

HERITAGE, CHANGE AND CONSEQUENCES FOR RECREATION: LANDSCAPE DEVELOPMENT IN CZECHIA DURING THE LAST 200 YEARS

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Abstract

We investigated selected study areas regarding natural and cultural development and changes in the last circa 200 years with the goal to reveal their heritage and values from point of view of many geographical disciplines. Using various types of data and methods of physical, social geography and geoinformatics we have analysed thirty study areas so far, especially landscapes, which went through massive changes such as vanishing of inhabitants and settlements and extensification or afforestation, urbanization and construction new water bodies. Here, we expertly chose areas with recreational use and investigated their land cover changes between the 19th century and nowadays to find out whether and how land cover and recreation use are related. In addition, we would like to present wide range of outputs of our project and connections between heritage and its representation of the landscape, land cover change and recreation in the study areas. We concluded that landscape changes are hand in hand with current recreational use. There is a shift from productive to non-productive functions, however ways differed significantly, e.g. using old structures for new activities, activities based on new or transformed structures and landscape or even covering old structures by recreation.

Key words: Recreation, Land cover change, Complex geographical analysis

Introduction

“Heritage of extinct landscapes: identification, reconstruction and presentation” is a project supported by the Ministry of Culture of the Czech Republic. The aim of the project is to recognize, identify and visualize development, heritage, and values of the selected study areas, which are situated across the Czechia, e.g., mountainous agricultural areas, (post)military areas, postmining areas, urbanized areas, valleys covered by water bodies are among them. This project is lasting from 2018 to 2022, we have investigated 30 study areas so far. Many different outputs stemming from the broad definition of the project and heritage respectively (Harvey 2001). They are prepared by wide team from the Geographical section of the Faculty of Science, Charles University. These outputs are ranging from physical-geographical analysis and description of the study areas to historical and cultural geographical analysis of the society and representation of the region in symbols and institutions. Somewhere in between we can find landscape and its various changes during the study period (that starts in the middle of 19th century). Cultural landscapes incorporate people and nature and real changes, land use and values as well (Kolejka et al. 2011). All together these results contribute to heritage and knowledge recognition, which can we read in the landscape (Gojda 2000). Land use in the past can affect current use because change is a fundamental attribute of the landscape (Antrop 2008).

In this article we would like to introduce study areas and shed light on their (potential) recreational use in the perspective of land cover change and other outputs of the project. We used function of heritage, when the old (land) use of the landscape or the part of this is transformed and provides the new function, e.g., recreation (Kupková, Bičík eds. 2020).

Material and methods

We chose ten study areas (Fig. 1, Tab. 1) with recreation function (or potential for recreational function) to analyse land cover change and current recreational activities and activities related to landscape heritage.

Land cover in these study areas were analysed on the parcel level in two temporal horizons; first time horizon was from the around the half of 19th century and the second took the current state (2018 - 2020) of the areas.

Both horizons are based on the cadastral maps, first time horizon on the Imperial imprints of the Stable Cadastre provided by the Czech Office of Surveying Mapping and Cadastre and the second time horizon was made by using cadastral maps from the Registry of territorial identification, addresses and real estate edited on the basis of actual orthophotos. Maps were finally processed and changes evaluated in ArcGIS software (ESRI).

Land cover was classified to seven categories: built-up areas, forest, arable land, permanent grassland, permanent cultures, water bodies and other areas to analyse the change. We picked the category with the largest increase in study areas to determine main land cover change (Tab. 1).

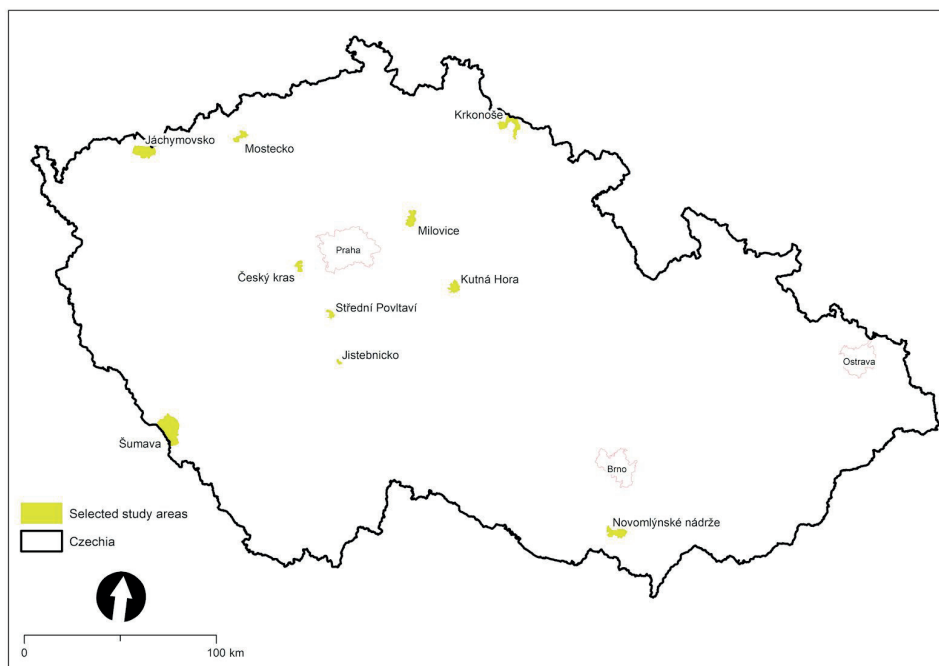


Fig. 1: Map of the study areas

Recreational use or potential was investigated based on various sources – field research, institutions, historical, cultural, or natural sites present in the study areas or current land use.

Tab. 1: Description of the study areas

Study area	Main land cover change	Type of recreation
Český kras	afforestation	postmining, natural
Jáchymovsko	afforestation	postmining, natural, spa
Jistebnicko	grassing	natural, sport (golf court), farming
Krkonoše	afforestation	natural – mountains, forests, sport (skiing, hiking)
Kutná Hora	urbanization	historical, urban, mining
Milovice	postmilitary landscape - other	natural, military (potential), sport (golf court), leisure (amusement park, festivals)
Mostecko	postmining landscape - other	water bodies for recreation, hippodrome
Novomlýnské nádrže	watering	water bodies for recreation, vineyards, cultural, historical and natural sites
Střední Povltaví	watering	water bodies for recreation, forests
Šumava	afforestation	natural – forests, mountains, sport (skiing, hiking)

Results

We present a recreational potential of our selected study areas as a result of 200 hundred years landscape development.

Český kras: Formerly agriculturally used area with quarries and traditional connection of human activities and nature was afforested in the study period and recreation is oriented on nature (tourism) and postmining artefacts in various ways (climbing in quarries, museum of mining).

Jáchymovsko: Mountainous landscape lost former agricultural and mining function. After the World War II the area was affected by the expulsion of the Czech Germans and the area become even more peripheral. Furthermore, working camps for prisoners during the communism is another chapter from marginalization of the area. Now, recreation is focused on nature (tourism), history (mining, working camps) and sport (skiing).

Jistebnicko: In mid-lands situated formerly intensively agricultural area was changed into grassy landscape. Despite the peripheral location recreational land use emerged recently; ski slope with ski lift, golf court and farms are main objects of tourism in this study area.

Krkonoše: Mountainous region with agricultural was afforested. This is one of the examples of changes from productive landscape to landscape with non-productive function. The Krkonoše Mts. are National Park, and thus nature conservation and recreation are main functions. Skiing and tourism belong among the favourite recreational activities here.

Kutná Hora: This town is in the centre of the urban area, which was during the study period even more urbanized. The wealth history with medieval silver mines and outstanding architecture in city centre attract tourists. Recreational based on former use is evident from present museums as well.

Milovice: Former military area has been replaced by various new land uses and activities related to recreation; amusement park, golf court, nature reservation with viewpoints and former military airport used for festivals and similar events, furthermore some structures and institutions are still referenced to the former military use.

Mostecko: Agricultural landscape was totally changed due to surface coal mining. Now, mining is slowing down, and new land use / recultivation is the one of the key questions for the region. Water and other types of recultivation (hippodrome) is one possible way, which serves for recreation purposes as well in this study area.

Novomlýnské nádrže: New water bodies were built for irrigation of the agricultural land and valuable alluvial forest and meadows disappeared. Despite this lost, recreation is thriving. There are camps next to new dams and together with wine tourism and famous archaeological sites the water bodies support recreational use of the landscape.

Střední Povltaví: Similar to Novomlýnské nádrže, valley of the Vltava river was flooded, and new dam brought new land use; recreation has been developed mainly on the banks of the water body.

Šumava: Mountainous area affected by expulsion of the Czech Germans after the World War II. Agricultural area was afforested and now after establishing of the National Park nature conservation and recreational (tourism in nature) are main non-productive functions of the study area.

Discussion

We presented a recreational potential of some of our study areas that has been developed during the landscape changes in last two centuries. These changes gave a new values and types of land use to the study areas. The recreational attractiveness and use are based on natural and social history and landscape (land cover) change mainly caused by human activities. In the majority of our study areas we can see shift from productive to non-productive function, where former use and land cover change is crucial for today's recreation (quarries, mining, water bodies, military area). Furthermore, social aspect and human perspective are important for current use and recreation as well, e.g. establishing National Parks, changes of the perception of the mining areas etc. may finally attract tourists (Kolejka 2013). There are differences in the way how the old use and heritage is treated currently: 1) old structures are used by new activities (quarries for climbing, significant places such as churches, old mining constructions for visiting, Kupková et al. 2018, Jelen, Čábelka 2020, Jelen, Karásková 2020); 2) transformed structures and changed landscape give an opportunity for the new use and activities (mining as a new water body, afforested or grassed landscape for tourism, postmilitary area with various use, Kupková et al. 2019); 3) new structures, which are intended to a new (recreational) use (water bodies). To sum up, today's recreational use is often determined by yesterday's production use. Somewhere, in opposite, recreational structures were placed despite the former use, to cover it, e.g., in case of recreational objects situated on the former working camps (Hloušek 2017).

Conclusion

We briefly presented our project and various outputs, which show heritage of the landscape from many points of views (natural, sociological, cultural...). Here, we focused on relation between land cover change and recreation to show, which changes lead to recreational use and how heritage is treated. Majority of our areas lost their productive function, which was transformed to recreational use given by former use, importance, outstanding position, or natural configuration. Some of them were built primarily for recreational and somewhere recreational use should cover former use. Therefore, past and continuous change and their representation are factors influencing current (recreational) use of the landscapes, which are still changing.

All outputs are available on the webpages of the project: <http://www.zaniklekrajiny.cz/>.

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Souhrn

Projekt *NAKI II: Dědictví zaniklých krajin: identifikace, rekonstrukce, zpřístupnění* zpracovává geografickou sekci Přírodovědecké fakulty UK přináší široce pojatý aplikovaný výzkum vybraných modelových území. Cílem projektu je ve zmíněných územích identifikovat, (roz)poznat, dokumentovat a vizualizovat dědictví krajiny a jejich přeměn. Pro projekt jsou prioritně vybírána území, která prošla významnou změnou ve sledovaném období posledních zhruba 200 let. V tomto časovém období jsou sledovány změny krajiny a dále je dědictví dokládáno dalšími široce pojatými výstupy, které popisují přírodní i společenskou složku proměn. Zkoumána je tak historie území s využitím srovnávacích fotografií a fotorealistických modelů, přírodní poměry, krajinný ráz, vývoj společnosti i odraz dědictví krajiny ve stávajících institucích jako jsou muzea a skanzeny. V tomto příspěvku jsme se zaměřili na vztah rekreace a změn krajiny (krajinného pokryvu/využití krajiny). Vybrali jsme deset z celkem třiceti zatím zpracovaných území, která mají rekreační využití nebo potenciál pro tento způsob využití. Ta jsme z hlediska hlavních procesů změn krajinného pokryvu a typů rekreace popsalí a rozdělili podle vztahu změn krajiny a rekreačního využití. Z výsledků je patrné, že rekreace úzce souvisí se změnami krajiny z původně produkčních do mimoprodukčních funkcí, nicméně způsoby, jak se toto děje, jsou různé, např. staré struktury krajiny jsou využívány novými způsoby, jinde jde o využívání nově změněného krajinného pokryvu či vybudování nových struktur sloužících rekreaci.

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