

THE TRANSFORMATION OF THE CULTURAL LANDSCAPE OF THE VILLAGE OSTOPOVICE

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Abstract: This paper describes the transformation of Czech cultural landscape in Ostopovice municipality. Firstly, the cultural landscape is depicted in detail and there are identified the specifics of the selected area. Subsequently, there are compared and evaluated changes in the landscape during the past 60 years. Used methods such as scanning, questionnaires and SWOT analysis, including set of three hypotheses, are presented in the methodological section. There is also Ostopovice community and landscape-ecological context characterized in detail within the selected time period. There have been identified conclusive landscape changes over the time comparing historical maps to the present ones. The results of SWOT analysis reflect mainly the opportunities for the land-use in selected area. All hypotheses were confirmed by using selected methods and subsequent evaluation. The results confirm the significant land-use changes in the cultural landscape of the Ostopovice village and the potential for their increase in the future.

Key Words: cultural landscape, landscape changes, Ostopovice, photography, survey, SWOT analysis

INTRODUCTION

Human land-use, including natural processes are defined as two distinctive processes resulting in different characteristics of patterns in landscapes (Lausch et al. 2015). The cultural landscape is very closely related to man, especially to his activities. Previously, people had a different relationship to the land than today. Recently we are talking about an artificial landscape created by man. State of the landscape began to deteriorate with the intensification of agriculture and started to change according to the needs of a man. This is also the case of Ostopovice village. Changes were noticed in its landscape and structures, even in the surrounding Ostopovice countryside. This fact confirms that the landscape has changed in time.

MATERIAL AND METHODS

Characterization of the Ostopovice locality

The Ostopovice village is situated at 245 m above the sea level on the border of Bobrava highlands and the Dyje-Svratka valley. Cadastral area is 383 ha with a population of 1647 (Territorial plan of Ostopovice 1999). The village lies in the Brno district in the South Moravia Region.

The landscape is divided as follows: Primary, secondary and tertiary landscape structure with identified problems:

Firstly, it is an increased noise and dust from secondary roads polluted mainly by an agricultural machinery and trucks. Biota and vegetation is in contrast to the original natural state and forested landscape is significantly modified.

Secondary, it is the increase of population and buildings for family recreation, bike paths and drainage landscape.

Thirdly, there are memorable places missing and no employment opportunities are available in the village.

METHODS

Following methods were used during the research: scanning, questionnaires and SWOT analysis. Besides, three hypotheses were set as:

Hypothesis 1: I think that more than a half of the population has noticed changes in the landscape in this area.

Hypothesis 2: I assume that more than half of the inhabitants recorded a loss of landscape features and the need for their involvement in conservation and landscape care.

Hypothesis 3: I suppose that Ostopovice landscape is to a certain extent changed natural landscape, but the plan of Southwest tangent construction can be a serious intervention into the life of this area.

Scanning: Following maps were used for the purposes of scanning: I. (František's) Military scanning from the years 1836–1852 (maps scale 1:144 000). III. Military mapping 1874–1880 (introduced new scale 1:25 000) and scanning from 1953 and 2009.

Questionnaires: The questionnaire is a method written and directed interview. The questionnaire method is subjective. The questionnaire is less time-consuming than an interview. Prior to the application of the questionnaire is necessary controls. Piloting will remove minor bugs. The final data is necessary to verify and supplement the interview (Disman 2002).

SWOT analysis: Name SWOT analysis is an acronym for the four primary keywords: Strengths, Weakness, Opportunities and Threats. SWOT analysis is a complex method by which it is possible to classify the importance of internal factors (reflected in the level of strengths and weaknesses) and external factors (these are the opportunities and threats) influencing the development of the region. SWOT analysis determines problem areas, goals in these areas and the measures to achieve the objectives.

RESULTS AND DISCUSSION

The first result shows that there is a homogeneous landscape according to František's mapping in the Ostopovice village area. The Northern part of the land is identified as an agricultural land matrix formed by fields, vineyards and orchards. West and North-East parts occupy grasslands such as meadows and pastures. On most sloping land cadastre decompose orchards and vineyards, to the extreme communal grazing areas then. Concentration of population along the main road (Figure 1A).

From III. Military Mapping is apparent fragmentation element in the landscape known as fragments of Hitler's Highway initially for connecting Wroclaw-Vienna (Figure 1B).

Map of 1953 represents the changes in the landscape over the past 60 years, as an increase in forest areas, greenery along the roads, the growth of cottage areas, annexation of land primarily for D1 and houses. Recorded a decrease of interactive elements, alleys and solitaires. Visible are extinct orchards and paths (Figure 1C).

According scanning from 2009 village Ostopovice is still an agricultural village on arable land with the typical management of large area. The matrix is an agricultural landscape fragmentation heterogeneous with three elements: local industrial estate, railway and highway D1 (Figure 1D).

Figure 1 Landscape development of the Ostopovice village, CR, 1836–2009



Legend: A – Frantisek's scanning, B – III. Military Mapping, C – Map from 1953, D – Map from 2009

The questionnaire was anonymous, combining both types of data collection (available on internet and face to face interview). The questionnaire was deliberately focused mainly on older people (over 61 years) living permanently in the Ostopovice village (old residents) ranks among the landscape witnesses, actively moving in the landscape. Negative changes were noticed in the landscape. The most cases recorded decline in all areas and lost of significant elements. An important sign of danger is the vision of the construction of southwest across municipal borders. As an example the interview with Mrs. Odrazilová and Mr. Duda is attached.

Table 2 Results of SWOT analysis, Ostopovice, CR, 2015

Strengths	Scale factors	Weakness	Scale factors
High level of rural, cultural and natural heritage	0.50	The gradual loss of open countryside	0.55
Restoration of forest roads	0.30	Low biodiversity and ecological stability	0.30
Famous tourist site	0.20	Poor health of forests	0.25
Opportunities	Scale factors	Threats	Scale factors
Establishing close to nature elements		Lack of funds	0.30
The grant policy	0.35	Transport and clashes with the landscape values	0.20
Realisation of complex property alterations	0.30	The lack of environmental awareness among the majority population	0.10
The growing interest in the Rural Recovery	0.10	D1 highway	0.40

Strong point is that Ostopovice are agricultural destinations with fruit-growing history. As the basic casual element I consider the finances that can be obtained from the state budget and the EU budget. Subsidy policies, programs and plans for the countryside as powerful tools, which can positively influence the area. To support and improve the ecological stability it is necessary to use native vegetation, hedges and hedgerows, alleys, avenues, parks, solitary and conserve habitat for specially protected species of plants. A significant disadvantage is for the country's sprawl: development in the open countryside, fencing of land, planting of non-native trees and shrubs, the disappearance of native country roads and the creation of new access roads to family houses or huts, conducted a field or forest, which is related to the expansion of emissions into the environment and degrading health state forests.

Some activities have already started as it is noted from the project (see online at web references) *Fruit Trees as a Component of Woody Plant Societies in Cultural Landscape* (2007) financed by The European Social Fund and the State budget of the Czech Republic. It is an example of a good practise which is in line with obtained results.

CONCLUSION

All three hypothesis have been confirmed.. More than a half of the population has noticed changes in the landscape of selected area (89% of respondents). More than half of the inhabitants recorded a loss of landscape features and the need for its involvement in conservation and landscape care (56% of respondents). Ostopovice landscape is to a certain extent natural and cultural landscape, but the plan of construction Southwest tangent can be a serious intervention into the life of the country as a whole 83% of respondents are seeing it as a potential threat, and 92% can see its negative impact on the landscape.

The cultural landscape is also evident in the Ostopovice village represented by historical and contemporary images.To use its full potential to improve the landscape values I suggest some partial measures such as restoring the alley.

REFERENCES

Disman R. 2002. *How to produce sociological knowledge*. 3rd ed. Praha: Karolinum.

Fruit Trees as a Component of Woody Plant Societies in Cultural Landscape. 2007. Brno: Mendel University in Brno.

Lausch A., Blaschke T., Haasec D., Herzog F., Syrbee R., Tischendorff L., Walz U. 2015. Understanding and quantifying landscape structure – A review on relevant proces characteristics, data models and landscape metrics. *Ecological Modelling*, 295: 31–41.

Territorial plan of Ostopovice. 1999. Brno: Atelier URBI.