

CHATEAU BROWNFIELDS IN SELECTED LAU1 REGIONS OF THE CZECH REPUBLIC: SEARCHING FOR REMARKABLE FEATURES WITHIN DESCRIPTIVE LOCALIZATION ANALYSIS

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DOI: 10.21163/GT_2023.182.16

ABSTRACT:

The Czech Republic, like many other European countries, is characterised by a large number of chateau buildings and sites. Historical events of the last century have caused that in the countries of the so-called Eastern Bloc the original use of these buildings was largely interrupted and the overall management of these properties was neglected. This, together with other factors, led to the creation of a large number of chateau brownfields, which are still visible in the Czech Republic today. The aim of this paper is to determine on the background of a descriptive analysis the key characteristics of chateau brownfields associated in particular with their localization and to reveal any similarities and differences that result from their location within selected LAU1 regions. The analysis is based on the primary research of 367 chateau buildings in 4 NUTS3 regions of the Czech Republic and is unique in its concept.

Key-words: *Brownfield, chateau, Chateaufield, region, Czech Republic, Analysis.*

1. INTRODUCTION

Chateau brownfields are a specific type of brownfields that have been created by the abandonment of a property that was primarily built as a chateau. Alker et al. (2000) or Yount (2003) define brownfield as a real estate property that is insufficiently utilized, neglected and might be also contaminated. A brownfield is also defined as a property that is or has been only partially used (Ferber, 2006 or Martinat et al, 2016). As such, brownfields can be the remains of industrial, agricultural, military, transport, religious, housing and other activities (e.g. public amenities), whether in the form of land or buildings (sites), located anywhere in the cadastral area of towns and cities (Krzysztofik et al., 2013 or Tang & Nathanail, 2012). Contamination is not assumed to occur in chateau brownfields. However, if it does, it was most likely created ex post as part of the activities that followed in the chateaux after they lost their primary function (Turečková, 2023).

Manor houses, chateaux, aristocratic estates, manorial or manorial residences have been an integral part of the European cultural landscape since the early modern period (since the 16th century) and refer to their administrative, economic, representative and residential functions (see also Magnussen, 2018 or Pluskowski et al., 2019). Like other real estate, chateau buildings are exposed to the risk of losing their purpose, abandonment and devastation, which in the Central European space has been intensified by the events of the last century, in particular the formation of independent republics after World War I, the onset of fascism and World War II, the political turbulence and the onset of communism after its end, and finally the collapse of the so-called Eastern Bloc after 1989. All these events significantly affected the property-ownership relations to the chateau residences and forcibly interrupted their current use (Turečková, 2022 and Turečková et al., 2022).

This paper focuses on a relatively new object of research - chateau brownfields (alt. chateaufields) and builds on the research topic developed last year. It is an issue that has not been systematically investigated before and from this point of view it is necessary to proceed with its solution on the one hand analogically with other studies in terms of inspiration in the determination of the research areas and research methodology, but on the other hand also intuitively and inductively. This corresponds to

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the stated objective of this article, which is to determine the key characteristics of chateau brownfields associated with their location in particular and to reveal any similarities and differences resulting from their location within the selected LAU1 regions, against the background of descriptive analysis. We are interested in whether any causalities and similarities of a general and logical nature can be found in the simplified data on the characteristics of 367 chateau buildings in the four NUTS3 regions of the Czech Republic. It was not the intention here to use a complex statistical apparatus, but mainly to characterize the set of chateau brownfields in each territorial unit and to determine logical links, if any. In a way, the paper and the presented analysis can also be seen as a description of regional differences in the localization of chateau brownfields in Moravia and Silesia in the Czech Republic.

Due to the thematic "novelty" of the object of research, the literature search of other scientific sources related to chateaux brownfields is also limited.

2. METHODOLOGY AND DATA

The presented and analysed data is based on research in the field of chateau brownfields on the territory of the Czech Republic which required the identification of all chateau buildings in the given regions according to the set criteria (see below) and the search for their required characteristics and attributes. The analysed chateaux and chateau brownfields are located within the Czech Republic in two macro-regions of the Czech Republic (Moravia and the Czech part of Silesia) and 4 NUTS3 regions (Moravian-Silesian Region, Olomouc Region, Zlín Region and South Moravian Region). In this territorial area, 367 chateaux were found within 22 LAU1 regions (**Fig. 1**), 153 of which had or still have brownfield status (see **Appendix**). It should be noted here that despite the precision with which the objects in the territory were located it cannot be guaranteed that the list is absolute. Let us add that the actual database of chateau buildings has 30 characteristics for each chateau, which had to be individually traced.

In order to be included in the research, the chateau had to (A) still have a physical form (we abstracted from chateaux that no longer exist, i.e. they were "razed to the ground") and (B) it had to be continuously habitable and fulfil a certain practical function (i.e. it did not only fulfil a beautification function). Whether the chateau was abandoned and without use and was therefore a brownfield was only determined for the period since 1900. In the case of determining whether a particular chateau was a brownfield and this was not entirely clear from the information obtained, the following rules were laid down: (1) if various activities or targeted reconstruction and restoration were systematically carried out in the building, the chateau was not a brownfield; (2) the same applies in the case of restitution, where the intention of subsequent use of the chateau was known during the period of the ongoing restitution proceedings, or the original activities were 'catching up' there; (3) However, if it was clear that the chateau had been abandoned for some time, but it was not possible to ascertain the exact information (in particular the exact period for which it had been a brownfield), a combination of deductive, intuitive and analogical approaches was followed and the information was "guessed". This approach was used for a maximum of 10% of the objects. A chateau was classified as a brownfield if it was (4) currently (spring 2023) without use and intended for sale, and is or has been used (5) only partially, more or less marginally (e.g. in a situation where only 20% of the chateau was used and the rest was dilapidated). The term regenerated brownfield refers to a chateau brownfield that has a new economic function after a period of disuse and dilapidation. 107 reclaimed chateau brownfields have been identified, the remaining 46 are still abandoned and are still waiting for their new meaningful use.

The sources of information included publicly accessible internet portals and websites, the data of which were critically confronted with each other and the aim was to provide information on the chateaux as accurately as possible. The sources of information included in particular (1) the websites of the municipalities in whose cadastre the chateaux are located; (2) the websites of the chateaux themselves or of the institutions that are housed in them, if available; (3) the website of the National Heritage Institute; and (4) other websites and portals, e.g. hrady.cz; denik.cz; rozhlas.cz; prazdnedomy.cz; mizejicipamatky.cz; mapy.cz and others.



Fig. 1. Analysed LAU regions of the Czech Republic from the point of view of chateau brownfields (Source: own).

With regard to the stated aim of the paper, i.e. to determine the key attributes of chateau brownfields within the LAU1 regions in order to uncover the underlying similarities or differences in their location within the framework of the descriptive analysis, due to the amount of primary data, only some characteristics and features relating to chateaux and chateau brownfields were selected and are presented and commented upon in the following section. These are summarised by LAU1 regions and are presented, according to the logic of the matter, either as an average or through a mode, either by a specific number, a word or a summary category. The analysis and description of these data is preceded by a brief analysis of selected indicators at NUTS3 level. Due to the relatively large amount of data, only some of the nuances and points of interest resulting from the regional location of chateaux and chateau brownfields are highlighted in the text of the following chapter. Selected relationships between the indicators were subjected to correlation analysis to confirm or refute possible causality (using Pearson coefficient ($r \in [-1, +1]$). Thus, it applies that the closer the value of the coefficient is to one (+1), the higher the correlation between the two variables—indicators (Nevima, 2014; Meloun, 1994)). A verbal assessment of the measured causality is presented in **Tab. 1**.

In order to make the localization of chateau brownfields in LAU1 regions more comparable and to make the data more easily visualized, two ratio coefficients were created: Ratio I and Ratio II. Ratio I (R_I) represents the ratio of unregenerated chateau brownfields to regenerated ones. For this ratio, the lower its value is, the more successful is the process of regeneration of chateau brownfields. If all chateau brownfields in the area are regenerated, this indicator has a value of zero. The second ratio indicator (Ratio II; R_{II}) expresses the proportion of chateaux per chateau brownfield. This indicator has a parallel in the percentage of chateau brownfields to the total. For this indicator, the lower the value of the coefficient, the higher the representation of chateau brownfields relative to the total number of chateaux in the region. If its value is 1, then all the chateaux in LAU1 of the region had brownfield status.

3. ANALYSIS OF CHATEAU BROWNFIELDS IN THE REGIONS OF THE CZECH REPUBLIC

Before we focus on the determination of the factors of chateau brownfields at the level of LAU1 regions, we comment on the occurrence of chateaux in Moravia and Silesia within 4 NUTS3 regions. As can be seen in the table below (**Tab. 1**) the largest number of chateaux was located in the South Moravian Region (123), which corresponded to the largest number of identified chateau brownfields (48), of which 34 have been regenerated and the remaining 14 are still abandoned and awaiting their new use. The smallest number of chateaux is in the Zlín Region (54), which is the smallest in terms of area and population.

Table 1.
Dependence between variables (correlation analysis, Pearson coefficient).

Value of Pearson Coefficient (<i>r</i>)	Type of Dependence
0.70 or higher	Very strong positive relationship
0.40 to 0.69	Strong positive relationship
0.30 to 0.39	Moderate positive relationship
0.20 to 0.29	Weak positive relationship
0.01 to 0.19	No or negligible relationship
0	No relationship, no correlation
-0.01 to 0.19	No or negligible relationship
-0.20 to 0.29	Weak negative relationship
-0.30 to 0.39	Moderate negative relationship
-0.40 to 0.69	Strong negative relationship
-0.70 or higher	Very strong negative relationship

Relative indicators in the second part of the table provide more relevant information: (1) in terms of municipalities, the largest number of chateaux is in the Moravian-Silesian Region, where it is one chateau per 3.3 municipalities, while in the Zlín Region, it is one chateau per 5.7 municipalities; (2) 39% of chateaux in the South Moravian and Zlín Regions were brownfield, while in the Olomouc and Moravian-Silesian Regions it was 44% of the total number of chateaux. (3) The largest number of regenerated chateau brownfields in their total number was in the Zlín Region (76%), while in the Olomouc Region, 34% of the buildings are still abandoned and dilapidated. (4) The concentration of chateaux in the territory of the regions is lowest in the Zlín Region, where on average one chateau occurs in an area of 73.4 km² and one chateau brownfield in an area of 188.7 km². The highest number of inhabitants (5) per chateau is in the Moravian-Silesian Region (12835), as is the case for the chateau brownfield (29200).

In the case of the Olomouc Region it is interesting that while the concentration of chateaux in the territory is the highest (1 chateau per 53.2 km²), the number of inhabitants per 1 chateau is the lowest (6292). The same is true in the indicator of the number of inhabitants per chateau brownfield (14158). If we take into account that the largest number of brownfield chateaux not yet regenerated is located here, one may wonder whether the number of abandoned and dilapidated chateaux is not directly related to the area of the territory and indirectly to the number of inhabitants. There would be a logic to this. At the same time, in **table 2** we see that there is a de facto causality between the total number of chateaux and the number of chateau brownfields, while there is no causality between the number of chateau brownfields and the number of their regeneration.

In the following, we will focus on the analysis of the basic characteristics of chateaux and chateau brownfields at the regional level of districts (LAU1), see **table 3**. Due to the already large amount of information, only the most interesting ones will be selected (also valid for further presentation and description of the data), first separately within a given region, then across all LAU1 regions and finally, some causalities that emerge from the analysis and are interesting from the point of view of presentation of the results will be highlighted.

Table 2.

Characters of selected NUTS3 regions of the Czech Republic in the context of chateaux and chateau brownfields.

Region (NUTS3)	Number of municipalities (LAU2)	Area (km ²)	Number of LAU1 regions	Population (as of 1.1.2022)	Total number of chateaux	of which chateau brownfields	of which regenerated chateau brownfields
South Moravian	673	7195	7	1184568	123	48	34
Zlín	307	3963	4	572432	54	21	16
Olomouc	399	5267	5	622930	99	44	29
Moravian-Silesian	300	5425	6	1167989	91	40	28
total	1679	21850	76	3547919	367	153	107
Region (NUTS3)	Number of municipalities per 1 chateau	The share of chateau brownfields in the whole	Share of regenerated CHBs in the total number of CHBs	Area of the region (km ²) per 1 chateau	Area of the region (km ²) per 1 chateau brownfield	Number of inhabitants of the region per 1 chateau	Number of inhabitants of the region per 1 chateau brownfield
South Moravian	5.5	39%	71%	58.5	149.9	9631	24679
Zlín	5.7	39%	76%	73.4	188.7	10601	27259
Olomouc	4.0	44%	66%	53.2	119.7	6292	14158
Moravian-Silesian	3.3	44%	70%	59.6	135.6	12835	29200
average	4.6	42%	70%	59.5	142.8	9840	23824

Note: CHBs – chateau brownfields.

In the South Moravian Region, the largest number of chateaux is located in the Znojmo district (32), of which 13 have the status of brownfield, followed by the Brno-venkov district with 24 chateau buildings including 10 brownfields. The highest share of chateau brownfields in the total number of chateaux is in the Blasnko district (47%, also R_II has the lowest value of 2.1), the most successful in regeneration is, apart from the Brno-město district, where both identified chateau brownfields have been regenerated (R_I has a value of 0), the Blansko and Břeclav districts with 86% success rate of the regeneration process. The Znojmo district is the worst-performing district in terms of regeneration of chateau brownfields (54%). This is confirmed by the R_I ratio, which is the highest in the whole region for this district. The district of Breclav has (apart from the extreme Brno-město) the densest concentration of chateaux per number of municipalities (3.9), i.e. one chateau per less than 4 municipalities. The Znojmo district has the lowest number of inhabitants per chateau (3,546), while the highest number is in Brno-město (4,733). The concentration of chateaux in the area of districts is the densest in Brno-město (28.8), while the highest number of chateaux is in Hodonín (99.9).

The Zlín Region has 4 districts and only 54 chateaux have been traced on its territory, 21 of which were previously abandoned and 5 of which are still waiting for new use. The largest number of chateau brownfields is in the Vsetín district (every second chateau is or was a brownfield; R_II = 2). For the Uherské Hradiště district, on the other hand, the R_II indicator has a value of 4.5, i.e. there is a total of 4.5 chateaux per one chateau brownfield. Successful in regeneration are the Kroměříž district (8 out of 9 brownfields have been regenerated) and the Uherské Hradiště district with a 100% success rate (R_I = 0). The worst performing district in the regeneration of chateau brownfields is Zlín, which has only a 50% success rate (R_I reaches the highest value in this district of the Zlín Region). The most frequent encounter with a chateau is in the Kroměříž region, where there is a chateau in every fourth municipality and there is also the lowest number of inhabitants per chateau (5172), similarly with the occurrence of chateaux in the territory, where the highest concentration of them is in the Kroměříž district (1 chateau is located in the territory of less than 40 m2).

Table 3.

Characters of selected LAU1 regions of the Czech Republic in the context of chateaux and chateau brownfields.

NUTS3	LAU1	Number of municipalities (LAU2)	Area (km ²)	Total number of chateaux	of which CHBs	of which regenerated CHBs	The share of CHBs in the whole	Share of regenerated CHBs in the total number of CHBs	Number of municipalities per 1 chateau	Number of inhabitants of the region per 1 chateau	Area of the region (km ²) per 1 chateau	Ratio I (number of unregenerated CHBs to regenerated)	Ratio II (number of chateaux per 1 CHB)
South Moravian Region	Blansko	116	863	15	7	6	47%	86%	7.7	7194	57.5	0.17	2.1
	Brno-město	1	230	8	2	2	25%	100%	0.1	47433	28.8	0.00	4.0
	Brno-venkov	187	1499	24	10	7	42%	70%	7.8	9396	62.5	0.43	2.4
	Břeclav	63	1038	16	7	6	44%	86%	3.9	7175	64.9	0.17	2.3
	Hodonín	82	1099	11	4	3	36%	75%	7.5	13736	99.9	0.33	2.8
	Vyškov	80	876	17	5	3	29%	60%	4.7	5430	51.5	0.67	3.4
	Znojmo	144	1590	32	13	7	41%	54%	4.5	3546	49.7	0.86	2.5
	Total/Average	673	7195	123	48	34	39%	71%	5.5	9631	58.5	0.41	2.6
Zlín Region	Kroměříž	79	796	20	9	8	45%	89%	4.0	5172	39.8	0.13	2.2
	Uherské Hradiště	78	991	9	2	2	22%	100%	8.7	15537	110.1	0.00	4.5
	Vsetín	59	1142	12	6	4	50%	67%	4.9	11681	95.2	0.50	2.0
	Zlín	91	1034	13	4	2	31%	50%	7.0	14537	79.5	1.00	3.3
	Total/Average	307	3963	54	21	16	39%	76%	5.7	10601	73.4	0.31	2.6
Olomouc Region	Jeseník	24	719	18	9	4	50%	44%	1.3	2042	39.9	1.25	2.0
	Olomouc	96	1620	20	7	3	35%	43%	4.8	11679	81.0	1.33	2.9
	Prostějov	97	770	23	11	9	48%	82%	4.2	4677	33.5	0.22	2.1
	Přerov	104	845	23	9	8	39%	89%	4.5	5505	36.7	0.13	2.6
	Šumperk	78	1313	15	8	5	53%	63%	5.2	7893	87.5	0.60	1.9
	Total/Average	399	5267	99	44	29	44%	66%	4.0	6292	53.2	0.52	2.3
Moravian-Silesian Region	Bruntál	67	1536	15	8	6	53%	75%	4.5	5970	102.4	0.33	1.9
	Frýdek-Místek	72	1208	12	5	2	42%	40%	6.0	17696	100.7	1.50	2.4
	Karviná	17	356	12	7	3	58%	43%	1.4	19193	29.7	1.33	1.7
	Nový Jičín	54	882	15	5	5	33%	100%	3.6	9995	58.8	0.00	3.0
	Opava	77	1113	30	8	6	27%	75%	2.6	5792	37.1	0.33	3.8
	Ostrava-město	13	331	7	7	6	100%	86%	1.9	44586	47.3	0.17	1.0
	Total/Average	300	5426	91	40	28	44%	70%	3.3	12835	59.6	0.43	2.3

In the Olomouc Region, 44% of all 99 identified chateaux are brownfields. In absolute terms, the largest number of brownfields is located in the Prostějov district (11) and the smallest in the Olomouc district (7), while in relative terms the largest number of brownfields is determined in Šumperk (53%) and Jeseník (50%) districts (also the lowest values of indicator R_II). Jeseník, together with Olomouc, is also the least successful in the regeneration of chateau brownfields (the R_I indicator is the highest for these districts). In Jeseník, 5 brownfields out of 9 are still without meaningful use (only 44% of the original buildings are regenerated) and in Olomouc, 4 chateaux out of 7.

In contrast, in Přerov, the regeneration process is 89% successful, with 8 chateau brownfields regenerated out of 9 ($R_I = 0.13$ and is the lowest). In Jeseník district there is one chateau per 1.3 municipalities, i.e. chateaux are located in almost every one of them. This district also has the lowest number of inhabitants per occurrence of one chateau (2042). The highest territorial density of chateau occurrence is in the Prostějov district (one chateau for every 33.5 km²), while the least number of chateaux in the territory is in the Šumperk district (87.5).

Nový Jičín in the Moravian-Silesian Region together with the Ostrava-City district is very successful in the regeneration of chateau brownfields, as all the brownfields were regenerated here ($R_I = 0$), in Ostrava-City it was 6 objects out of 7 in total. Interestingly, in Ostrava-town all 7 chateaux had brownfield status ($R_{II} = 1$). A large proportion of brownfields in all chateaux is also found in the Karviná (58%), Bruntál (53%) and Frýdek Místek (42%) districts. The least regenerated chateaux are located in the Karviná (4 out of 7) and Frýdek Místek (3 out of 5) districts, which is also evidenced by the values of the R_I ratio, which are the highest for the whole region. In the Karviná region, there is one chateau per 1.4 municipalities, but due to the large number of inhabitants, there are less than 20 thousand inhabitants per chateau. In the Karviná region, chateaux are also the most frequent in the territory, because they are concentrated there the most in relation to the area of the region.

If we select the most significant data across all LAU1 regions, then the most chateaux are located in the Znojmo (32) and Opava (30) districts, and the least in the Ostrava-město (7) and Brno-město (8) districts, while the chateau brownfields are in absolute terms most represented in the Znojmo (13), Prostějov (11) and Brno-venkov (10) districts, and the least in the Brno-město (2) and Uherské Hradiště (2) districts. The largest share of chateau brownfields in the total number of chateaux (R_{II}) is in Ostrava-město, Karviná, Bruntál (all Moravian-Silesian Region) and Šumperk. The most successful in brownfield regeneration are the districts of Brno-město, Uherské Hradiště and Nový Jičín, where all previously abandoned buildings have been regenerated. The worst districts are Frýdek-Místek (only 40% success rate in the regeneration of chateau brownfields), Olomouc (43%), Karviná (43%) and Jeseník (44%).

Table 4 shows the selected indicators with the assumption of certain causality and the size of the correlation coefficient. Apart from the two cases of mutual causality, the Pearson Coefficient values were very low and correlation across indicators was not confirmed (this is also evident directly from the data in **Table 3**). A further measure of correlation between all indicators was also carried out, but the results were around zero. A Pearson coefficient of 0.41 was found between the area of the site and the number of unregenerated chateau brownfield sites. We could find logic here, it is likely that the larger the area of the territory, the more chateau brownfields there will be ($r=0.32$). Interestingly, a much smaller correlation value came out between the area of the territory and the number of chateaux in general ($r=0.25$), so the claim that the number of chateaux is directly related to the area of the territory is not very strong. The second interesting result is in the case of the link between population and the number of chateau brownfields ($r=-0.4$). In the preceding text, when analysing NUTS3 regions, the idea was raised whether the number of abandoned and dilapidated chateaux is directly related to the size of the territory and indirectly related to the population. This reasoning was confirmed on the data from LAU regions, as both coefficients represent a strong relationship.

Table 4.

Selected results of correlation analysis of data from Table 3.

Selected variable indicators	Value of Pearson Coefficient (r)
area and number of chateaux	0.25
area and number of chateau brownfields	0.32
R_I and area of the region (km ²) per 1 chateau	0.12
area and number of unregenerated chateau brownfields	0.41
number of inhabitants and number of unregenerated chateau brownfields	-0.2
number of chateau brownfields and number of inhabitants of the region	-0.4

In the last part of the analysis of chateau brownfields, selected characteristics directly related to chateau brownfields in individual LAU regions will be presented, see **table 5**). These data take the form of an average or a mode. The most common original use of chateau brownfield sites was housing, but due to the gradual devastation of these buildings, they were gradually displaced and the buildings fell into disrepair. Devastation is also the most common reason for the abandonment of chateau estates, coupled with problems with the definition of property rights and disagreements between owners.

Table 5.**Selected indicators of chateau brownfields for LAU1 regions.**

NUTS3	LAU1	Number of chateau brownfields	Ratio number I	Area chateau brownfields in m ² (average)	Distance in km from the center of the municipalities (average)	Distance in km from the center of the NUTS3 region (average)	Economic sector of previous use (mode)	The cause of chateau brownfields (mode)	Time without use in years (average)
South Moravian Region	Blansko	7	0.17	2783	0.95	41	housing	devastation/search for purpose	17
	Brno-město	2	0.00	3574	0.66	11	housing	search for purpose	10
	Brno-venkov	10	0.43	1592	0.79	28	agriculture/housing	devastation/ownership issues	21
	Břeclav	7	0.17	2499	1.99	50	agriculture/housing	devastation	21
	Hodonín	4	0.33	1880	0.8	68	housing	ownership issues	15
	Vyškov	5	0.67	1394	1.19	46	public services /agriculture	change of ownership/ devastation	19
	Znojmo	13	0.86	1991	0.39	65	public services /agriculture	ownership issues/ search for purpose	22
Zlín Region	Kroměříž	9	0.13	2347	0.49	42	public services	ownership issues	17
	Uherské Hradiště	2	0.00	1837	1.05	28	housing	search for purpose	5
	Vsetín	6	0.50	1524	0.2	43	housing	conscious abandonment	23
	Zlín	4	1.00	3952	0.97	27	housing	ownership issues	21
Olomouc Region	Jeseník	9	1.25	1092	1.2	121	agriculture	devastation	33
	Olomouc	7	1.33	1773	1.72	25	public services	devastation	20
	Prostějov	11	0.22	2201	0.34	29	housing/ public services	devastation/search for purpose	15
	Přerov	9	0.13	2312	0.44	36	housing/ education	devastation/ ownership issues	15
	Šumperk	8	0.60	3645	0.92	59	agriculture/housing	devastation	37
Moravian-Silesian Region	Bruntál	8	0.33	2271	2.13	78	public services	devastation	20
	Frydek-Místek	5	1.50	685	0.25	30	public services	financial problems/ conscious abandonment	39
	Karviná	7	1.33	1252	1.74	22	housing/ offices of institutions	devastation	30
	Nový Jičín	5	0.00	982	0.4	34	housing	devastation/ conscious abandonment	30
	Opava	8	0.33	990	0.69	32	housing/ public services	devastation	36
	Ostrava-město	7	0.17	1080	0.43	10	offices of institutions /housing	devastation	23

Chateau brownfields were also originally used for agricultural purposes (especially in the South Moravian Region), mainly as warehouses or as part of agricultural cooperatives, and often also temporarily housed libraries, health facilities, nurseries, municipal offices etc. (public services). Let's add here that the original use of chateau buildings in the given region reflects the representation of economic sectors (Turečková, 2014). The manor house (the main building) covered an average area of less than 2,000 m², was less than one kilometre from the centre of the village (the municipal office) and had not been used for 22 years. The longest abandoned chateaux were in the Moravian-Silesian region (on average more than 29 years) while in the Zlín region, it was only 16 years.

From the data in **table 5**, it can be seen that there is no link between the original use, the reason for abandonment and other indicators. The selected causalities and their significance are summarized in **table 6**. In this context, we can mention that the success of regeneration (measured by the coefficient R_I) depended on the length of abandonment of the object, i.e. regions were more successful in regenerating chateau brownfields for objects that were without use for a shorter period of time ($r = 0.55$). We also found that the smaller the size of the chateau brownfield object, the longer it took to decay ($r = -0.38$). This suggests that the gradual regeneration of chateau brownfields was more likely to involve larger objects. Surprisingly, distance from both the village centre and the centre of the NUTS3 region did not seem to affect the success of the regeneration process, nor did the size of the chateau site.

Table 6.

Selected results of correlation analysis of data from Table 5.

Selected variable indicators	Value of Pearson Coefficient (r)
R_I and area chateau brownfields	-0.22
R_I and distance from the center of the municipalities	0.22
R_I and time without use	0.55
area chateau brownfields and time without use	-0.38
distance from the center of the municipalities and time without use	-0.05

4. CONCLUSION

The presented paper is a continuation of last year's publications, which were devoted to the entry into the issue of chateau brownfields in the sense of elaboration of their theoretical concept and determination of the reasons for their creation in relation to their current use. This paper takes the topic further by examining the distribution of chateaux and chateau brownfields in the space of selected regions of the Czech Republic and looking for basic connections between them. It was found that the larger the area of the territory, the more brownfields are located in it (however, this is not true for chateaux as such) and more brownfields are located in areas with lower population density. The spatial success of chateau regeneration depends on the length of dilapidation, where the shorter the period of dereliction, the greater the chances of regeneration. Objects larger in area have been more successfully regenerated. Other links were not demonstrated in the analysis carried out, so it cannot be argued that chateau buildings located closer to the centre of the village etc. have a better chance of regeneration. The fact remains, and it does not invalidate our results, that the analysis carried out was mainly based on average data for the LAU1 due to the amount of data. The next steps in the investigation of this issue will therefore lead to the analysis of individual transformed data within factor or correspondence analysis. There is also the possibility of using panel regression. Subsequently, it will be interesting to compare these results with the findings presented in this paper.

The performed analysis can also represent an argument for channeling aid for the restoration of chateaux brownfields. On the one hand, we know in which regions it is necessary to provide increased attention to regeneration (Olomouc region), because compared to other regions there is still a large proportion of neglected and abandoned buildings, and also which buildings to focus on in terms of their characteristics.

Naturally, "young" and "large" chateaux brownfields due to their area are better restored. Supportive regeneration assistance schemes should thus concern chateaux buildings that deteriorate over a long period of time and are smaller in scope.

The contribution for further research is the refinement of the research object and the definition of conditions for determining the brownfield status for a chateau building, the compilation of two ratio indicators (R_I and R_II), which simplify the interpretation of data and the presented overall overview of the occurrence of chateau brownfields in the territory of Moravia and Silesia. If we take into account that 153 out of 367 chateaux had the status of brownfield and only 107 were successfully regenerated, then there is still significant room for increasing the development potential of the territory within the framework of future regeneration of the remaining 46 chateaux that are still dilapidated. Determining the benefits of regenerated chateau buildings for the development of the area will also be one of the future directions of research.

ACKNOWLEDGMENT

This paper (research) was supported by the project SGS/29/2023 "Regeneration potential of brownfields in the Czech Republic with reference to public sector activities".

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Appendix

Chateaux in LAUI regions of Moravia and Silesia in the Czech Republic.

NUTS3	LAUI	Chateaux without brownfield status	Chateau brownfields (regenerated and non-regenerated)
South Moravian Region	Blansko	Adamov; Boskovice; Křetín; Křtiny; Kunštát; Lhota Rapotína; Lysice; Šebetov	Blansko; Borotín; Černá Hora; Lamberk; Letovice; Rájec nad Svitavou; Velké Opatovice
	Brno-město	Bauerův zámek; Brněnské Ivanovice; Kociánka; Letohrádek Mitrovských; Medlánky; Řečkovice	Belcredi (Zámek Líšeň); Chrlice
	Brno-venkov	Cvrčovice (Petersova Vila); Hrubšice; Kuřim; Loděnice; Lomnice; Podolí (Podolí); Pozořice; Prštice; Rosice; Sokolnice; Šlapanice; Těšany; Vohančice; Židlochovice	Branišovice; Dolní Kounice; Hajany; Kupařovice; Leopoldsdruhe (Leopoldov); Lesní Hluboké; Oslavany; Paarův zámek; Troubsko; Vlasatice
	Břeclav	Diváky; Hraniční zámek; Lednice; Lovecký zámek; Lednice; Pohansko; Valtice; Velké Němčice; Velké Pavlovice; Lanžhot	Břeclav; Drnholec; Klobouky u Brna; Lány (Břeclav); Letohrádek Portz Insel; Mikulov; Pouzdřany
	Hodonín	Čejkovice; Hodonín; Kyjov; Milotice; Svatobořice; Žďánice; Žeravice	Bzenec; Dolní Moštěnice; Strážnice; Veselí nad Moravou
	Vyškov	Bohdalice; Bučovice; Čechyně; Drnovice; Habrovany; Hrušky; Nové Hvězdilice; Nové Zámky; Slavkov; Troyerstein; Vážanský zámek; Vyškov	Ferdinansko; Chvalkovice na Hané; Ivanovice na Hané; Komorov; Račice
	Znojmo	Allein (České Křídlovice); Bohunice; Bohutice; Březany; Emin zámek; Hostim; Lechovice; Mikulovice; Miroslav; Plaveč; Skalice (Skalice); Slatina (Slatina); Starý zámek Jevišovice; Tavikovice; Tulešice; Uherčice; Únanov; Višňové; Vranov nad Dyjí	Boskovštejn; Dyjákovice; Dyje (Milfron); Horní Dunajovice; Hrušovany nad Jevišovkou; Jaroslavice; Kravsko; Miroslavské Knínice; Moravský Krumlov; Nový zámek Jevišovice; Rešice; Tvořihráz; Újezd
Zlín Region	Kroměříž	Bystřice pod Hostýnem; Chropyně; Koryčany; Kroměříž; Kvasice; Pačlavice; Střílky; Věžky; Zborovice (Nový); Zborovice (Starý); Žeranovice	Cetchevovice; Dřínov; Holešov; Litenčice; Morkovice; Přilepy; Uhrice; Zdislavice; Zdounky
	Uherské Hradiště	Březolupy; Buchlovice; Nezdenice; Ořechov; Lovecký zámek; Strání; Uherský Brod; Uherský Ostroh	Bílovice; Nový Světlov
	Vsetín	Branky (Starý); Hovězí; Hošťálková; Choryně; Kinských Valašské Meziříčí; zámek Žerotínů ve VM	Branky (Nový); Kelč; Lešná; Liptál; Loučka; Vsetín
	Zlín	Klečůvka; Lešná; Napajedla (Starý); Návojná; Zlín; Pohořelice; Tlumačov; Velký Ořechov; Vizovice	Hrádek na Vlárské dráze; Luhačovice; Napajedla; Slavičín (zámek Wichterle)
Olomouc Region	Jeseník	Bernartice; Dolní Červená Voda; Hradec; Jánský vrch; Jeseník; Kobylá nad Vidnavkou; Rittneerův zámek; Široký Brod; Vlčice	Bílá Voda; Černá Voda; Horní Fořt; Hukovice (Velká Kraš); Kohout; Tomíkovice; Vápenná; Velké Kunčice; Vidnava
	Olomouc	Bores; Červenka; Dolní Dlouhá Loučka; Dolany; Drahanovice; Haňovice; Náklo; Náměšť na Hané (Dolní); Náměšť na Hané (Horní); Nové zámky u Litovle; Velká Bystřice; Velký Týnec; Vsisko	Bílá Lhota; Horní Dlouhá Loučka; Chudobín; Nenakonice; Nové Valterčice; Tršice; Žerotín (Žerotín)
	Prostějov	Brodek u Prostějova; Hluchoy; Hrubčice; Jesenec; Konice; Nezamyslice; Oborský Dvůr (Híršperk); Plumlov; Víceměřice; Vrchoslavice; Výšovice	Čechy pod Košířem; Dobromilice; Doloplazy; Krakovec; Kralice na Hané; Laškov; Mořice; Prostějov; Přemyslovice; Ptení; Vřesovice
	Přerov	Čitov; Čekyně; Dřevohostice; Horní Moštěnice; Hustopeče nad Bečvou; Kovalovice; Lipník nad Bečvou; Malhotice; Polkovice; Přerov; Rokytnice (Přerov); Říkovice; Veselíčko; Želatovice	Hranice; Kunzov; Lhotsko; Pavlovice u Přerova; Potštát; Přestavky; Skalíčka (Zábřeh); Tovačov; Všechnovice
	Šumperk	Bludov; Mohlenice; Sobotín; Šumperk; Velké Losiny; Zábřeh na Moravě; Žádlovice	Doubravice; Kolštejn; Lechovice; Loučná nad Desnou; Maršíkov; Ruda nad Moravou; Třemešek; Úsov

Moravian-Silesian Region	Bruntál	Branice; Grohmann (Vrbno pod Pradědem); Hoštalkovy; Hynčice (Nový zámek Albrechtice); Jindřichov; Krmov; Lovecký zámek Hubertov	Brantice; Bruntál; Dívčí hrad; Rýmařov (Janovice); Linhartovy; Slezské Pavlovice; Slezské Rudoltice; Staré Heřminovy
	Frydek-Místek	Bílá; Dolní Tošanovice; Frydek (Místek); Horní Tošanovice; Kanská; Lovecký zámek Hartisov (Bílá); Třinecký zámek	Hnojník; Hukvaldy; Paskov; Ropice; Střítež
	Karviná	Bludovice; Fryštát (Karviná); Horní Suchá; Larischův zámek (Těrlicko); Letohrádek Těrlicko	Dolní Lutyně; Doubrava; Chotěbuz; Petrovice u Karviné (Prstná); Rychvald; Šumbark (Havířov); Životice
	Nový Jičín	Bartošovice; Bílovec; Hukovice; Jeseník nad Odrou; Nová Horka; Pustějov; Slatina; Spálov; Studénka; Trnávka	Bravantice; Fulnek; Kunín; Sedlnice; Žerotínský zámek Nový Jičín
	Opava	Albertovec; Bolatice; Dolní Životice; Hlavnice; Hradec nad Moravicí; Chuchelná; Jedzkovice; Kyjovice; Loděnice (Holasovice); Melč; Mladecký Dvůr; Oldřišov; Raduň; Radkov (Dubová); Slavkov; Sosnová; Stěbořice; Šilheřovice; Štěplovec; Velké Heraltice; Velké Hoštice; Závada	Jakartovice (Deštné); Dolní Benešov; Hlučín; Hrabyně; Kravaře; Lítultovice; Neplachovice; Štářblovce
	Ostrava-město	x	Hošťálkovice; Klimkovice; Polanka nad Odrou; Poruba; Rothschildův empírový zámek (Vítkovice); Stará Ves nad Ondřejnicí; Zábřeh

(Source: own survey, November 2022 – June 2023).