human and the natural environment.

Alpine Pasturing in the Upper Austrian Limestone Plateaus: Changing Farming Systems, Changing Landscapes and Experiences with New Management Approaches

***Kurz Peter*[1]**

Alpine pasturing systems have been shaping landscape and ecosystems of the limestone mountains of Upper Austria since the origins of human settlement. Along with forestry, the seasonally transhumance of alpine farming is the predominant usage of the alpine zone in the region. While forestry historically had provided the centrally organised resource pool for supplying regional mining industries of salt ("Salzkammergut"-region) and iron ("Eisenwurzen"-region), commonly governed alpine pastures have always been an issue of farm households, representing an important part of regional peasant agriculture.

Down to the present day, land tenure and peasant property rights in alpine farming are organised in servitute systems, where peasant communities are granted usage rights within extensive areas of forest, formerly earmarked for mining issues. This is why complex patterns of pasture land, wood pastures and woodland found in the Upper Austrian limestone plateaus not only indicate diverse natural conditions. Beyond that, they also result from miscellaneous landownership based on sets of complex rules and statutes regulating land use between peasant communities on the one hand and the large scale landed property of forest management on the other. It characterizes landscape of the limestone mountains as an image of the practised legal system.

Akin to many other mountain regions, Upper Austrian limestone plateaus in the past decades saw far reaching changes in alpine pasturing systems, concerning decrease of workforce and livestock as well as tendencies to mechanisation and rationalisation. These processes find their expression in alpine landscapes and ecosystems, showing extensions of fallow land, scrub- and woodland. Impacts on biodiversity and on soil- and water balance causing increasing risks of natural hazards have repeatedly figured out in several studies. Ongoing changes naturally have induced discussion on toeholds to future sustainable management.

This paper offers an introduction into the system of alpine pasturing in the north-eastern limestone Alps of Upper Austria. Starting with some general characteristics of regional land use, the first section of the paper explores the outlined processes of transformation in local alpine pasturing systems. By tracing historical, socio-economic and legal backgrounds of ongoing developments, changing management practices and techniques are set in relation to comprehensive regional and agricultural contexts and get discussed on their impact on landscape and ecosystems. Setting the focus on alpine pasture management the alpine landscape of the region is characterised as a system of high complexity, linking natural and cultural components into an interwoven, dynamic mosaic of land-use, involving a variety of actors on different scales.

Based on these insights the second section of the paper highlights current efforts in managing ongoing changes on local and regional level by incorporating new planning approaches. Considerations on the re-structuring of pasturing systems, on measures in the re-organisation of pasture management and the re-formation of land tenure and governance of pasture land are figured out. Alpine pasturing plans are introduced as regional steering instruments, using an integrated approach and an adapted management concept. Some major challenges evolving from conflicting interests between actors (agriculture, forestry, nature protection, regional development, tourism) are disputed. Summarizing current experiences, some concluding remarks on potentials and limits of planning and management interventions within processes of change of complex natural-cultural systems are drawn and briefly discussed.

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Sustainability of Agriculture at Regional Level

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For estimation of sustainability different indicators (environmental, economic and social) are often used. The level of sustainability can be evaluated on global, national or regional level, but also at the level of the farm or the production system.

There is no available evidence in Slovenia, except on the declarative level, which could reasonably reflect the level of sustainability of agriculture. Creation of an empirical model for evaluating the sustainability of agriculture at the regional level, based on a selection of relevant indicators, is part of a larger national research project "Parameters of Sustainable Development of Agriculture". On the basis of selected indicators all three aspects of sustainability - economic, environmental and social were evaluated.

In this first methodological and empirical research we tried to represent the level of sustainability of agriculture at the level of 12 statistical regions. 22 indicators are included (and the reference year is 2010). The greatest difficulty represents aggregation and standardisation of indicators. For the standardisation of indicators the method of standardised value which allows comparison of different data series and expresses relative position of individual data in the series is used.

With the exception of four of the regions (Carinthia (Koroška), Inner Carniola-Karst (Notranjsko-kraška), Pomurje and Lower Sava (Spodnjeposavska) region), all others show a low level of economic sustainability in agriculture. Social sustainability in agriculture at the regional level is a little more favourable (regional differences are smaller), while environmental sustainability at the regional level in most Slovenian regions showing the most positive picture.

A higher sustainability in agriculture show those regions where in the structure of agricultural land highly dominated grassland and where the proportion of agricultural land in the LFA and the Natura 2000 areas is very high. The exception is the Pomurje region as the most intensive agricultural region in Slovenia. Due to the high economic (high production) and social sustainability demonstrates the highest level of sustainability among Slovenian regions (even the environmental aspect is much weaker).

One of the notable results of the evaluation of sustainability in agriculture at regional level is to prepare appropriate recommendations (and measures) for the strategic direction and activities required at different levels, which will contribute greater sustainability of Slovenian agriculture. This primarily applies to the preparation of regional development programs, which represent a key guiding document for regional development in the new programming period from 2014 to 2020. Within these programs the sustainable development of agriculture (and sustainable regional development as a whole) plays a vital role.

It is also important that the set of indicators can be upgraded in the future due improvement of data sets at lower spatial scales and also their better quality.

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Implementation of Subprograms for Identification of Extremal Water Regime Situations in the Mathematical Simulation Model LOCAL

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Meteorological phenomena in spring, summer and autumn 2010 were extraordinary extreme. They force professionals in water resources, to devote their attention to their impacts upon the agricultural and forest soil water regime. Productivity of each of the cultural plants depends during its individual life upon many of the ecological factors (mineral nutrients, soil water, solar radiation, etc.). Among those determining factors, water stands on the first place. Precipitation distribution during the vegetation season does not always correspond to the plants optimum moisture needs. Soil moisture deficit or surplus, together with unfavourable temperature changes, becomes often the limiting factor. Such conditions limit considerably the cultural plants growth, and thus their productivity and yield formation. On the top of it, such extremes influence also chemical substances transport in the soil, with nutrient receipt, or the pollutants transport.

Water determines the soil biological, mineral, physical, physiochemical and chemical processes. Nutrient transport, their better reception and use for vegetation cover organic matter by plants, is the result of these processes. In general, plants are unmovable organisms, unable to escape to the immediate environmental influence. It is therefore so necessary to know, several qualitative and quantitative aspects of water and chemical substances transfer between the soil and plant, taking into account also the temperature influence. Knowing the soil hydrophysical characteristics and the phenological vegetation cover parameters, we can also identify critical soil water regime of the whole system. Effort was aimed at studies of such critical (from the agricultural and forest point of view) soil regimes.

Identification of these most often occuring critical soil water states, in temporal as well as areal context, should call for corresponding short-, medium–term, or even for more broad minded adaptation measures. Soil drought and critical soil moisture surplus in the soil- vegetation cover system, have not been so far in a wider scale in center of the detailed research. Particularly as much as their formation processes, exact quantification by the soil characteristics and by meteorological elements, are concerned. Not to speak about application of such recent tools as are simulations by mathematical models. Modern trends in contemporary hydrophysics dictate today an approach of the mature measurement methods enabling acqusition of credible quantities, characterizing the whole studied system in question. This together with mathematical models application, is capable realistically simulate all relevant processes in it.

Present state of the available computer hardware and software makes possible to develop complex mathematical simulation models, suitable for processes of the heat, water and chemical substances transport in soil and in the related vegetation cover. So, sufficient conditions are created for inclusion of the growth- and production sub-models into the software. Such software system is then satisfactory for estimates of the present agricultural and forest vegetation, as well as for their development forecasts during the vegetation interval.

Implementation of the critical water regime algorithms into the LOCAL model[2] was made. Inclusion of following (as to the users demands) production and growths models, for particular agricultural production plants and forest species, in order to follow plants reaction to the critical water regimes. Elaboration of the all over model and database complex for a routine vegetation cover on the soil profile water regime following, enabling evaluation of the genesis and the critical states time course. Climate water balance modelling, also of the mass and energy fluxes, of the selected (risk prone) forest vegetation regions of Slovakia (mainly mountain forests, forest- steppe ommunities). In model mountain regions, evaluation of the spring water storage in snow, and of their changes, with respect to their risk by forest and soil vegetation cover destruction.

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[2] Complex mathematical model LOCAL calibration for simulation of the water, heat, and chemical substances (nutrients) transport, in the soil- vegetation system. Model was developed in the Institute of Hydrology, Slovak Academy of Sciences (IH SAS).

The Continuity of the Cottage Industry Like, Atypical and Modern Textile Industrial Employment of the Rural Areas of Hungary in the Decades of the Socialism

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In spite of varied historical circumstances of the 20th century in the Carpathian Basin, the locally typical traditional textile industry like sector successfully remains alive. Thanks to the survive of the atypical employment based, cottage industry like textile manufactures. The decisive economical and political era of the 20th century specially conservates the segment in contempt of the factory-type textile industry. This method is special valid to Hungary.

The goal of the paper is to reveal those procedures that help to survives traditional textile industrial jobs in the rural areas of the country principally in the years between 1950–1990. For this, we investigate the factors, that luckily synods and keep the segment successfully alive against the economical inertial frame of reference based on strongly industrializing ambitions.

Like all the processing industrial segments, the traditional textile industry is also trouble from the raw material and along the processing course. In this case the interpretation comes from the distribution of the natural filaments and accompanying materials like linen, hemp and down of the waterfowls. The traditionally good cropland of natural filaments based cottage like textile industry never suffer significant abatement of demand, any the less in the Socialism too (against the other industrial segments conformation).

The main reason of survival was the irreplaceable expertise and the know-how of the workshops. On the other hand, the seasonality of the above mentioned raw materials, and the products of them made the governance more submissive to the non-factorial, decentralized, mainly in the rurals living, with informal shifts working, volumen and deadline based cottage industry (mainly against the centralizating process).

Of course, the paper pans out about the specialities of the rural products, like the products relationships with the culture, mainly with the folk art, beside the employment and economical questions.

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Quo Vadis, Rural Youth...?

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This paper investigates the crucial problems and phenomena relating to the rural youth through describing and exploring the issue of social and civic participation, value orientation and economic strategies. Young people living in rural communities represent a specific social category which evokes many urgent questions within the context of contemporary rural development. It is essential, therefore, that social scientists point to the necessity to realize quantitative and qualitative surveys oriented to rural youth for deeper understanding their situation, ways of thinking and models of social behaviour as well as to create more efficient youth policy and support mechanisms for young people.

In the first part of the paper, the authors review some conceptual approaches to understanding the term youth, its social sciences reflexion, legal definitions and appointed EU indicators in the field of youth. Besides that, the paper characterizes also the main European youth programmes with highlighting their usefulness for rural youth. In the second part, the methodological questions concerned with empirical surveys on rural youth are discussed and in the final part the paper deals with problems of youth participation, value orientation and economic strategies in the conditions of rural communes in the Nitra self-governing region. This chapter represents and interprets the results obtained by the questionnaire survey within realized research project *Social and civic participation of rural youth* and results based on conducted focus group interviews within the ongoing research project *Social and moral aspects of civic and economic life of rural youth.* Both projects are funded by Iuventa (Slovak Youth Institute) and the Ministry of Education of the Slovak Republic within the programme schemes “Support for researches on youth 2008-2010 and 2011-2013”. The authors describe general information about the projects – the methodological framework, the key research questions and goals of the surveys, sampling procedure and detailed structure of the survey sample. They compare empirical findings obtained by the questionnaire survey on rural youth and attitudes of local representatives highlighting the spheres, forms, conditions and factors which influence the participation of young people and their motivation to participate in the life of rural communities. The findings from the quantitative survey are underlined by findings from the qualitative survey.

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Water as a Factor of Multifunctional Rural Development in Poland

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Important factor deciding about sustainable rural development is water. It is caused by it function in agricultural landscape and fact that its shortage or surplus impacts biodiversity especially on water reliable ecosystems.

During last few years' noticeable change of the way of thinking took place considering management of water resources. Water was shown as "restricted and sensitive resource, essential for sustaining of life, development and environment". While Water Framework Directive implemented a definition that shows water specify as a resource: "water is not a product as any other but is a hereditary good that has to be protected and treated as this". As a consequence of this approach some priorities of water management has to be set to subordinate water economy to sustainable development rules which cause changes in rules and techniques of water resources management. In place of aim oriented on usage and supplying of water for satisfying different parts of economy – the aim of sustainable usage and protection of not only water itself but also water ecosystems and water reliable ecosystems. As a basis of water resources management integrated approach was taken, placed in natural, social and economical properties of water resources and connected to them environment.

According to the rules of sustainable development actions protecting and managing, in complex way, environment of rural areas, including water resources, should be taken under consideration in special planning and not violate the requirements of environmental protection. They should consider agricultural production space as well as residential areas with their technical infrastructure and degradated areas also protected areas including water biotopes. At present socio – economical conditions requires new point of view on water factor in rural areas management. Water in agricultural landscape in spite of productive (production of biomass) function plays different roles such as:

- Shaping of environmental conditions for habitats (soils process, microclimate),
- Transport of chemical substances (solvent and medium) and energy (changes in state of water is connected with heat absorption or emission),
- Landscaping and aesthetic values,
- Shaping of condition for biodiversity protection (small reservoirs, ponds, wetlands, marshes, drainage grasslands in small river valley), and
- Absorption, reception and reduction of anthropogenic treats caused by agricultural and urbanization activity (self-cleaning process).

About economical and ecological role of water decides not absolute amount but the time of water impact, time of taking part in different processes in landscape. On the other hand this time depends on the level of the area cover by plants (biodiversity) and on the inflow time of rain water to the rivers.

The role of water in landscape management can not be seen in apart from economical, social and ecological functions of rural areas nor without the context of the agricultural and ecological policy (state and regional scale) and also without the conditions caused by existing infrastructure connected with land improvement and water engineering. It should not be considered in apart of special plans for management of existing habitats in rural areas.

Multifunctional model of rural development have to secure production of food, protection of natural resources and balance of energy production. Expected area for biomass energy production in Poland in 2020 will be consists approximately 2 mln ha (0.5 mln of raps for biodiesel, 0.6 mln ha cereals for bioetanol, 0.5–0.6 mln ha corn for biogas and 0.5 mln ha short rotation plantation for solid biomass energy). Expected biomass production for energy purposes consists approximately 10 mln ton (2 mln from forest, 3–4 mln straw and 5 mln ton solid biomass from energy plantation). It means that 80% of biomass will be coming from agriculture sector. For climatic conditions in Poland relatively high level of water demands of energy crops (especially willow) will be limited factor for development the energy plantation. Enlarging the energy crops area has

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serious environmental threats, first of all limitation of soil water resources that reduces the feed ground and surface waters.

Garrison Villages in Hungary then and now – The Role of Military Presence in the Development of Rural Areas

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The category of garrison towns is well-known for everyone, it consists cities with dominant military functions. A high percentage of employees in the defence sector, several military personnel stationing in local army bases or living in the town, and throughout a stronger purchasing power and many types of military facilities are also typical in these settlements. A less known fact, that these characteristics could be also typical or even stronger in smaller settlements, creating the category of garrison villages. Thanks to military functions these communities were able to develop faster than their surroundings, but the loss of these functions could also result in an economic decline. In the early 1950s an extensive development of the Hungarian Army had started and several army bases were built in rural areas as well, many small settlements became garrison villages. The forced and unconsidered military reform in the 1990s interrupted the development of these communities, which have lost the most important segment of their economy when the local military facilities were closed.

The category of Hungarian garrison villages wasn't a brand new idea in the 1950's, there were some unique settlements dominated by the defence sector in the first half of the 20th century as well. The most important of these was obviously Hajmáskér, where an army base covering 110 hectares had already been built in 1910. However most of the Hungarian garrison villages got their military functions after 1945 and became so a special type of rural areas.

The research is based on the results of the 1990 census. It contains detailed sources about employment and it was the last survey held before the start of the Hungarian military reforms and the secession of the Soviet troops from the country. Based on the percentage of employees working in the defence sector more types of garrison towns and villages could be defined, from the category of settlements with measurable military functions to the type of communities where more than 50 percent of the employees worked at the armed forces.

The size of the Hungarian Army has decreased from 150,000 to 28,000 troops between 1985 and 2012, and about 100,000 Soviet troops had left the country in 1990–1991. This resulted in negative economic and demographic consequences in garrison villages and smaller garrison towns, which became the first settlements where army bases were closed, due to the weak ability to enforce their interests. The impact of this demilitarization is obvious examining the amount of personal income tax per capita in these settlements between the early 1990s and today. It could be stated that garrison villages were the clear losers of the Hungarian military reform, as the above mentioned indicator has not reached the average grown rate in most of these settlements, or even shows a nominal decline.

Reusing the built military heritage left behind by the troops is usually a complex duty, especially in smaller settlements. Depending on the results of revitalization of military brownfields we can classify the garrison towns and villages into 3 groups: former military sites with successful rehabilitation, partially reused sites and completely unused wastelands. We can find several examples of every category in rural areas in Hungary.

As a conclusion it could be said that strong military presence and continuous military functions could be a blessing and a curse at the same time by making rural settlements into garrison villages. In the active years of the military sites these settlements could be able to develop faster than their surroundings, but the leave of soldiers results in serious economic decline. Furthermore reusing the former military facilities is usually an especially hard task in case of villages.

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The Influence of the Big City on People's Recreation Manners in the Adjacent Communes in Example of Wrocław

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The areas adjacent to large cities are characterized by specific processes, which are reflected inter alia in their landscape. It's interesting whether the increase of housing development in these areas entails also the creation of recreational areas – destined for a common use and favourable for the integration of the inhabitants. It's also important whether the base of recreational areas intended for inhabitants of a nearby town is growing, influencing on development of these areas. The study was conducted in three communes directly neighboring the city of Wrocław from the north-east. These are the municipalities of Oborniki Śląskie, Wisznia Mała and Długołęka, which are varied in size and ways of land development. The municipality of Oborniki Śląskie, which northern part is covered with forests, is dominated by the areas suitable for development of "weekend" tourism for the Wrocław's and nearby district inhabitants. This potential is still not fully exploited. In recent years in the municipality of Wisznia Mała there were organized some new recreation areas which are destined not only to the inhabitants of the area. The first one is the golf-course, which was established on the former military training areas. The second place, which is still developing, is a recreational-sport complex with fish ponds in Pierwoszów. In the municipality of Długołęka the local attractions are the fisheries for anglers and also a recreational complex, which was founded on the basis of former manorial park in Szczodre, but it's not properly developed. Usually the places where the integration of the society can be hold, are not being developed in parallel with the housing development. However, in recent times a lot of good started to happen through village renewal program, which was realized for several years also in communes, which were mentioned here. Thanks to this program the community centers, playgrounds and sports fields with facilities are being built as well as parks and squares which are being developed.

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Rural Modernisation as National Development – The Case of Norway 1900–1950

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The aim of the article is to explain the maintenance of the scattered population in Norway during industrialisation and modernisation. The master story of the Norwegian transformation is replaced with three different stories. It is argued that the discourse about the development of the waterpower and metal / fertiliser industries dated around the previous turn of century is but one of three tellings that should be told about the national transformation in the 20th century. Another story is about the modernisation along the coast, and a third is about the development of a manifold and mostly rural manufacturing and import substituting industry. It is claimed that this attempt at rewriting the Norwegian modernisation course is able to do the job that the master story is unable to do; i.e. to explain the transformation from poor to rich society with the maintenance of more than half of the national population in sparsely populated areas.

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The Leeway of Urbanization Cycle Phases in Hungary – or Underdeveloped Rural Areas?

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The urbanization cycle can be divided into basically three parts from the perspective of the present research i. e. urbanization, suburbanization and the parallel des- and re-urbanization. Each phase although in different eras, content and intensity occurs and has occurred in various regions of Hungary, however, their urbanization effects mostly cover the country. Furthermore, it is to be questioned if 'urbanization-free' areas have remained, and if so, where and how underdeveloped they are.

To measure each segment's areal spread – because the demand of database adequate for the three phase's time interval – the changes in the population ratio of given territory was the appropriate indicator. Especially the difference from the national values (relative zero) weighted by population. For delineating the areas intact by any urbanization, a designation of a ten percent – always the closest to relative zero – maximum threshold seemed to be necessary, because the total matching with the relative zero was not expected in any of the areas.

The urbanization cycle phases of Hungary could be mapped very well by the so-called 'wave-model' from the view of population movements, or many other projected traits.

The results obtained show that hardly any 'urbanization-free' areas can be found in Hungary, however, those are the larger, populous villages, and even – despite their title – former agricultural towns, mostly located in the less frequented, hidden part of the Great Plain. Most of them do not belong to the classic peripheral areas or to the group of most underdeveloped, disadvantaged settlements; ergo the lack of cities (in geographical sense), the rurality of a region does not necessarily correlate with underdevelopment.

Exploring the question reversely, it is obvious that the most underdeveloped, decisively areas with small villages, although they are rural, actually almost all forms of agriculture is missing. Most of the residents live on social allowances and cannot (lonely retired old people) or do not want to (deviant unqualified population) farm their own gardens or backyards, they leave it uncultivated. The few residents, who are employed, are mainly long distance commuters, work in industry. Furthermore, these areas touched by – only just negatively – one or even all of the phases of urbanization; therefore they played a role in urbanization as an exploited breeding ground of developing regions.

It can be concluded that the lack of urbanization and the agricultural character do not naturally equal with underdevelopment, nevertheless agricultural based sectors could be the key of development in rural areas. However, some kind of centralization is considered essential at micro-regional level. The functional and spatial concentration of disadvantaged small villages into 'agricultural-type' towns could provide a possibility of approaching parallel the first and third phases of urbanization.

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Significance of Historical Market Squares in Small Towns and their Contemporary Transformations - Małopolska Case Study

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Economical and social changes in Poland since the end of XX century had influenced significantly to the outlook and functioning of small towns. On the one hand market economy with needs and possibilities of development of the individual initiative had influenced stimulation of central zone of small towns changing theirs market squares image. On the other hand adaptation of existing settlement to development of service facilities and easy access to modern construction supplies had caused a number of remodelling projects which subsequently undermined historical values of small towns already neglected.

That problem concerns particularly market squares which previously had limited or simply lost theirs serviceable character and the most important meaning in town but usually preserved original market square`s frontage buildings including many served unique wooden constructions.

The frontage buildings of historical market square in Lanckorona

Present adaptation of the buildings for services and needs for technical improvements of structure buildings and surfaces of market places caused number of renovations which despite of great financial efforts do not bring in many aspects expected functional and aesthetic values. Moreover even evidently destroying authentic values of those space.

Nowadays, after redevelopment of economic rules the small towns in south of Poland have a future in developing touristic and recreation functions based on attraction of surrounding nature, reserved cultural values and specific “the small town spirit”. The essential marking of charm of space of market places should be renovate to the connection for historic meaning which can gather the function of service-social-culture drawing in as well inhabitants as tourists. In case of small towns where trade and service facilities are concentrated outside of historical centre, the market square could take over culture and social function not loosing his historic meaning.

In the range this paper concerns in particularly in chosen historical market squares of small towns situated in south of Poland in Małopolska region. The market squares of those towns have been in different way transformed but still possessing a number unrepeated unique values and specific spirit. The chosen examples give possibilities of comparison the present characteristic functional of market places also allowing for taking out the existing tendency in their rebuilding.

As the conclusions for consideration is defining what the role should play contemporary the area of market square of small town and pointing to directions of activities during renovations for purposing in taking up aesthetic quality and rank in town space.

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In present social-economic conditions landmark market squares in small towns due to preserved values despite of various degradations should be and also can be remarkable and significant element of the town attractiveness. Desirable changes in developing market squares could stop degradation processes raising the rank and identity of small polish towns.

The pointed changes, presently in the situation of deficiency of local government funds may be possible in financing the necessary renovation activities only with supporting of EU subsidies.

Presently, in the situation of deficiency of local government funds, the pointed changes maybe possible in financing the necessary renovation activities only with supporting of EU subsidies.

Revitalisation of the Small Hobby Gardens in Hungary

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The small hobby garden is a special urban space among the urban fringe. Originally the small hobby gardens were an agricultural category. This category was created in 1967 in the outer urban areas of the cities. The aim of the government was to classify those small areas, which were not to be the part of the large-scale agriculture economy. The owners could produce vegetables and fruits to self-sufficiency or to sell. The volume of production increased, and it developed economically significant. Besides the main function some of the hobby gardens had also recreational function. Recently one of the main transformations in the urban space is in the hobby gardens zone which is in peri-urban area. After 1989, these roles disappeared. During 1990 some of the gardens became a real agricultural area, some of them have started to transform and the rest of the gardens kept the original functions. Rapid changing in land use, activities and ownership characterizes these zones. The interests of different actors (local people, local government, real estate market, enterprising, business) are connected to the process. Thus this paper examines in historical context the role of the small hobby gardens during different regimes and this is examine the social and functional characteristic of them.

Thus, the first aim of this paper is to discuss how the regional characteristics of the cities can determine the changes of the rural-urban fringe since 1970's. As not only the different regimes among different conditions determine the transformation of the peri-urban area in post socialist countries, but also the special administrative and historical urban space is productive of other location and development ways than as usual. The second aim of this paper is to present, during a case study of, what kinds of local qualities characterize the changing of the hobby gardens zones. The case study focuses on Szeged, Hungary. It has about 170,000 inhabitants and it is located in the southern part of the country. The urban fringe of Szeged has been changing fast and conspicuously in the last two decades. Nowadays the landscape is neither rural nor urban.

The transformation of the gardens zones in the Hungarian cities were examined by different kind of statistical survey. With these methods it could be possible to determine the regional characteristic of the changing peri-urban areas. To make the results complete in the course of the research documents were analysed to find answer how the planning has been changed in the last six decades and how did it determine the transformation of the urban space, especially the urban fringe due to the regulations. The local characteristics were examines with different kind of methods during the case study. Firstly a fieldwork was done to measure the functional transformation of the hobby gardens. Secondly the social situations of these areas were examined by a questionnaire. The questionnaire looking for answers for the following four questions: who is moving into the gardens; why people are moving into these areas, what kinds of advantages and disadvantages have the gardens and finally what kinds of possibilities have to develop these areas.

It is state that the peri-urban areas of all examined cities are changing but different ways. Dynamic changes can be found in those cities where there are hobby gardens, 'fruit gardens' and farms. Nowadays there are two main functions of the small hobby gardens zones: the residential and the original (horticulture) function. Besides them there are others but the dimension is low. People who are moved into chose these areas because of the environment and cheaper living conditions. Despite of these advantages there is a serious disadvantage of these zones, which is the strict local regulation.

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The role of part-time farms in the economic, environmental and spatial transformation of the urban fringe

***Nika Razpotnik Visković*[2]**

The paper focuses on the role of part-time farms in the economic, environmental and spatial transformation of the urban fringe in Slovenia. The geographic and social aspects of part-time farms, their development and motives for their establishment have already been researched in detail. From the 1990's onwards, interest in part-time farms in scientific, expert and public research has somewhat diminished, while the share of part-time farms increased from one census to the next. In 2000 this share in Slovenia amounted to nearly 73 %. The increasing role of part-time farms in Slovene agriculture encouraged the shift of focus onto their role the transformation of the urban fringe, which is considered to be different than the transformation of hilly and demographically endangered areas.

In our research of the part-time farms the following inquiries have been made:
• in what manner the proximity of the workforce market impacts the mobility of agricultural workforce,
• whether socio-economic characteristics of suburban agricultural economies reflect in the characteristics of farm management and consequently in the environment,
• what role part-time farms have in strengthening the multifunctional agriculture.

Research has shown that in the case of most farms agriculture is only a secondary activity, whereas statistics show, somewhat surprisingly, that this phenomenon does not seem to be affected by the urbanization level of the area where the farm is located, whether it is non-urbanized or highly urbanized areas, agricultural household members intensively seek additional sources of income beyond agricultural activities. The accessibility of workplaces is not a predominant factor in the transformation of the socio-economic structure of farms in Slovenia.

On the basis of a more detailed analysis of 2,538 suburban sample farms a conclusion was made that part-time farms are, regarding the extent of agricultural areas, smaller than pure farms, while the structure of their management is spatially more fragmented, which contributes to a greater landscape variety, with the share of leased agricultural land being smaller. Evaluating the realization of the multifunctional role of agriculture, a conclusion can be drawn that the share of farms with extensive agricultural orchards, which are of great importance for landscape formation, is higher among part-time farms than among full-time farms. Part-time farmers also cultivate a bigger variety of different crops per unit of cultivated agricultural land. The burdening of the environment with nitrogen and phytopharmaceuticals is lower among part-time farms than among full-time farms. On the other hand, full-time farms more often boast additional activities and eco-farming.

Individual socio-economic types of farms nonetheless do not differ so much as to justify the passing of spatial planning measures targeting each specific type. All types of farms possess the element of stability therefore there is no reason to promote only one particular socio-economic type of farm. The only exception could be the declining farms with elderly members, but the demographic profile of Slovenia and the Slovene agricultural population indicates, that the trend of declining farms will continue. As regards spatial planning it is important to learn about the development potential of farms in the planned area and put greater emphasis on the most vital and stable farms, whether they are full-time or part-time farms.

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The Rural Areas and Their Role in Development of non Conventional Energy Production in Pomerania

Rydz Eugeniusz, Kowalak Adam[1]

From among 16 Polish provinces (voivodeship) the coastal ones (Pomorskie and Zachodniopomorskie) are particularly placed to obtaining the use of renewable energy. They have good conditions for development almost all the unconventional forms of energy and in particular wind energy, in view of the favourable wind conditions and biomass energy taking into account the level and structure on agriculture and the possibility to biogas production of a significant quantity seaweed (mainly blue) discarded by the Baltic Sea to the shore. Both wind power development and use of biomass for energy purposes is mainly related to the rural areas. Both the voivodeship have agricultural-industrial nature. In the overall area voivodeship Pomorskie, which is 18,293 km^2, an agricultural area is 863,335 ha and forests and forest land are 671,126 ha.

On a scale of 16 provinces in the country Pomorskie occupies 8th place in terms of the total area, 11th place under the agricultural land and 6th place under the surface forests.

Voivodeship Zachodniopomorskie occupies an area of 22,902 km^2 which represents 7.3% of the area of the country (2nd place in terms of the total area), utilised agricultural area have 925,300 ha and forests and forest land 803,100 ha.

This Voivodeship is one of these areas, which was characterised by a year before 1989 involving the largest economy between in agriculture. At present pace of change in rural areas and in agriculture should be one of the largest in the country.

The Rural areas role as a producer of renewable energy, both in Poland as well as the whole of Europe has been continuously growing. Energy production is an increasingly important element for rural multifunctional development.

It gives to allow farmers to achieving additional income from production of raw materials and energy benefits to the production of energy for their own needs.

Constant growth in demand for energy, with a steady increase of the prices of fossil fuels and numerous conflicts by energy security, has increased renewable energy interest in, including bio-fuels of agricultural origin.

In the 1990s XX century in Europe an intensive development of energy production of raw materials occurred in rural areas.

Technologies of raising the energy from biomass have also been improved. The first years of 21st century were period of reflection whether this route development energy on the basis of an increase in biomass production in rural areas is appropriate period A question raised: what impact has first generation bio-fuels production on the environment and food security. But it does not alter the fact that in the past 25 years rural area has changed its place in the energy market. It is already not only consumer energy but also one of its producers.

The balance sheet of energy consumption in rural areas includes two main issues: energy expenditure on food production and consumption of energy in residential homes of the rural population.

The problem of reduction of energy input to the production of food, while increasing food security needs in a global scale human population remains open. Much simpler solution appears to be the case of energy consumption in their homes and homes of the rural population.

In Pomerania the progress in this field has been observed.

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In the article strategies and programmes for energy development in the researched provinces have been analysed in the light opportunities and the development prospects for production of energy from renewable energy sources. An assessment was made to the entries listed in Poland's Energy Policy for 2030 and obligations of the Directives of the European Union energy policy in the European Parliament and of the Council Directive 2009/28/EC of 23 April 2009, on the promotion of energy from renewable energy sources.

In the analysis inter alia, that in the voivodeship Pomorskie assumed is an increase in market share of renewable energy (mainly wind and biomass) in the balance sheet energy to the level 24.6% in 2015. However, in years 2020–2025 the reduction of this share to the level of around 12.7% is expected as a result of the nuclear power plant setup. This level will not guarantee that after year 2025 the criteria required by the European Union will be completed.

Voivodeship Zachodniopomorskie had and will have in the future surplus energy in relation to the existing own needs - it is exporter energy.

The option energy development on the basis of renewable sources is being implemented in this voivodeship.

In the Programme Development the Energy Sector to 2030 a significant increase of production of wind energy and use of biomass for energy production is provided. Energy balance of voivodeship, according to the provisions of the programme, should meet the criteria adopted in Poland and energy policy of the European Union.

The Changes of Selected Socio-cultural Aspects of Slovakian Rural Areas Concerning the Transformation of Agricultural Systems

***Šebo Dušan*[1]**

Introduction
Three basic systems of production: small farming, socialist-cooperative and market cooperative ones are discernible in the history of Slovak agriculture since the disintegration of the Austrian-Hungarian Monarchy. Regarding the concept of multi-functionality (Wilson, 2007), manifestations of these agricultural systems in changes of selected attributes of the rural area: social networks, culture and relationship between humans and the landscape have been studied.

Method
Semi structured interviews with transcriptions processed by the method of coding was the applied research method (Miles, Huberman, 1994; Weston et al., 2001). The old inhabitants were asked to comment on changes in socio-cultural environment of their villages that might have taken place in the consequence of the changed nature of agriculture.

Study area
Research sample consisted of nine inhabitants of four rural communes located in the contact territory of the Biele Karpaty Mts. and the Ilavská Basin. Respondents, all of them born before 1949, were from farmers' families who worked after collectivisation either in the cooperative farm of Pruské or in the factory of ZŤS Dubnica nad Váhom.

Results
Results of research suggest that the small farming compared with the two subsequent systems was the one that most distinctly contributed to the preservation of rural vitality. The fact was also determined by the low material safety. The rate of mutual help and other mostly work-related interactions was associated with those of necessity and dependency.

The enquiry showed that after the locals accepted jobs, which lacked the mechanism of interaction, social networks formed under the system of small farming started to disintegrate.

Production in the small-farming system was connected with a number of cultural features. Such elements were connected with the given nature of production in a quite natural way but the socialist system of cooperatives stressing maximization of production did not give any importance to the possible cultural attributes of agriculture. The result was the loss of a whole scale of cultural features and local specificities, which were not adequately compensated at all.

Private land property and the direct dependence on land's long-year fertility were the principal determinants of a respectful approach to landscape and resources. Common maintenance of small-landscape elements through which humans identified themselves with land also contributed to the positive relationship to landscape. The changed approach to landscape in the socialist cooperative system often manifested itself in inconsiderate user of industrial fertilizers and agro-chemistry.

Conclusion
Results of this research confirmed an assumption that the pre-collectivisation character of agricultural production had important socio-cultural implications absent in younger agricultural systems. The aim of this paper was to point to that fact. In terms of sustainable development of the (Slovak) rural areas it is desirable to respect existing or potential non-commodity functions of agriculture.

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Rural Landscape Changes between 1949-2009: Case Study Bohunice, Slovakia

Šebo Dušan[1], Kopecká Monika[1], Nováček Jozef[2]

Introduction

Assessments of agricultural landscape structure and its changes have been given a lot of attention in recent years above all with regards to the considerable shrinkage of biodiversity of agro-ecosystems. The most dramatic intervention into the historic structure of landscape in our territory was collectivisation in era of socialist agriculture which has completely changed the overall character of rural landscape. The change of socio-economic situation in the country were connected with gradual transformation of the socialist way of land management. One of the problems connected with the transformation is abandonment of farmland accompanied by disappearance of the mosaic structure of agricultural landscape. The progressive transition from the planned economy to market economy after the year 1989 was also accompanied by gradual decrease of sown areas and the scale of cultivated crops.

Evaluation of land cover changes (LCC) provides a first insight into the ongoing processes on a territory and enables integrated environmental assessment of these processes. This is the reason for the increasing importance of monitoring land cover changes at the local level.

The aim of this contribution is to point to changes in arable land use and diversity that took place over the past sixty years using an example of study area Bohunice village, situated in the mountain-basin contact territory of the Czech-Slovak borderland and is a part of industrial region Považie. The observed and recorded changes are simultaneously evaluated in the context of socio-economic conditions perceived as the principal driving forces of these changes.

Method

Aerial images from three time horizons were used in order to obtain information about spatial structure of agricultural land. The photos taken in 1949 show the landscape structure short before collectivisation, the one from 1986 captures the status at the beginning of transformation of agriculture when market economy was reintroduced and the orthophotomap from 2009 focuses on the present landscape structure.

In order to produce a more precise description of the local rural landscape structure we worked with an extended CORINE Land Cover nomenclature of the 5th level (Kopecká, 2006) which was developed by hierarchical sub-division of the CORINE Land Cover nomenclature for the scale 1:50 000 (Feranec, Oťaheľ, 1999). The minimum mapping area was 500 m2 and minimum width of polygons was 10 m. Some land use details that are unobtainable from aerial photographs were gathered during interviews with old local inhabitants and agronomists.

Results

In the study area, occurrence of 49 land cover classes was recognized. The agricultural classes representing the most significant landscape changes are presented in Fig. 1.

Through the interviews with old local inhabitants we identified e.g. 71 hectares of terraced fields (21111d) which were completely changed into another classes, mostly semi-large plots (1–30 ha) ploughed along the contour lines (21112b). But this class was during the second decade of market economy changed into grasslands without scattered trees or bushes (2311). Small plots fields (< 30 ha) located in the basin (21111a) were changed into large plots (> 30 ha, 21113a). Compared to the two older time horizons the share of shrubs (3243) was almost tripled.

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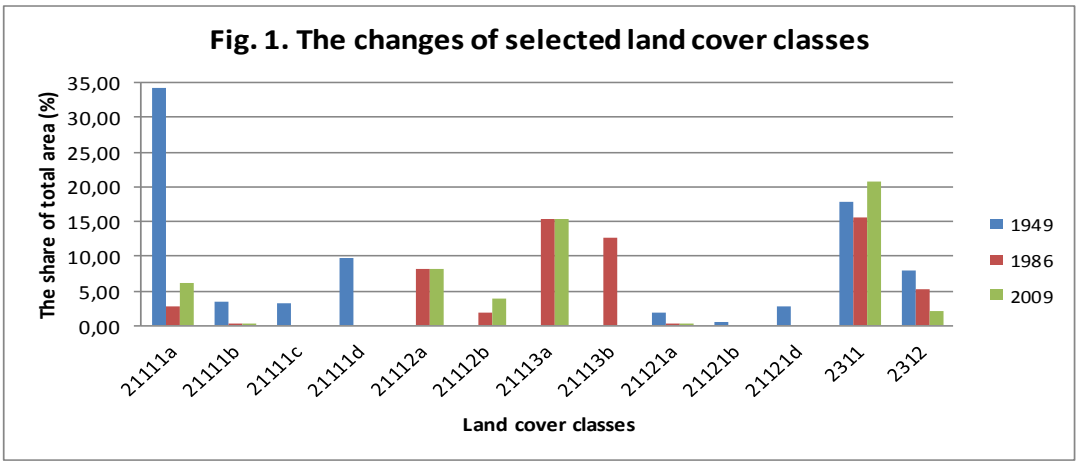

Conclusion

Presented results demonstrate the changes of (agricultural) landscape over the past sixty years. They significantly changed landscape structure with its consequences on landscape ecological stability. Obvious increase of ecological stability during the last twenty years is unfortunately the only positive aspect of these changes. Results also point to the need to combine information about landscape structure obtained from remote sensing with other supplementing data (e.g. information about the changing structure and areas of sown land). Knowing landscape changes including its causes facilitates an active regulation by the society (for instance: stimulation of selected activities through subsidy, supporting programmes, limitation of certain interventions by stricter measures, etc.).

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Restructuring the Rural-Urban Fringe: An Observation on a Multifunctional Rural Space

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The rural urban fringe (RUF) in developed market economies has undergone a substantial restructuring process in recent years. This zone has experienced decline in agricultural employment and settlement change, and it is intensely contested by non-agricultural land uses. The underlying mechanisms impinging upon the processes are population mobility, changing location advantages and related economic activities, changes in the desired lifestyle, and environmental regulation. All of which affect the physical-spatial structure and the socio-economic systems in the RUF itself and the surrounding areas.

The restructuring process of the RUF can be analysed through a number of domains:

1. Demography – In- and out-migration flows of population which differ in their characteristics according to the nature of the population.

2. Social structure – A clear shift from a low diversity of social groups (mainly farmers) towards a high diversity of social groups. The outcome is a range of social groups from veteran farmers to gentrifiers.

3. Economic structure – A shift from a farming space and related activities towards a multifunctional space. The outcome is an increasing tendency towards a shift from a space of production towards a space of consumption.

4. Organisational change – A transformation from village towards suburb: changes in the private and public landscape.

5. Environmental change – The penetration of environmental nuisances unknown before facing increasing pressures of environmental protection.

The major resulting issues are: the loss of prime agricultural land, declining income among farming households, changing nature and demographic structure of rural communities, excess expansion of built environment beyond the real needs, increasing pressure on local infrastructure, environmental conflict and growing imbalance of natural processes.

The ultimate solutions to these issues can be expected to extend over time. A number of practical solutions are: identifying agriculture and farmland base as critical for the sustainability of local communities, encouraging potential income from sophisticated agricultural products and from complementary non-agricultural income sources that do not produce environmental nuisances, the development of local entrepreneurial activities that support local development, and strict monitoring procedures and policies regarding land uses thus decreasing the potential for environmental degradation.

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Ageing in the Shrinking Small Town: Coping Capacities and Strategies in a Rural Inner Periphery in Germany

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For decades, rural regions close to the former Inner German Border have been characterised by profound socio-demographic changes. The western parts had faced population decline as early as in the 1970s and experienced considerable migration influx after the border was opened. Since the mid-1990s, however, migration balance is in most cases negative. Due to long-term negative natural population development, demographic shrinkage is accompanied by ageing that brings some of the areas on the top of the ageing regions in Germany. In some municipalities this is reinforced by amenity-driven in-migration by elderly people. In contrast, in the regions east to the former Inner German Border out-migration of younger residents used to be a continuous phenomenon after the fall of the Iron Curtain. Also here interdependent negative natural and migration balances lead to long-term population decline accompanied by ageing.

These demographic changes succeed and, at the same time, reinforce transformations of regional labour markets and municipal budget deficits that strongly impact on the fortunes of settlements and their infrastructure. In the future, a further de-densification of the population, local amenities and the built fabric is to be expected. The long-term provision of local services of general interest (such as kindergartens, schools, surgeries, nursing homes or grocery stores) is a key for the local quality of life and requires adaptive long-term strategies of decision-makers and the population. On the other hand, amounting to two or more decades of demographic shrinkage, one can expect the existence of a range of already established coping measures and strategies. Schools and surgeries were already closed down and transport connections thinned out, infrastructures are under-utilised and the number of vacant properties is increasing. Particularly elderly people are dependent upon external support to cope with these changes. But also social networks thin out making coping resources less easily available.

The paper presents and discusses capacities and strategies of senior residents of how to cope with challenges of managing a ‘good’ daily life under conditions of amenities being closed down, relocated, diminished, digitalised and so forth. The empirical evidence presented draws upon research in the Harz Mountains, an inner periphery in Central Germany, in 2011 and 2012. Five group discussions with senior residents and 38 semi-structured interviews with local and regional key persons were carried out. Two small towns were in the focus of the research. They are the historical centres of their rural environs that, at the same time, step by step incorporated several villages into their administrative boundaries. They thus show both urban and rural characteristics. The findings indicate a wide range of coping measures and strategies applied but also their precarious dependence upon resources which are to be made available time and again. Coping is therefore a long-term endeavour and itself subject to continuous change.

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The perceived Cultural Landscape: First Findings on the Perspectives of Swiss Farmers in the Alpine Region and its Relevance for the Discussion on Multifunctional Rural Development

***Stotten Rike*[1]**

Landscape as it is perceived socially has a great value for the marketing of Swiss products as well as for tourism in Switzerland - so-called Swissness. Therefore, what I call cultural landscapes a common good that is totally integrated in the value chain of the tourism industry. Furthermore, cultural landscape has a fundamental meaning for the identification of the local population. With the modernisation of agriculture, the scenic beauty of cultural landscapes not just a by-product of farming anymore. In a referendum in 1996 the Swiss population decided to support multifunctional agriculture and with that new tasks were assimilated into the federal constitution. With the reform of the Swiss agricultural policy a system of incentives and compensations of agri-environmental schemes was introduced to preserve cultural landscape (and to fulfil other task of the multifunctional agriculture). Therewith the market failure of the common good landscape should be compensated. Within the multifunctional agriculture the landscape preservation is a new societal task for farmers, since they have a huge impact on the cultural landscape due to their utilisation of land. Those political changes have been implemented in a top-down process and hit the farming community heavily.

In the perspective of constructivism landscape evolves from human perception. It is an output of the individually negotiated reflexion of the environment, which is evaluated in terms of aesthetic, economic and other criteria. Thus, landscape is perceived in a different way by different people, depending on their personal knowledge and experience. According to the theory of landscape socialisation by Kühnethe primary and secondary landscape socialisation can be distinguished. During the primary landscape socialisation the basics to read and understand landscape on an emotional level is learnt during childhood through family and school. The secondary one is based on landscape related studies to develop analytical skills to perceive landscape in a reflected way. Different from the primary landscape socialisation the secondary one is not performed by all human beings. To go further, it is assumed that the habitus by Bourdieu plays a role in the landscape perception, as those habits are passed through the generative way of farming. Thus the habitus has an important meaning for the symbolic capital, which is embodied in reputation and prestige. It is expected that the landscape socialisation as well as the habitus influence the perception of landscape.

For the concept of multifunctional agriculture it is assumed that those perceptions must be considered for the development of incentives and compensation to guarantee a sustainable implementation of landscape preservation. But so far no research has examined how the landscape perception among Swiss farmers is constituted.

This study aims to answer following research questions:

- How is cultural landscape constituted among farmers and how do those constructions differ between regions on the one side based on tourism on the other side based on nature conservation?
- How does habitual formed perception differ and how are those differences influenced?

To investigate those questions a qualitative approach has been chosen. In three different regional case studies the approach of reflexive photography is used to analyse different individual perceptions of farmers. Therefore single-use cameras are sent to the farmers and then to use the taken pictures they had taken as an introduction into a guided interview. The interviews are transcribed and evaluated with qualitative data analysis according to Mayring. To extract the common perception of cultural landscape as well, a group discussion with the farmers will be carried out in every case study region. That will be transcribed and evaluated with the documentary method according to Bohnsack.

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Down the Slope – Quality of Rural Life in the Southern Transdanubia Region in Hungary

Szabó Gergő, Vercse Tímea[1]

There are more inner and outer peripheries on Hungary, where social and economic indicators are rather low and living conditions are poor. In these areas many types of the public services (education, health care, social sphere) are disappearing, the infrastructure and residential areas have been degraded. The number of local workplaces and the commuting options are also limited and unemployment rates are high. These peripheral areas are dominated by small villages with similar demographic problems, decreasing population number, emigration of young and active population, low birth rates and ageing society.

The number of different kind of services (nursery and primary schools, general practitioners, pharmacies, branch banks, post offices, groceries and other shops etc.), the personal income tax per capita and unemployment rates are the indicators showing the inner and outer peripheries of an area if represented on maps. With a GIS-based method the commuting options of the inhabitants of these rural areas could be demonstrated, showing how fast and when are they able to reach the nearest central settlement by public transport. This research shows the above mentioned indicators of Southern Transdanubia region.

It could be stated that the different types of negative processes strengthen each other which makes the development of these peripheral areas complicated. Population decline and negative migration balance result an unfavourable age structure and conduct to a decreasing number and variety of services and institutions. Quality of life is getting worse, unemployment rates are increasing because these areas are unable to attract powerful enterprises. These processes induce further migration and population decline. However the population, which leave rural areas could not always find a decent job in the nearer cities, mostly because of qualification problems.

The solution for the declining of health, financial, educational services and jobs could be the improving of the commuting options. Without this, population might leave rural areas and find a better place to live with better quality of life, more job offers and better health, educational and commercial services. With favourable commuting options more villages would be able to keep young and qualified inhabitants, quality of life could improve and fewer settlements would be endangered by depopulation.

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Demographic Changes in Romania's Rural Space. A Case Study Botoşani County

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The detailed analysis of the rural space and its components, respectively, is a topical matter, both from the theoretical and methodological point of view, and from the practical and applied point of view. The rural space has to be assessed from the perspective of the complexity of the relations between its components and in particular from the perspective of the role of settlement systems in its organization and improvement. When tackling the matter of settlements (rural or urban) within a geographical area, it is necessary to analyze the demographic changes brought about by various factors (historical, social, economical, cultural and others) a situation that creates a certain organization into a structure of the settlements system. The present study means to identify the factors and the consequences of the demographic changes in the rural space in Romania, as well as their influence on the hierarchy of rural settlements and their ties with the urban settlements.

Specialized studies focus on defining rural space and its typical problems (Bold et.al., 2003; Otiman,1997; Surd, 2002; Allen, 2003; European Commission, 2008), with additional contributions concerning the demographic phenomena at work in the rural space: feminization of the population, population aging, the severe decline of the number of inhabitants, changes in the occupational profile, migratory movement (Szymańska et. al., 2009; Gheţău, 2004; Rauws and Timmermands, 2009; Heller, 2000; Nancu et al., 2010). These study approaches embody the concerns of specialists from fields such as geography, demography, territorial planning and improvement. Several works concern the studied area, with a special interest into the extant demographic dysfunctions, their impact on the relations between urban and rural settlements and to the emergence of a pattern to organize the territory of a given administrative unit – the county (Pascariu, 2010; Zamfir et. al., 2011; Botoşani County Council, 2008; Botoşani County Council, 2010).

The data and information used in the present work originate in observations conducted in the field as well as in the extant statistics: the village and town briefs compiled by the National Institute for Statistics, spanning the 2000–2008 interval, the results of the 1992 and 2002 population censuses, the preliminary data from the 2011 population and housing census. Additional information came from consulting the County Land Improvement Plans for 1997 and 2011. The respective body of data was interpreted with the goal of exemplifying the evolution of the demographic phenomena inside the analyzed area and their consequences on optimizing the relations within the rural area, as well as urban-rural relations.

Among the factors that contributed to a negative evolution of the demographic phenomena we emphasize the transition to free-market economy, the agrarian reform, de-industrialization, the multiplication of opportunities to travel for work abroad, the pseudo-reforms in education and the medical care sector, the insufficient interest to capitalize on local economic resources. They all left their mark on the entire rural space in Romania, but especially on relatively isolated administrative-territorial units, with smaller potential for development, such as the case study analyzed, Botoşani county.

Essentially, the overall balance of the population in the 2000–2008 time span indicates in most cases a negative balance, with values ranging from -18 to 0.2‰, and with the population dependence rate ranging from 35% to 85%. Approximately ¾ of all communes registered values exceeding 75%.

All these factors cause problems in ensuring the rejuvenation of settlements and therefore of social-economic ventures, a situation which requires the proper policies, at micro-territorial level, to end the demographic decline.

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New Rural Landscapes Altered by Naturbanization in Spain: Andalusia and Catalonia

Tulla Antoni Francesc[1], Prados Marta[2], Pallarès-Blanch Marta[3]

The early 20th century saw the beginning of a process of urbanizing rural space (Berry, 1976), also described as "counter-urbanization" (Champion, 1989), that has spread throughout Europe and North America with greater or lesser intensity, based upon the degree of urban growth, persistence of agrarian activities, and the search for high quality residential space, among other factors. The expansion of the processes of urbanization towards more remote rural natural areas is a consequence of the maturity of metropolises, together with the promise of a better quality of life and the environmental values related to specific rural areas. As cities lose their attraction as residential and productive centers, there is a new logic behind these population shifts. The ecological value of natural protected spaces (NPS) makes the rural space more attractive and promotes a more positive type of development that has been called *naturbanization* (Prados, 2009). The NPS impact areas are of special interest because they constitute a strong attraction for those who want to live, work, and enjoy their free time in and around these areas of well-known environmental quality.

Studies of phenomena such as neoruralism (new ruralism), rurbanization, restructuring, mercantilism, idealization and rural gentrification are concepts that abound in the theoretical discourse concerning residential preferences and business opportunities in rural areas. Idealization, demographic dispersal, or the gentrification of the rural population are also considered points of reference for the study of naturbanization (Nogué, 1988; Ghose, 2004; van Dam et al., 2002). Other notable studies include the contributions to rural development, and the urbanistic repercussions, resulting from tourism (García & García, 2002; Cánoves et al., 2006) and research on competing NSP uses, the impact of human activity in the territory, and the application of plans for sustainable development.

In developed countries, the society increasingly values quality of life and landscape. The creation of NPS has defined some rural spaces, relatively far from large urban metropolitan areas, where the ecological and scenic value is a magnet for urbanization (Prados, 2005). Naturbanization explains how the presence of the NSP stimulates the processes of urbanization in the impact areas of national and/or nature parks. This is why the onset of the processes of naturbanization begins with a population being attracted to a protected area, with natural ecosystems and singularly beautiful cultural landscapes (Corraliza, 2002; Gude, 2006); based on these elements, we see the development of rural multi-functionality and the generation of new jobs (Johnson 1995; Kaplan, 2004). Paradoxically, these same factors may give way to undesired effects such as an increase in built space (sprawl), the arrival of people who lack a "naturalist" mentality, pressures on resources and the resulting degradation of access, changes in ways of using the terrain, deterioration of uses that established the landscapes in the first place, etc. (Lonsdale 1981; Ghose, 2004). Therefore, independent of the processes of urban "decongestion" associated with counter-urbanization, naturbanization insists on valuing the natural and landscape environments as an exponent of contemporary "rural repopulation and revitalization".

If this development attracts a population that is permanent or resides in the area more than 150 days each year, urbanization could have a positive impact; conversely, it would be negative if it creates only holiday residences with low occupation rates. Nowadays there is an interrelationship between the demographic, residential and socioeconomic characteristics of both rural and urban areas. Naturbanization would be possible if high-quality economic and professional activities were developed in rural spaces close to the NPS. In this sense, where both agrarian activities and industrial or service activities adapt to the characteristics defined in models of comparative advantage and territorial embeddedness, they can generate employment that supports naturbanization (Tulla, 2009).

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We address this topic in four sections: (i) The conceptual framework and methodology of naturbanization; (ii) The processes of naturbanization in *Sierra Nevada* National and Nature Parks, Andalusia; (iii) The processes of naturbanization in *Aigües Tortes i Estany de Sant Maurici* National Park and other Nature Parks in Catalonia; (iv) Naturbanization and the new rural landscape: a positive or negative process for the future of rural spaces?

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Rural Periphery: What does it mean in the East-Central Europe?

Vaishar Antonín[1], Žitňáková Jana[1], Šťastná Milada[1]

Peripheral regions have originated as a result of non-equal territorial conditions for development. Theoretically, the approach is based on the core-periphery idea. The concept of periphery is used in different ways. Some authors explain the periphery mostly on the distance from regional centres which could be measured either by simple distance or more sophistically by time necessary for the access of the mentioned territories or by financial expenses. Other approaches consider economic backwardness to be the main sign of periphery.

Peripheral territories can be found on the frontier of spheres of influence of regional and higher centres as a rule. Such frontier can be formed by natural conditions (e.g. highlands), which foregrounding a bad accessibility of the peripheral regions. In Czechia, borderland periphery and inner periphery are usually differentiated. Borderland periphery is characterised by consequences of post-war ethnically based population exchange and more than 40 years of existence of the iron curtain. On the other side, European Union, Schengen space and Europe of regions manifest new challenges for the Czech borderland periphery.

The paper focuses on the main questions as: Which (micro) regions can be considered for peripheral? How to characterize them? How the situation in (South) Moravian periphery looks like? How to compare it with some other East-Central European countries?

The research was realized within the Central Europe project “Traditional and Wild” (a part of the Central Europe program) dealing with a possibility of using the collection of wild plants to support endangered population in peripheral territories. The South Moravian Region was chosen as a case study area for the project. Four micro-regions within southern Moravia were selected. Two of them are parts of the inner periphery, the remaining two represent the borderland periphery (first one being situated on the Austrian border with both problems mentioned above, the second one on the Slovak border renewed in 1993).

Following indicators were used: geographical position (distance from regional centres both in the South-Moravian region and neighbouring regions including the centres abroad), settlement structure, demographic development, education structure of population, unemployment. Field research and interviews with important subjects (mostly mayors) including evidence of individual enterprises and accessibility by public transport were also applied to obtain a relatively complex view.

Velké Opatovice micro-region (Malá Haná) is situated in the inner periphery in the north-eastern fringe of the South-Moravian region near the border with Pardubice and Olomouc regions. Nedvědice micro-region can be found in the north-western part of the South-Moravian region close to the border with the region Vysočina (Highland). Vranov nad Dyjí micro-region lies in the south-western part of the region close to the border with Austria and Vysočina and Jihočeský regions of Czechia. Velká nad Veličkou micro-region (Horňácko) is situated on the Slovak border under Bílé Karpaty (White Carpathian Mts.). Socio-economic analysis was elaborated for all four micro-regions.

All the micro-regions selected are problematic from the social and economic viewpoints (taking the average national situation as a comparative basis). On the other side, it shows that although the border regions have seemingly more chances due to existence of euro-regions, cross-border collaboration and higher attention which is paid to them, the inner periphery has in fact a better potential for development. It disposes with some inner social sources which could ensure a continuation of activities started with outer subventions.

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At the end, the situation in the South-Moravian micro-regions was compared with peripheral micro-regions in Poland, Hungary and Slovenia to obtain a wide picture about rural periphery in the East-Central Europe.

Consequences of Post-War Ethnically Based Population Exchange in the Czech Borderland for the Regional Development

Vaishar Antonín[1], Dvořák Petr[1], Nosková Helena[2], Zapletalová Jana[1]

About 3.1 millions of Germans lived in Czechoslovakia in 1930s forming the biggest ethnical minority. This minority almost completely disappeared as a consequence of the WWII. About 300–500 thousands of them were killed in the war as soldiers of German military forces. Some dozens of thousands were killed by the Nazi regime (anti-Nazi and German Jews), about 300 thousand fled on the base of Hitler´s command, about 20–30 thousands were killed or died within "wild displacement". The majority (2.1 million) were transferred [3] into individual occupation zones in Germany. Only established anti-Nazis, people from mixed matrimonies and indispensable experts in economic branches were allowed to stay.

Excluding big cities and some inner enclaves, the majority of German population was transferred from the borderland. Before the WWII, almost all the borderland of Bohemia and Moravia was formed by German speaking regions. These regions lost a majority of population which had to be substituted. New settlers came to the Czech borderland not only from the Czechoslovak inland. Relatively big part of them was formed by Czech repatriates from Hungary, Romania, Ukraine (Wolhynien) and other countries, Croatians from southern Moravia, Greeks (in fact often Slavonic people from the Greek Macedonia) who refused from the civil war. By such a way relatively homogenous Slavonic majority was created in the Czech borderland which was culturally heterogeneous.

Original German population has never been completely substituted. Moreover, it has not been the aim because the borderland with less favoured natural conditions was considered to be a peripheral area, often suitable for military purposes. Especially rural population has decreased substantially. Some hundreds of villages totally disappeared, many others were transformed from large settlements to very small ones, lately rather changed for second houses resorts.

Also original job structure was destroyed. Many agricultural co-operatives were not successful and have to be substituted by state farms. Branches of bigger factories from the inland were situated in the borderland to industrialize the territory. The people gained the psychology of employees. The middle class was almost smashed.

The new population (at least the first generations) has hardly any relation neither to the villages nor to the landscape. Many of them perceived they stay in the borderland for a temporary event. Relatively hard conditions due to the natural characteristics and the border impact (a part of the borderland was a constituent part of the Iron Curtain) together with insufficient relation of the people to their localities did not allow to create "normal" conditions for development and often led to the emigration back to the inland. That is why the borderland has to be supported from central sources again and again. The situation in the borderland was so typical that the borderland is often defined in the Czech conditions as the space where preliminary German population lived before the WWII.

The research question is, if and how the mentioned facts impact the regional development at the present time. It was investigated in four case study micro-regions: Vejprty (Saxonian border), Kašperské Hory (Bavarian border), Vranov nad Dyjí (Austrian border) and Králíky (Polish border). Regional geographic and sociological methods were applied.

It was stated in all four cases that the regions under study have worse educational structure of population, higher depopulation tendencies and higher unemployment rate to compare them with rural

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[3] The term was used in the Potsdam agreement – the only legal document which contains the problem

population in general. As a result, human and social potentials seem to be limited – although the new generation partly loose the immigration character.

Also the economic situation is not favourable. The branches of industrial enterprises were cancelled shortly after 1989. Landscape protection often does not allow found new factories. The qualification structure of the people is suitable for employment mostly in productive branches only. Tourism is widely recommended branch for development. But insufficient infrastructure, lower ability the people to work in leisure services means that the territory is preferred mostly by low-demanding tourist who do not bring much financial sources. The situation slowly improves but the tourism itself is not able to ensure all the economic development.

The hopes, connected with opening the border, have not been confirmed in a larger extent till now. The mentioned micro-regions (and many times also their partners on the other side of the border) are too weak to establish or keep the collaboration which could bring an important progress. The territory is mostly covered by euroregions. But the collaboration within euroregions concerns larger centres relatively far from the border whereas villages just in the border are not much touched.

The only positive feature is that partly due to military presence in the socialist times, natural values were kept in a relatively high extent. A big part of the territory lies under large-scale landscape protection (natural parks, protected landscape areas). It creates an argument for visiting the areas by certain groups of tourists but limits economic activities.

It is not realistic to want some regional development for peripheral borderland micro-regions in the sense of quantitative growth. Rather ensuring the conditions for life of remaining population and soft tourist should be the aim of efforts of local authorities.

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Preventive Landscape Protection – New Trends in Land Use within Environmental Impact Assessment

***Vavrouchová Hana*[1]**

Landscape protection based on the preventive principle can be considered as the most effective way to rationalize landscape utilization. We can point out the Environmental Impact Assessment – EIA (as well as the Strategic Environmental Assessment – SEA) as the specific application of preventive landscape protection. In the Czech Republic, process EIA has been implemented to legislative structure since two decades. During this period process EIA was changed. Among other things, it was necessary to incorporate completely new types of structures and technologies to the assessment, e.g. wind power station. But other trends symptomatic for contemporary postmodern society (usually with a negative impact on the landscape structure and functioning) are not contained within law structure. So the dispersion of these phenomena within territory of the Czech rural space is much faster and reaches a larger spatial scale (e.g. large solar power stations, suburban areas).

A significant development of wind power station in the Czech rural space can be observed especially in the last decade. EIA Information System (created by Czech Environmental Information Agency – www.cenia.cz) shows following facts: Since 2002 a total of 154 project of wind power station has been assessing. In 85 cases, the conclusion statement was issued (within 69 projects the further assessment was not required). The highest number of projects is planned in South Moravian Region – 24 projects. A negative conclusion statement was issued in 24 cases (28% of all conclusion statement on the planned construction of wind power station but only a sixth of all planned projects). In the South Moravia Region was issued 15 negative conclusion statements (i.e. in 71% of the wind power station planned in South Moravia and ¾ of all issued conclusion statements). It is also interesting that almost all negative conclusion statement issued in South Moravia Region was in touch with wind power. Average time to issue conclusion statement in the case of wind power plants (both in the case of positive as well as negative sentence) is 20 months. A quarter of the project was assessed more than two years then one sixth less than a year (excepted projects that do not require further assessment).

Large solar power stations are another important factor contributing to landscape structure and functioning dynamics. In the EIA Information System can be found, however, only 7 assessed project of solar plants (required by nature conservation authority in Zlín Region). In all cases, no further assessment is required and only recommending elimination measures were designed. From historical point of view the solar power station should been indicated by law at least at the level of screening.

Large development projects for commercial or residential development also negative impact the environment but in this case the assessment process is also missing. Rationalization of landscape utilization can be partly found in the building law. There are number of mechanisms limiting e.g. the suburbanisation. However, land-use plan will always be strongly subjective document and should also take into account existing land use plans. In this area the procedure SIA (Social Impact Assessment) on project level and procedure TIA (Territorial Impact Assessment) on strategic level have to be obligatory required as complementary part of EIA/SEA with legislative ground.

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The Role and Importance of Small and Medium-Sized Cities in the Revitalization of the Polish Carpathians

***Węcławowicz-Bilska Elzbieta*[1]**

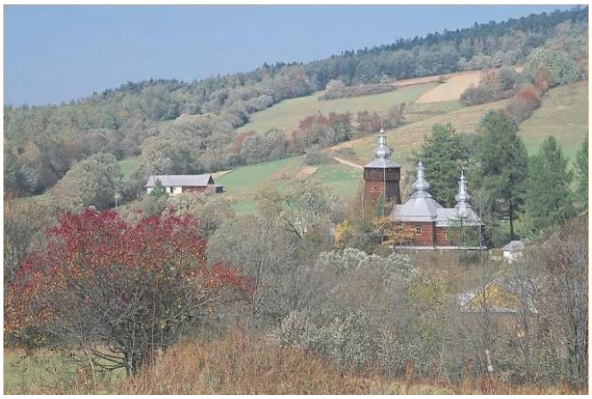
Settlement system in the Carpathians has been formed during the Middle Ages for most of the area. In its creation process, important role was played mostly by presence of transit routes of communication connecting northern and southern routes as well as piedmont extending from east to west. Along all these routes city were invested in.

In later centuries the basic impulse for changing the gravity of main lines and transformation of settlements' network was triggered by the construction of railway lines, and creation of new centers of features spa treatment and rest, mainly in the nineteenth century.

Today, the area of Carpathian Mountains consists of three provinces: Podkarpackie, Malopolska and Silesia.

The basic resources of the region are high values of the natural environment as evidenced by extensive system of natural areas under legal protection. Only in the Malopolska province there are six national parks, 84 nature reserves,11 landscape parks, 10 protected landscape areas, 3 nature and landscape park, 17 ecological, special protection areas Natura 2000.

The cultural environment of the region contains numerous origin towns with preserved medieval urban layout and multiple objects and principles of the sacred, castles, palaces, mansions, and small wooden churches and Orthodox churches retained mainly in the rural centers. Some of the sites were placed on the UNESCO World Heritage List.



Specific cultural heritage of this region is emphasized by historical and traditional spas and recreation of a nineteenth-century origins, preserved and improved medical facilities many of which has preserved the character of traditional resorts.

For the South Poland, social resources should be considered in the light of good demographic situation on the background of unfavourable trends in population growth throughout the country. Especially in smaller towns and rural areas in the southern region, this increase is still higher than in large cities in central and northern regions.

Important, remarkable factor is also a steady increase in population with higher education. The proportion of this type of population in small towns of the Carpathian in 1995 was 6% in 2003 over 10% and in present time is approaching 15%.

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Taking into account the aspirations of people in improving their education is important in higher education network. In the Carpathian region, there are operating 55 colleges of which 25 are located in the medium-sized cities and small towns. In terms of economic activity, Carpathian area is very diversed. In some small towns in this region, there were observed signs of acceleration of changes in economic activities in the early twenty-first century, where during the second half of the 90th Twentieth century, these two areas were marked by high unemployment rate.

In most planning documents, prepared at the national and provincial level, capacity activation in southern Polish tradition was based on the development of tourism, leisure and spa treatment. Today, this development directs main focusing primarily in the towns and areas with high natural resource and cultural values. Therefore this tendency becomes the source of conflicts. Finally, the potential of social resources, intellectual and business people of the region is yet not fully utilized.

Peripheral areas of the Agglomeration of Silesia and Cracow Metropolitan Area

***Wójcikowski Wojciech Karol*[1]**

Peripheral areas of the Silesian agglomeration and Cracow metropolitan area, especially those located at the interface between these areas for several years are becoming more and more interest from investors, both individual looking for a quiet place at the life and work, how institutional investors seeking relatively cheap land for investment.

Due to its picturesque location, among the wooded hills and hills, a large diversity of terrain and proximity to large complexes of natural or landscape protection[2], with numerous rivers and streams clean these areas are, for the inhabitants of Cracow and Silesia interesting alternative to settle permanently as a good network of connections provides a fast connection, both with Krakow as well as most major cities in the Silesian agglomeration as well as weekend recreation places.[3]

Villages and small towns along the routes connecting Cracow (national road No. 74 and No. 94 national road and motorway A4) with Silesian agglomeration is currently going through its dynamic and not always controlled growth, observed especially in places such as Chrzanów Trzebinia, Olkusz, Alwernia[4] or Krzeszowice[5]. Coming from Cracow to Katowice both road No. 74 and No. 94 just outside of Krakow are invested large-cubature commercial, logistics cents and office buildings, with the region's largest business park[6], every now and then meets a new and large investments in mainly rural areas, forever changing landscape of the village near Cracow. There are interesting objects form but in no way match the traditional construction such as, going from Cracow to Katowice, surrounded by the ruins of a Renaissance castle located in Rudno film studio complex of buildings[7], rather referring to the space station.

However, tracking the investment activities in locations such as Chrzanów or Alwernia, Trzebinia, Krzeszowice or Olkusz should be noted that in addition to private investment in these localities substantially increased the number of municipal investments, which manifests itself not only in efforts to improve the technical infrastructure but improve the living conditions of residents. Chrzanów Krzeszowice, Olkusz and Alwernia carried out a number of investments in cents cities, conducting a thorough revitalization of its markets and nearest their immediate environment.

The contact area of the peripheral areas of the Silesian agglomeration and Kraków metropolitan area in the near future, in the vicinity Alwernia is expected to create Europe's largest scientific research park built in cooperation with private investors and the academic staff of the power centers of Cracow and Silesia. Cooperation Katowice and Krakow is also to increase the competitiveness with other regions in Poland and Europe. Perhaps in a few or several years, this region is the new center will be connected to the agglomeration called Krakowice[8]

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[2] In this Ojców National Park and its buffer zone, landscape parks and nature reserves, Natura 2000 protection areas

[3] In summer especially hiking, biking and golf, in the winter mainly cross-country.

[4] Chrzanów Trzebinia, Olkusz, Alwernia village of industrial tradition, but after the political transformation in the nineties of the twentieth century and the collapse of many profitable companies do not always left a few empty brownfield sites.

[5] Krzeszowice is a town with spa tradition spanning the seventeenth century.

[6] Kraków Business Park, the project will be completed about 220 000 m2 of modern office space located in fourteen buildings.

[7] Alvernia Studios film is a modern complex, equipped with the means to accomplish even the most complex production.

[8] For many years, every now and then revives idea of joining the Silesian agglomeration and Kraków metropolitan area (KRAKOWICE). And even some politicians believe that the new combined metropolitan area already exists. It is planned to strengthen this initiative by working to the north of Częstochowa and south of the center of Ostrava. The most important fields of cooperation include joint research and exchange of tourism, road and rail transport.

The Vulnerable Structures in Rural Areas of Turkey – the Main Reasons and Results

***Yilmaz Didem Gunez*[1]**

In earthquake-prone areas of Turkey, the collapse of masonry buildings is the primary cause of death. These types of structures are very common especially in rural areas, villages and off-centre areas in Turkey, and also worldwide. The assessments of masonry structures and to design them as earthquake-resistant is a global issue (Dejong, 2009, p. 16). The experts in Turkey point out many issues in their formal report such as the low quality of the structural materials used in masonry houses, the effect of bad quality of workmanship and the lack of regulations related to masonry structures that composed of different materials (Commision Report, 2004). Many researchers state in their studies that the responsibility of a good design for earthquake-resistant masonry structure is a concern of architects (Akan, 2008, p. 75).

Many types of masonry structures were reported as failing after earthquakes in Erzincan (1992), Kashmir (2005), Bingol (2003), Bam (2003) and Wenchuan (2008) in damage assessment reports by EEFIT.

In Turkey, these structures are mostly built by low-income people with local materials such as rubble, adobe, earth, briquette and logs. Walls are generally built with rubble stones or adobe and earth is used as mortar which has very low binding capacity. Generally, wooden logs are placed on the masonry walls and the plates are placed on top of the logs. Some people can afford to apply cement plaster on walls. For roofing, people usually fill with earth or earth-bush mixture on these plates. In another post-earthquake damage report, the total collapse of these structures is related to heavy roofs that cause walls to move out-of-plane due to inadequate wall-to-wall or wall-to-floor connections (METU, 2010). In addition the lack of lintels is indicated as a reason of collapse by other researchers (Karasin, 2005; Bayulke, 2011). It was noted also that most of the masonry houses in villages do not have foundations (METU, 2010). Due to the lack of knowlegde of how to build a masonry building correctly, these structures are vulnerable and the inevitable results are seen in earthquakes that have occured in the last number of years in Turkey.

If we take a closer look to the memorable earthquakes in last two decades in Turkey, one of them is Erzincan earthquake, in 1992, which had a magnitude of 6.8. This tremor destroyed or damaged seriously 5,500 buildings and caused 544 fatalities and 728 serious injuries according to formal reports (EEFIT, 1992). The experts noted that in case of a similar magnitude earthquake hit the area in future could cause more damage and death.

Another earthquake was in Bingol, in 2003, with a magnitude of 6.2 and resulted with 177 death and 520 injuries. It is also reported that 56% of all building stock became unavailable to use in entire province and more notable case is, only in three village 398 building units were reported as damaged or heavily damaged (Karasin and Karaesmen, 2005). This province was hit again, only two years later, by two separate earthquake with magnitude of 5.6 and 5.9. The experts conducted a damage survey in 17 villages and reported 387 heavily damaged building units, mostly housing (Saygun et al., 2005).

In late 2011 two separate earthquake stroke the province of Van and its villages. The first one, in October, was with a magnitude of 7.2 and caused several buildings to collapse. The second one, in November, was with a magnitude of 5.7 which increased the fatalities. 644 people died and 31% of building stock damaged heavily by two tremors (CAT, 2012).

Based on literature review and site inspection the aim of this study is to design an earthquake-resistant masonry structure for rural areas with a new approach based on combination of architectural and engineering data.

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Obstacles in the Development of Romanian Rural Space

***Zamfir Daniela, Stoica Ilinca Valentina, Ionut Ianos*[1]**

In Romania, rural population accounts for a high share of the total (45% of the total population by 2010, grouped into a total of 12,956 villages), and it is characterized by a low living standard and quite high poverty.

The goal of the present paper is an analysis of the causes that led to the respective situation, present for more than 40 years. The main methods used were a critical analysis of the effects of public policies, the analysis of statistical data, the analysis of cartographic documents.

The main obstacles identified (both direct and indirect) that prevented the Romanian rural space from achieving a development at least similar to that of the urban space, are both of an economical and demographic nature, and especially of a political nature.

The direct obstacles are the policies concerning with land ownership (both pre-1989 policies and post-1990 policies) and the indirect obstacles are the rather forced industrialization of the rural space that characterized the communist period, as well as the deindustrialization that occurred after 1990. Both had grave consequences from the demographic and economic point of view, acting as genuine fractures in the normal development of the rural space, and their repercussions are still strongly felt nowadays.

The Romanian rural space was subjected to very strong pressure because of the policies of the Romanian state, both during the Communist regime (up to 1989) and later on. Thus, before 1989, the urbanization and forced industrialization policy resulted in the migration of the workforce to the big cities. This phenomenon also occurred in the context where private-property farmland was seized by the state during the so-called “collectivization” of agriculture during 1949–1962 (by way of Decree 8/March 1949).

The policies adopted post-1989 (redistribution of the land by means of Law 18/1991) led to the atomization of the agricultural enterprises (by 2009 the average surface of a farm was 3.5 hectares) and to the practice of subsistence agriculture, in the conditions of the absence of a minimal endowment with farm machinery.

The consequences of the policies enforced in the past 60 years are acutely felt in economic and demographic terms. Thus, economically speaking, the consequences were drastic in the sense that, after 1990, upon the transition to the free-market economy, there was no invigoration of rural economy, but, on the contrary, it registered a sizeable decline in the context of the dissolution of the small industries in the rural areas. In addition to subsistence agriculture, practiced on a large scale, non-agricultural enterprises are little developed. Only 20% of Romanian SMEs are located in rural areas, and 90% of these SMEs have less than 10 employees.

Demographically speaking, the consequences were even more drastic. The process of migration of the rural population, both towards the urban areas and especially towards other European countries (especially after 2000) was a steady one, and the main result was population aging and a decline of the fertility of the population. Thus, the ratio of the population aged 65 and over in Romanian rural areas currently stands at more than 20%.

The long-term consequences of these processes are predictable but at the same time difficult to stop. Thus, in the absence of economic policies to boost the rural space and in the absence of minimal investments, the rural population (especially the young) will continue to migrate, which would eventually lead to the depopulation of certain isolated rural spaces. At the same time, in the absence of school units, dropping out of schools (at high rates as it is) is bound to rise and the chances of an economic recovery might be missed as a result of the precarious training of the workforce.

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Assessment of Agricultural Fields for Landscape Management in Hrinova Cadastral Area (Slovakia)

***Zrníková Katarína, Jakubec Bruno, Hrčková Lucia*[1]**

The town Hrinova is situated in the central part of Slovakia in the valley of the Slatina River. Concentrated settlement spreads into ambient landscape in scattered form. It is located on the uplands of Polana and Slovenske rudohorie Mountains. In the valleys moderate warm climate prevail, for the highland of Polana massive the colder climate is characteristic. Mountainous hills are covered by forests. Relief of the basin flat rises to uplands ridges with plains that are deforested and covered by meadows, pastures and fields. Terraced fields occur on uplands slopes mostly in altitude 500–650 m a.s.l. Protected Landscape Area Polana belongs to the Biosphere Reserve (MAB) and also to SPAs (Natura 2000).

The subject of the research covers areas with agrarian fields in agricultural landscape on uplands. The first goal of the research was the classification of historic agricultural landscape areas structures. Further we proposed frame landscape management. The results were elaborated in 4 steps according to the following attributes: relief morphometric parameters (slope, exposure, vertical dissection), shape characteristics (linear, fanwise, plate field structures), size parameters (area) and finally we evaluated the degree of well-preserved historic agricultural landscape structures.

Observed type of area is generally characterized by a gradual extensification of agriculture and inhabitants withdrawal. However, there are factors which sustain vital agricultural-use and characteristic landscape appearance. The posters specify the natural-geographic and socio-economic conditions allowing the survival of contemporary land-use.

This model of management can be applied to other areas with similar types of landscape (agricultural landscape on uplands), such as the village Budina. The negative aspects mentioned above are more intensive in this area. Knowledge of the causes of current landscape state is important for making better proposals in landscape maintenance and management.

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Is Suburbanized Countryside still Countryside?

***Žitňáková Jana, Pákozdiová Mária, Křenovská Iva*[1]**

Suburbanized countryside is one of the current Czech countryside types, which has been evolving in hinterland of large- and to a lesser extent also of medium-sized cities. However, the changes, which have been proceeded, can be so powerful and rapid, that there is a need to question, to what extent this suburbanized countryside is still countryside.

This paper is based on preliminary results of the project called *Landscape changes at the periphery of large-sized cities. Is suburbanized countryside still countryside?* The project was carried out with the support of Internal Grant Agency of Mendel University in Brno. The city of Brno and its agglomeration were chosen as a case study, for practical reasons. In comparison on one hand with Prague which is a capital with significant expansion of external investment and foreigners and on the other hand with Ostrava which is a centre of the mining region with considerably different formation of settlement structure in last hundred years, development of Brno and its agglomeration has passed of genetically without greater revolutionary changes and external impulses.

The aim of the paper has been to chart and characterize the process of suburbanization in hinterland of the city of Brno in the course of last 20 years and at the same time to confirm or to disprove of given hypotheses:

1. suburbanized countryside considerably differs from the rest of the countryside in social, urban-architectural, infrastructural, environmental and other issues.
2. suburbanized countryside is not unified, but structured according to the characteristics mentioned above.

From the point of methodology the statistical and other hard data, own field survey and remote sensing photographs were used. Interviews with important representatives of the municipalities (particularly mayors and members of municipal council) were carried out as well.

The studied area consists of 89 municipalities located within a circle with 15 km long radius from the borders of the city of Brno. Preliminary results have shown that the answer to the question mentioned in the title of this paper, is ambiguous. Some of the municipalities, where there is an obvious suburbanization process, have started to look for their own identity, are interested in their own history and restore their traditions. Another group of municipalities has apparently reached an irreversible level of suburbanization, by which a permanent loss of rural character can be seen. It is possible to distinguish a third group of municipalities, where there is no obvious impact of suburbanization process on the state of their existence.

Suburbanized countryside can be thus considered as countryside, although in a changed state. Some of the municipalities studied have recorded a continuing combined nature of existence in terms of a combination of urban and rural elements. Therefore a new need arises - to grasp a new situation, where the municipalities lie by experts, conceptually.

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Posters

Types of the Settlement Fringe in Respect of Settlement Expansion Focusing on Landscape Protection and Ecology

***Földi Zsófia*[1]**

Due to the openness and lack of arrangement related to continuous settlement expansion, the settlement fringe is a special area and it is usually a matter of conflict. The lack of settlement fringe arrangement is one of the most general landscape- and environmental problem of Hungary. In my opinion the first step of arrangement is to categorize the fringes according to potential expansion possibilities. Since the settlement fringe arrangement does not mean the prevention of settlement expansion. In not all cases should reasonable development be blocked with forestation or any other means. However, taking into account ecological, environmental, landscape protection aspects - fixed settlement borders have to be assigned where the settlement expansion would result in land use conflict with high certainty. Consequently the settlement fringe is subject to change with time; it is a dynamic entity. Nevertheless, most of the settlements have so called 'fixed' borders, which are to be considered as permanent elements. The separation of dynamic and permanent settlement fringe is essential and it is also necessary to arrange them according to their different function and typical conflicts.

In my research, I work out such an evaluation method that categorizes the settlement fringes in respect of settlement expansion from landscape perspective. The method focuses on the land use conflict, ecological problems and the potential conflicts/problems that are the consequence of the expected expansion. The method is based on general criteria thus it is applicable on urban and rural landscape as well.

The evaluation method on a sample territory was used. The Budapest Agglomeration is probably the best area for this study. The rural settlements in the Agglomeration have been a main target of development pressure. Urban migration into rural areas started from the mid-1990s. The growth of urban land results in problems of landscape character, landscape ecology, conservation or landscape protection. That is why it is essential to define the direction of reasonable development.

In order to come up with the settlement fringe categorization, a general landscape analysis is performed using landscape history research and visiting the settlement. In addition to this, the local plan of the settlement, the Agglomeration Budapest Plan, the environmental protection program and examination of heritage protection and a topographical map (scale 1:10000) and aerial photographs is used.

The poster shows the application of the evaluation method in the sample settlement based on historical, cartography analyses. After the application of the method the results show that it is possible to find an optimal direction of development and territorial expansion in the sample settlement with respect to landscape protection and ecology.

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Wind-Power Installations as Part of the Modern Landscape

***Frýželková Lenka*[1]**

Although there is currently in the Czech Republic a falling trend in the construction of wind power plants (VTE), they significantly contribute to the change of the countryside. Along with the expansion of roads, industrial buildings, large billboards and other modern elements, the VTE significantly contributes to the visual landscape changes. In this article It is ignored the question of whether VTE can replace conventional means of energy production. The main focus will be given to the question of the location of VTE in the landscape and their impact on birds, as the landscape changes and negative effects on birds or bats are among the most debated points in the planned construction of VTE.

A suitable location for the placement of VTE is considered to be areas where wind speed reaches at least 5 m/s. In order to achieve maximum performance, VTE are placed first in the highest open landscapes. However, these areas have very high aesthetic value, which, while impossible to quantify financially, must not be overlooked. In assessing the suitability of the location of wind turbines in the landscape is very important its type. It is well known that with the increasing aesthetic value of land decreases the acceptability of the construction of new VTE. On the other hand it is not too negatively perceived to locate new wind turbines into the landscape of low aesthetic value. Another aspect influencing the acceptability is the number of wind turbines. In principle, the more favourably perceived is crowding plants in farms than large number of individual wind power plants located in the landscape. Preferred are small wind farms instead of bigger. Wind energy as an alternative source of energy production does not have only environmental benefits but also gives the landscape a new, very significant and visible element. Assessing the suitability of the location depends on personal taste, whether people perceive wind turbines as a new component of the modern landscape, or as an undesirable element making the landscape hideous. In terms of implementation and construction of VTE plays a very important role the social acceptance. It should be noted that the visual assessment of landscape scenes in addition to her character depends primarily on the evaluation criteria of the observer or evaluator, and these subjective criteria may vary significantly on each individual.
The negative impact on birds or bats can be divided into three groups:

1) Interference by the presence of VTE itself or by its noise,
2) Erosion, destruction or complete loss of habitat caused by construction of VTE, and
3) Mortality caused by collisions with VTE.

Research is focused only on mortality and presents preliminary results of inspections carried out so far by its findings under VTE at sites in Horní Loděnice (9 wind turbines), Ostružná (6 wind turbines) and Hraniční Petrovice (2 wind turbines).

The objective is to monitor the collisions of birds and search for dead bodies (cadavers) in the area of wind parks. In winter the checks are carried out once a month, during the nesting season as time allows, at least once every two weeks. The procedure of finding cadavers in the vicinity of VTE is shown on the diagram. The distance between each line is about 2 metres, which increases the likelihood of finding. If the survey is not possible to execute, e.g. due to inclement weather, it is made as soon as possible. During the survey there is always date, time, temperature and windiness recorded. Monitoring was initiated in January 2012 and its completion is scheduled for January 2014.

Ongoing interim results do not yet demonstrate any effect of wind turbines on mortality of birds or bats. For the period from January 2012 to June 2012 was found only one individual, the White Wagtail. The finding was observed in a wind park Ostružná, where the individual was lying about five meters from the mast of wind power plant. As for the low results of searchings, it is necessary to take into account that together with wind farms in the countryside there are many predators for which the potential dead bird represent a welcome booty gained without much effort. Influence of predation pressure in the countryside is planned experiment and results will be published as well.

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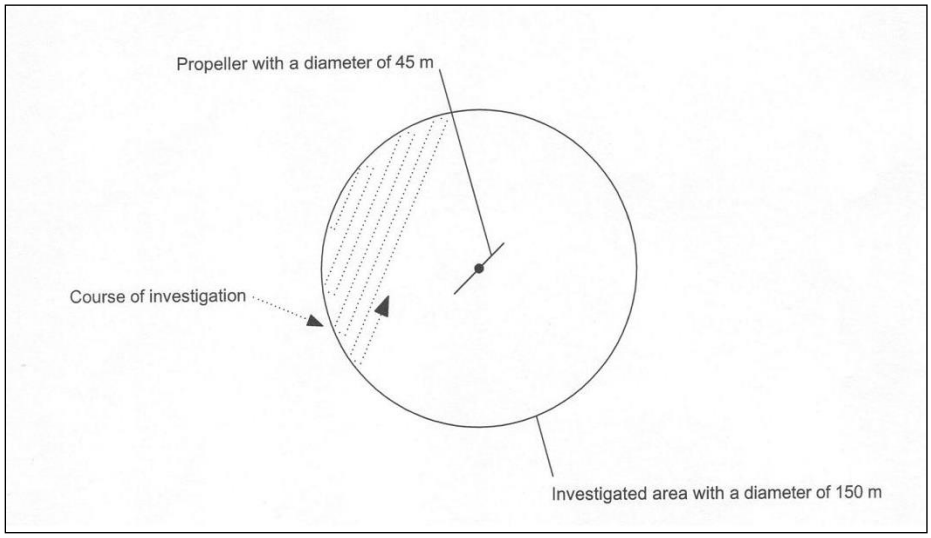
Scheme of searching technique of the cadavers around wind-power installations:



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IAP: A Tool to Assess and Prioritise Environmental Impacts from Olive Tree Cultivations towards Achieving Sustainability of Agro-Ecosystems

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Olives and olive oil are traditional products of Greece that date back a few millenia and mark two of the most characteristic ingredients of the Mediterranean cuisine and diet. Extensive olive tree groves form characteristic landscapes of high environmental and aesthetic value across the central and southern parts of the country. Production of olives and olive oil are major elements of the agricultural gross production of the country and sustain local economies with a high financial potential.

Climate changes pose a significant threat to the environment and the rural infrastructures. Soil and water resources are indirectly yet profoundly affected raising a sustainability issue. It is suggested that appropriate cultivation of olive groves contribute considerably to the preservation of natural resources and the formation of habitats of unique value, whilst causing minor or nil environmental impacts. On the same time, this traditional cultivation contributes to the preservation and the reviving of the unique olive tree forests that form a typical Mediterranean landscape.

Focusing on the minimisation of environmental impacts, a sophisticated method is conceived to assess each and every agricultural practice adopted by farmers. The so-called Impact Assessment Procedure (IAP), is a method being developed in the framework of a project titled “Establishment of Impact Assessment Procedure as a tool for the sustainability of agro-ecosystem: The case of Mediterranean olives, SAGE10”, that is co-financed by the E.C. in the framework of the LIFE+ Environment programme. The project is deployed in ca. 200ha spread in 3 major olive oil production regions of southern Greece (2 in Crete and 1 in Peloponnese). In total 80 farmers participate in the project registering in total 600 parcels.

The IAP attempts to assess and rank some 50 different environmental impacts of each agricultural practice on a farm and not on a regional scale, according to their relevant significance, and based on this to come up with an overall impact assessment in the form of a total score. The philosophy of the method is that in order to achieve high environmental performance on a regional scale, each individual farmer has to implement environmentally sound practices. To do so, agricultural practices on a farm level have to be assessed and accordingly optimised or at least improved. Therefore, agricultural practices are assessed for their environmental compatibility in each parcel and those presenting a high potential or documented impact are noted. Specific actions are proposed to be taken, where feasible, in order to reduce the calculated impacts through improvements of the adopted practices. Proposals and suggestions are issued by the scientific team of experts and communicated to the farmers by the liaising local agronomists that are appropriately trained.

Environmental impact assessments are performed through the analysis of the following logical sequence: *Aspect, Impact, Compartment*. *Aspect* is every element of a farming activity that may lead to an environmental *Impact* on a specific *Compartment* (receptor). Each such sequence forms a “triplette” and for each “triplette” a set of parameters is analysed. So far the method considers some 170 parameters that are combined in ca. 45 meaningful “triplettes”. Each parameter is attributed a weighting factor and a value in a 5 classes scale. Hence, the importance of each parameter in every “triplette” is assigned and the rank of each “triplette” is calculated through an algorithm.

Prioritisation of assessed impacts enables to act on a focused manner and take hierarchised actions in order to address documented or well-justified acute or serious impacts first. This way, the overall

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environmental footprint of olive tree cultivations can be minimised, thus contributing to a well-balanced coexistence of a unique rural landscape and development in the shake of local societies.

Slovene Rural Areas - The Potentials of Supplementary Activities on Farms and Entrepreneurship

Potočnik Slavič Irma[1], Cigale Dejan[1], Lampič Barbara[1], Perpar Anton[2], Udovč Andrej[2]

Introduction

The target research project (2010-2012, co-financed by the Ministry of Agriculture and Environment and Slovenian Research Agency) which was performed by the researchers from the Department of Geography (Faculty of Arts) and Department of Agronomy (Biotechnical faculty) at the University of Ljubljana, was focused on the main issue of on-farm diversification.

On-farm diversification actually has quite rich tradition, but with the implementation of contemporary CAP policy measures and Rural Development Programme 2007–2013 it became more evident also in the media. For several decades (the second half of 20th Century) there had been more stress on off-farm diversification since the agricultural structure (small farms prevail, land is extremely fragmented, 80% of national territory is declared as LFA, also unfavourable policy measures) does not allow farmers to derive income solely from the agriculture. Already in that period some farmers have decided to diversify on the agricultural holding (farm tourism, farm processing, services with the agriculture machinery, etc.). Contemporary special Regulation on Supplementary Activities on Farms gives the farmers the possibility to register 11 various forms of activities (farm products processing, farm tourism, traditional bakery, education, energy provision, services with the mechanization, etc.), but also regulates the extend of income, other operational issues, tax policy, registration, etc.

Hypothesis and field research

The present situation and the future orientation in this field was the general framework for setting the hypothesis.

Hypothesis 1: *In Slovenia, due to belated and modest ameliorations of agrarian structure, the decreasing number of family farms will not be able to fulfil prescribed strategic functions, therefore supplementary activities on the farm have an important existence function in Slovenia.*

Hypothesis 2: *Infrastructurally well equipped and demographically dynamic Slovene rural areas identify new business opportunities, which are not used enough by (non)agrarian population.*

Besides analysis of relevant statistics an extensive filed work was performed:

- 280 questionnaires on farms with registered supplementary activity on the farm,
- 98 questionnaires on farms with registered agricultural services,
- 20 in-depth interviews with the farm holder, and
- Workshop with 30 advisors for supplementary activities on the farm.

Objectives and results

The proposed project was focused on:

(1) Identification of the most prosperous supplementary activities on the farm in the last decade;
→services with the mechanization, processing, farm tourism employ the majority of approx. 3,300 farms which have decided for on-farm diversification*,*

(2) The profile of vital farm household with registered supplementary activity on the farm;
→qualitative profile includes nine criteria: holder's age, successors age, vitality of farm household, holder formal education, farming history, number of family members included in supplementary activities, the importance of income gained by the supplementary activity, motives for diversification, future plans regarding supplementary activity),

(3) Mathematical input-output models as decision support tolls,
→DEXi model was constructed on the basis of demographic, economic, environmental, social capital) which will function as decision making tool for agricultural advisory service,

(4) Policy recommendations addressing issues future development of supplementary activities on farm;

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→mostly focused on specialization on the farm which includes the uniqueness of the locality, inclusion of green care programmes as social services on the farm.

Landscape Values in Rural Development

Sallay Agnes[1], Filepné Kovács Kristina[1], Jombach Sándor[1]

After the 2nd world war the majority of the population (nearly 60%) worked in agriculture in Hungary, and 75% of the total area was under agricultural cultivation. Even in the inner town or city areas several buildings, objects were related to agricultural production. The urbanization processes intensified since the 1960's, the flow of population into cities accelerated and the number of population of cities and small villages nearby has grown dramatically. Since the 1990's the suburbanization process become explosive. Extensive former agricultural areas became suburban areas of towns and cities, the settlement structure partly transformed partly further developed, the formerly built traditional buildings, objects were demolished or rebuilt. In the fast growing settlements the "development", in the depopulating, poor regions the lack of financial resources is threatening the landscape values of former centuries.

According to the Nature Conservation Act (Act No. LIII. of 1996. 6. §) those landscape elements which have unique natural value, the man-made landscape elements which have special importance regarding to the nature, historical, cultural, scientific or aesthetic aspect and have special importance for the society can be considered as unique landscape values. The Faculty of Landscape Architecture of Corvinus University, Landscape Protection Office of Ministry of Environment and Water Management, Cultural Heritage Service, National Office of Cultural Heritage together have launched the TÉKA program on cadastration of landscape values in Hungary. As a result of the project the registered landscape values are available via internet on the project website. The researches revealed that the number of unprotected values significantly exceeds the magnitude of landscape values under nature or monument protection. Unfortunately at the same time the number of landscape values is decreasing rapidly because of poor economic conditions, changing lifestyle and lack of protection.

Landscape values in Nagyberek

Nagyberek is one of the most modified non-urbanized regions in Hungary. It is situated on the South-western shore of Lake Balaton, in Transdanubia. This swampy area, regulated by complex drainage system, used to be one of the natural bays of Lake Balaton. Nagyberek is flat and lies on approximately 150 km^2. Nagyberek is part of the Lake Balaton resort area. On the shoreline recreation, weekend cottages and summer houses are dominant but the so called background settlements farther from the lake have agriculture as dominant landscape use.

In the frames of the analyses we are looking for the answers to the question how the financial and landscape management situation of the settlements influence the state and protection of landscape values. It is an open question whether the poverty or development of settlements promotes or hinders the value preservation. During our surveys we have registered 860 unique landscape values up till now in the region. The centuries long development and cultivation where the intensive use caused the deterioration and transformation of natural values resulted in an extensive predominance of cultural values (81%). The low number of visual-aesthetic values is determined by the geography of the region: on plain landscapes we can not find many lookout points, places with scenic values. The number of unique landscape values isn't related to the extent of the settlements. There are settlements (Marcali, Somogyszentpál) where our surveyors have found outstanding number of landscape values and there are villages (Nemesdéd, Mesztegnyő) where there are just a few values.

We have analyzed how and to what extent the local values are integrated into the development concepts and strategies of the related settlements and micro-regions. As the region is part of the of Lake Balaton resort area, one of the most important objectives of the development strategies is tourism development. It means especially quality development of tourist programs in the "background" settlements. If we look at the unique landscape values especially the use and exploitation of the remained natural values on tourist purposes are mentioned in the strategies: wellness network based on the thermal and mineral water resources, development of hunting, water tourism, marking of hiking

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trails to explore the natural and cultural values. The strategies highlight the potential of landscape values related to the agricultural production such as wine cellars, traditional forms of cultivation, and festivals based on local products.

The reasonable development and proper utilization of land needs registration, and consideration of landscape values. The values are listed at different level of details in the development strategies: in the concept of Fonyód micro-region the major cultural and natural values are listed by settlements meanwhile in the concept of Marcali micro-region we do not find any landscape value inventory. The concept of Marcali micro-region highlights the role of local society and suggests the involvement of local population in tourism development. For this sake it is inevitable that local population is aware of local landscape values.

Parameters of Sustainable Development of Agriculture

Slabe Erker Renata[1], Cunder Tomaž[2], Lampič Barbara[3], Mrak Irena[4], Kljun Maja[5], Bedra Matej[6],

Introduction

The importance of sustainable role of agriculture in Slovenia is evident, but there are rare scientific and strategic sources which prove to which functions the decision makers of agricultural policy and other society attribute special meaning. The primary goal of the current poster, which summarized the main results of scientific research project "Parameters of Sustainable Development of Agriculture" (co-financed by the Ministry of Agriculture and Environment and Slovenian Research Agency), is to briefly present the model which would allow relevant, actual and continuous monitoring of the situation in the field of sustainable agriculture (in Slovenia).

Description and methodology

The project "Parameters of sustainable development of agriculture in Slovenia" is divided into six research issues:

- Theoretical and methodological concepts of sustainable agriculture,
- Identification of key parameters of sustainable agriculture within economic, environmental and social aspects of sustainability,
- The presence of individual parameters of sustainable agriculture in the objectives of agri-policy measures,
- Analysis of the current situation for the key parameters of sustainable agriculture at national and regional level,
- Estimation of aggregate level of sustainable agriculture in Slovenia, and
- Research on public opinion towards the role of sustainable agriculture in Slovenia.

Working definition of sustainable agriculture is determined on the base of existing literature review. **Empirical model for evaluating the economic, social and environmental aspects of sustainable agriculture** is designed on the first level but on the second level of the model each aspect is divided into **individual parameters**. Economic sustainability is divided on food production and food security, improving the income and marketing of agricultural product and technological advance and increasing of productivity. Environmental sustainability includes three parameters: conservation of natural resources and ecological balance, conservation of biodiversity and use of environmentally friendly technologies. The social sustainability of agriculture is described with raising the employment of rural population, improvement of the demographic structure and management of rural areas and improving vitality of the countryside.

Indicators of sustainability represent the third level of the model. Many different concepts of indicators of sustainable development and development of rural areas were developed in the professional and scientific literature. The greatest difficulty represents aggregation and standardisation of indicators since sustainable role of agriculture is influenced by a broad spectre of factors described with various measurement units and systems that are not directly comparable between each other. For the standardisation of indicators **the method of standardised value** which allows comparison of different data series and expresses relative position of individual data in the series is used.

Results and conclusions

The poster presents the content and preliminary results of our project. The application of the model for assessment of the influence of agricultural policy on the individual parameter of sustainability have shown connections between strategic objectives of agricultural policy, selected parameters of sustainable agriculture and chosen indicators. Results show that the goals of agricultural policy in the observed period (2000 to 2010) were attained, and also, that especially economic and environmental sustainability of agriculture in Slovenia is increasing.

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When the Volunteers Cannot Come Anymore: German Fire Brigades Facing and Responding to Socio-Demographic Challenges

***Steinführer Annett*[1]**

In some countries in Central Europe (like Germany or Austria), fire prevention and protection in rural areas exclusively rest upon volunteers. In Germany, fire protection and technical assistance (e.g., after an accident) are obligatory tasks to be fulfilled by the municipality but outside larger urban centres these tasks are regularly pursued by unpaid personnel. As long as there were always sufficient numbers of volunteers, this system was unquestioned and considered as successful and worth maintaining. But with changing labour markets, higher demands for workforce flexibility and commuting from rural to urban areas becoming the rule rather than the exception, many villages and small towns are facing a structural deficit of volunteers particularly during the day. The poster displays the general development of volunteering for fire fighting in Germany (based upon secondary data) and provides insights of how local fire brigades respond to these challenges (based upon evidence from in-depth interviews with heads of local and regional fire services).

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Comparative Analysis Fragments of the Landscape, Using a Criterion Value Assessment of Briefing, to Assess the Impact of the Vineyard Landscape

***Stepien Krzysztof*[1]**

The vineyards surface on the Earth is 8.0 million hectares, and over 50% of them are located in Europe (Lisek, 2007). Persistent presence of vineyards has bigger impact on the landscape structure, function and physiognomy, than most agricultural crops (Buchwaldt, 1969). The characteristic vineyards physiognomy is a result of agriculture treatments, vine morphology and its growing period (Stępień, 2012). Also the environment in which the vines grows is characterised by a specific landscape. The characteristics elements of vineyards landscape are architecture objects and technical infrastructure. They affect on landscape physiognomy and its structure (Maio, 2011). Their impact on the landscape depends on their size, the time of presence in it, and the material from which they are made. On the basis of the distance from which elements of the vineyards landscape are visible, is possible to determine their effects on his physiognomy. The number of elements in the vineyards landscape, depends on the vineyard and its production size. Visibility also depends on the conditions of observation elements of the vineyard, which shall enter the weather, observers location and its features and lighting (Bureau of Land Management….).

Research of vineyards located in the various different landscapes and visibility theirs elements, are subject of this work. The main goal of it is also to define the manner and intensity to the impact of vineyards to the landscape, depending on its type. 10 views were tested on fragments of ten different landscapes, in which there are vineyards. Fragments of these landscapes differ from each other by physiognomy, which is dictated by landscapes function and structure. The views of these landscapes fragments shows in the ten photographs taken with a digital camera Canon Power Shot S5 IS, which then has been modelling in Corel Photo Paint 12. The goal of that modelling was to simulate the prevalence of the use to grassland in place of the vineyard and the removal from view functionally related objects with the production on the vineyard. This has been carried out by comparative analysis two views, made on the basis picture with vineyard, differing among themselves a using form part of the landscape. Comparative analysis made on the basis Criterion Value Adjustment of Views method (Bureau of Land Management…). This method is use to assess the aesthetic attractiveness of values physiognomy fragments of landscapes. For the purposes of this test method has been modified, because the aim of this study was defining transformations of the landscape caused by the viticulture. This increased the number of criteria to five, and values each assessment criterion have ranges. Ranges reflect the intensity of the criterion being evaluated. On the basis of the ranges were assessed:

- The complexity the world of plants, which is the number of representatives types of flora occurring within the view,
- The complexity anthropogenic elements of landscape, this is a types number of these objects in the view,
- Terrain within a view, this is the number of planes in the area of the land, but the parallel planes are treated as one,
- Number of the landscape plans in the view, which is a number of elements in the landscape structure separated by borders, although the number of landscape plans in view, may not be more than four, and
- The orientation space degree of a view, this is the number of leader types lines and inhibiting the sight.

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The Technique for Assessment of Model Parameters that Determine the Intensity of Transport of Water and Solutions in the Soil and their Interaction with Solid Phase of Soil

***Suvorov Petr*[1]**

At the present stage, people life quality has become the focal point of social and geographical researches, and human life improving is the main indicator of socio-economic development of society.

The rural population life quality directly depends on the ecological situation of every rural area and the quality of water in soil is considered to estimate the ecological situation of the region. In particular, water quality of every reservoir to great extent is determined conditions as people use the catchment area of reservoir since the main processes forming the chemical composition of water bodies occur on its catchment area. All sources of pollution of surface water and groundwater (both point and distributed pollution) are concentrated in the catchment throughout its catchment area.

In contrast to the concentrated, distributed or diffuse sources of contaminants (pollutants) possess highly the dynamics of functioning and significant nonstationarity effects, which creates problems with the quantitative assessment of their impact on water bodies and difficulties in their control. Therefore, to adequately estimate the inflow of contaminated water to the reservoir it is needed to accurately calculate the characteristics of runoff from the catchment and water transport in soils.

One of the most promising methods for the quantitative assessment of such inflow to ground water and then in reservoirs is physical and mathematical modelling of mass transfer in the soil profile of the considered catchment. Such the models require a set of soil parameters identifying the relevant ecosystems, primarily hydro-physical and hydro-chemical parameters of the soil used in the description of water and solute exchange in unsaturated and saturated soils based on the solutions of equations of water and solute transport in soil. This is why the special technique was developed for determining these parameters. This is why the special technique based on the theoretical and experimental ways was developed for determining these parameters. On the base of this technique, the parameters of the water and heavy metals (Cu, Ca) transport in soil for the catchment area of arable Ivankovskoe reservoir were determined. Besides the forms of heavy metals in the soil profile were determined.

The obtained parameters were used for model simulations of dynamics of the concentrations of solute that passed through the soil monoliths. The data obtained were compared with measured data. The comparison showed satisfactory agreement between calculated and measured concentrations of solute passing through the soil monoliths. This fact testifies to the satisfactory performance of the proposed methodology for the assessment of hydro-physical and hydro-chemical parameter of transport of water and solute in the soil and their interaction with solid phase of soil.

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New Land Reform in Ukraine

***Talavyria Mykola*[1]**

Land reform in Ukraine is aimed at creating market conditions for attracting estates agricultural purpose in the economic turnover. Market leverage in the economy should encourage the organization of a transparent land market based on competition in the sale of land to ensure completeness of revenue from taxes and fees. Large amount of money to the budgets of different levels is expected from the sale of land of participation, the right of lease land and duty of the land operations.

According to land reform Ukrainian citizens, farmers, the state represented by the central authority on the land or territorial communities have the right to buy agricultural lands.

The document assumes that the foreign person will not have ownership of agricultural land. At the same entities that own land, but more than 10% of the share capital owned by foreign entities are required to carry out the procedure of land alienation. Otherwise, it will be withdrawn in court and transferred to state ownership.

According to land reform, the document sets out the maximum area of land that can be owned by one person. In particular, in Polissia is 1.5 hectares, Forest - 1.75 hectares, Steppe - 2.1 hectares, the Carpathian mountain area - 900 hectares, the Crimean mountain area - 1.1 hectares. In other regions the size of the land in the hands of someone will not exceed 2.1 hectares. At the same time, the total land area may exceed the maximum limit in case of inheritance of land.

Land reform suggests that the term of the contract granting the right to use someone's land can not be less than 20 years, and for ground state or municipal property - not to exceed 50 years.

The new land assumes that revenues to the state budget for the transfer of lease 1.4 million hectares of unclaimed shares, about 2.8 million hectares of reserve land (arable land) and 1.8 million hectares of farmland escheated heritage, with an average of normative monetary evaluation of 1 ha of arable land 11.949 thousand UAH, may amount to UAH 2.1 billion a year (at an annual rental rate of 3% of the monetary valuation of the regulatory site).

As reported earlier, Ukraine currently has a ban on the sale of agricultural land to be cleared, subject to the laws of the state land cadastre and the land market.

Expected results of Ukraine law adoption “Land Market" provide:

1) Protection of economic competition and limit monopoly on the land market by preventing excessive concentration of land owned by individuals, primarily on the agricultural land market,
2) The introduction of arrangements for land sales,
3) Inclusion of agricultural land in the economic market turnover,
4) The introduction of regulation of the agricultural land market (economic) methods,
5) Warning of further parcelling agricultural land parcelling,
6) The introduction of loan (mortgage) on the security of property rights on agricultural land, and
7) Prevention of speculation in agricultural land.

The amount and source of funding for the financial basis of the specialized agencies should be to transfer income from rent of agricultural land in state ownership, with the establishment of land tax payers will be providing the payment of tax liabilities related to local budgets.

An additional source for support of the state specialized agencies may become issue mortgage-backed securities, which will perform maintenance on income from lease of state agricultural land, with the financial markets received funds should be directed exclusively to purchase specialized agency of new areas of agricultural land to private ownership.

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Given the fact that now Ukraine has 1.4 million hectares unreclaimed shares, about 2.6 million hectares of reserve land (arable land) and 1.8 million hectares of agricultural land is abandoned heritage, with an average standard pecuniary estimation 1ha of arable land 11.949 thousand UAH, to the state budget of Ukraine from the transfer of the land lease may be involved (at an annual rental rate of 3% of the amount of regulatory pecuniary valuation of land), 2.1 billion USD per year, or, if the transfer of collateral in a mortgage rate of 70% in the standard monetary valuation of land could be obtained 48.5 billion credit resources. When the legal monetary value of agricultural land updates its size increases at least from 69.3 billion UAH to 103.9 billion UAH according to preliminary calculations of scientists. The level of income from rent (up to 3.1 bln.) and mortgage potential (up to 72.7 bln.) will increase in half as much again and mortgage potential (up to 72.7 bln.).

Rental income from shares, USD PER YEAR, 2011

Conclusions

The economic efficiency of land reform in Ukraine in the future will depend on many internal and external factors of agricultural development.

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Environmental Protection as Perceived by Local Communities in Poland

***Tuszyńska Ligia*[1]**

In Poland, the first studies into the social issues related to environmental protection, environmental awareness and attitudes towards the environment were conducted in the eighties of the last century.

Studies conducted in Tarnobrzeg in 1983 are regarded as frontier research in the field of environmental awareness (Burger, 1984). These served as the basis for an analysis of the state of environmental awareness among the Polish society. It was observed that society was more motivated to take action in the face of risks related directly to humans, e.g. pollution of drinking water, while considerably less attention was given to "distant" threats, such as risks to forests or the pollution of air with industrial dusts and gases.

Research concluded that society sees the environment as a value but does not feel the need to actively protect it. Awareness of the risks is contrasted by little knowledge of their sources and effects. Society exhibits a lack of trust and a negative opinion of the actions of institutions responsible for information and activities related to the environment. Due to educational deficiencies, environmental awareness was influenced mainly by personal experience of individuals and local communities (Gliński, 1988).

Results of studies conducted in previous years are slightly different and point to a considerable diversity among the persons surveyed, both in terms of the level of knowledge and behaviours towards the environment. According to the answers given by respondents, most people are convinced that their environmental awareness is equivalent to knowledge of the rules of organic farming. Pro-environmental behaviours of respondents in three regions of Poland mainly constitute reuse of glass and plastic containers and plastic bags. At an average, over 83% of all respondents stated such behaviours. In the Mazowieckie Voivodeship, this value reached 87.74%.

At an average, 72.37% of respondents feel they contribute to the protection of the environment. Again, the largest percentage of positive answers came from the areas around Warsaw, Mazowieckie Voivodeship.

However, in terms of environmental knowledge and behaviour, research suggests that 69.54% of respondents in rural areas of the Podkarpackie Voivodeship do not practice sustainable development or are not aware of this fact due to lack of understanding of the subject. Social approval of the reduction of industrial production has also decreased, possibly due to increasing unemployment. The increased role of local administration and the activities of individuals in relation to the environment was also noted. More emphasis was given to the relation between the state of the environment and opportunities for development. However, there is a larger gap between the educated, rich and pro-environmental and the poor, older, uneducated countrymen indifferent to environmental issues. Environmental organizations gained some importance, but at the same time knowledge on such organizations decreased. Authors of previous studies conclude that the future state of environmental awareness among the society will depend on the condition of the economy. It was noted that fear and belief in the constant deterioration of the environment still persist. Also visible were the regional differences in the perception of environmental issues, defined by the state of environment within the given region (Burger, 2005) Recent studies conducted by the Forecast Committee of the Polish Academy of Sciences suggest, surprisingly to some, that economic development of the country does not translate into civilization progress. Therefore, improvement of the financial condition of society does not lead to an advancement in environmental culture. It would seem that in this situation the only chance for sustainable development is lifelong social education, both in terms of the protection of the environment and human health.

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Sustainable Landscape Management in North-Eastern Hungary

Valánszki István[1]

During my researches I have analysed the landscape and land use structure of the Abaúj-Hegyköz micro-region particular in the agricultural areas. The research area is located in the northern part of the Abaúj-Hegyköz micro-region in Hungary. The region, which constitutes of ten settlements, is located in the North-Hungarian Region, in Borsod-Abaúj-Zemplén county. The largest portion of the research area is located in the upper valley of the Hernád River and the north-western side of the mountains of Zemplén. Parts of some settlements' areas lie on the north-eastern hills of Cserehát. Seen from the above the delimitation is not geographical, but administrative. The research area is the northern half of Abaúj-Hegyköz micro-region, so the direct influential area of Gönc (which is also the center of the whole micro-region). The subject area consists of ten settlements, of which one is town (Gönc) and nine are villages grouped around Gönc (Abaújvár, Hernádszurdok, Hidasnémeti, Göncruszka, Kéked, Pányok, Telkibánya, Tornyosnémeti and Zsujta). The method of the delimitation is also justified by the crucial role of the Slovak-Hungarian border which has a direct influence on the settlements of the research area.

The micro-region, thus the settlements belong to the most backward areas of the country. This is manifested in low living standards of the local residents, in a high proportion of unemployment and other negative social processes. Despite all of this, great potential lies in this micro-region owing to the rich natural and landscape aptitudes. The main development direction, the breakout opportunity - because of the former – could be clearly the sustainable agriculture.

In this study I focused on the connection of landscape, nature and agriculture. During my work I concentrated on the creation of an ideal land use and connected this to the development of biotope network. Historical research and present databases information were used for the shaping of the appropriate land use systems.

In my research work history of landscape and land use changes of the ten settlements were explored. During the historical research I analysed map databases, sources (military surveys, topological maps, satellite images) with methods of GIS. In addition I also analysed statistical data. Analyzing of existing map and statistical data supplemented by the on-site field work experiences helped me to get to know the present state.

The examination and the development of biotope network are based on several elements. These elements are the following: historical background, Landscape Protection Area of Zemplén and Hernád Rivers as ecological core areas and the buffer zone along these areas. The analysis of the different area uses focused on the characteristic and unique land use forms of the research area.

Some of these kinds of land use forms are located in the Landscape Protection Area: meadows, pastures, hayfields, extensive cultivated arable land, and orchards which are abandoned or also currently under cultivation. There are also characteristic land uses along Hernád River: oxbow lakes and mining lakes.

The aim of the research is the development of a landscape-oriented, sustainable farming spatial structure and system in a backward micro-region in Hungary. The amelioration based on the aptitudes of the micro-region, which are very suitable for the development of agriculture.

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Land Use in the Past as Inspiration for Today

Ždímal Václav[1]

The landscape is constantly changing. The causes of these changes are both natural, but nowadays mostly human. In developed countries with dense settlement is great pressure on the landscape and there are many people interested in its use. Czech landscape belongs to old development areas settled by a man from old ages and Lipský [1999] and Kubeš [1996] describe detailed origin and development of cultural landscape in the Czech Republic. The landscape has been under human influence since people first arrived on the scene, with individual areas leaving their mark in the form of layers which may be read almost like a palimpsest. A single location may show evidence of human activity from the different periods and natural changes. The Land Cover of one location could change several times. The most important reason is meandering and following straightening of rivers, deforestation and soil movement. In the past those changes influenced today's management and it is important to identify them. When we design a new Land Use is important to know the Land Cover in the past. Knowledge of the Land Cover in the past allows us to propose the appropriate the Land Use in the present and prevent unsuitable use of landscape with limited usage. One of the tools used to determine the different places is remote sensing in the near-infrared band monitoring the vegetation changes. Spectral characteristic of plants are the main consequences of the different land use. The spectral behaviour of vegetation showed a significant increase in reflectance in the near infrared spectrum. It is commonly stated that in the visible spectrum about 20% of incident radiation is reflected by vegetation, while in the near infrared spectrum about 60% is reflected. These changes show the vegetation places with different histories of others. After identifying the different sites it can be found in archival materials, what was the Land Cover in the past.

The project was solved on the land of University agriculture enterprise (UAE) (Mendel University in Brno), placed in Žabčice 90 km from Vienna (Czech Republic, 48°59´11" N 16°37´40" E, 175 m above sea-level). UAE is working mainly in the maize area. Field production is focused on the production of cereals and fodder crops and livestock production is focused on beef and pig-rising. Additional activities are focused first of all on the practical aspects of the student education. UAE Žabčice controls 1602 ha of the farmland (1353 ha of the arable land).

Aerial photos in the near-infrared band were used for visual interpretation of characters that identify the previous Land Cover. Visual identification was performed with digital images on the screen. Identified was:

1. pushing the borders of individual Land Cover categories, areas with different Land Cover,
2. lines and distinctive shapes which differ from the surrounding area indicating different usage.

Identified differences were compared with historical source materials The historical source materials are:

1. Memories of witnesses and field survey
2. Maps from II. military mapping from the years 1836-1852,
3. Maps from III. military mapping from the years 1877–1880,
4. Topographic maps since 1952, and
5. Aerial photographs from the years 1953, 1968, 1976, 1984 and 1991.

Examples of observed changes are changes in the riverbed and humidity conditions. Investigated area is lowland and in the past river Šatava created meanders. The river was straightened later and agricultural cultivated area increased. Soils in the original river bed and the waterlogged area have different physical and chemical properties. The present Land Use is limited by different soil properties. Remote sensing in the near-infrared band shows the historic riverbed and waterlogged areas.

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