

# PROBLEMS OF TRANSFORMING MILITARY TRAINING AREAS IN A POST-COMMUNIST SPACE: LOCAL COMMUNITY PERCEPTIONS AND POLICY IMPLICATIONS

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**Abstract**

The integration of socio-economically marginalized areas into regional systems in the context of post-communist transformation has been an important subject of social science research in general. The military training areas (MTA), as specific type of peripheries, have been so far little explored. Based on the results of an extensive questionnaire survey (N = 1,362), the authors of this study analyze local community perceptions of MTA in the Czech Republic, assess positive and negative impacts of MTA on the quality of life, and discuss possible future development scenarios of the areas. The results show that local communities in the hinterland of MTA perceive similar problems as those living in other peripheral and/or rural areas, particularly unemployment, limited options of obtaining own housing, maintenance of road infrastructure, limited options of leisure activities, etc. Ensuring a harmony between local development and MTA activities is considered a specific issue. Problems are perceived more likely by older and highly educated people, and those living in smaller municipalities with higher unemployment and municipalities located closer to MTA. On the other hand, young and less educated people living in larger municipalities with higher unemployment rates, which are located at a greater distance from county seats, perceive more likely positive impacts of MTA.

**Keywords:** military training areas, periphery, perception, quality of life, Czech Republic.

## 1. Introduction

Military training areas (hereinafter MTA) represent a specific type of peripheries with significant potential, usable for future sustainable development (Kustrová, 2013; Seidl and Chromý, 2010a; Zug, 2015). While the integration of spatially or socio-economically marginalized areas into the regional system in the context of post-communist transformation has been an important subject of social science research in general, the MTA have been so far neglected – partly due to social and political conditions, including the lack of information or a limited ability to obtain information about the areas, and partly due to a general irrelevance of the problem requiring an immediate solution (Seidl and Chromý, 2010b). Only in recent years, the issue of optimizing military capabilities has been raised as a result of gradual reduction of the army units, services and number of soldiers.

In the Czech Republic, the MTA still occupy a significantly higher share of land (about 1.7%) than in the neighboring countries (approximately 0.5%) (Kazatel, 2012). Given the real needs of the Czech Army training troops, the current number and size of military capabilities have been re-considered, but an equally important reason for the optimization is the restoration of civil rights of inhabitants of military settlements who, in the absence of a municipality status in the territory of a military area, were not able to vote or be elected to municipal councils, nor they were able to own or trade property.

To perform the optimization process a new Act (no. 15/2015 Coll.) on ‘The abolition of the Brdy military training area, the establishment of the boundaries of the military training areas, the change of the borders of the regions and the amendment of the related laws’ has been approved. In the designated territories, the creation of new municipalities or the affiliation of the territory to the adjacent municipalities is now possible. The Ministry of Defense of the Czech Republic (MOD, 2015) throughout the process of border optimization of the military settlements sought to involve as much as possible the affected inhabitants and mayors of concerned municipalities in all negotiations on their future and the submitted proposals.

The aim of the research presented in this paper was to evaluate how actual local development and related problematic aspects of the transformation of municipalities that have had or still have a common border with MTA are perceived by social actors (inhabitants) and what are the local communities’ perceptions about the future development scenarios of these areas. The article presents selected results of an extensive questionnaire survey conducted in 2016 with inhabitants of municipalities located in the hinterland of MTA, concerning the perceptions of current problems of the quality of life and positive and negative impacts associated with changes in the public administration and the activities of MTA. The basic research question to answer in this paper is how does the location of municipalities (in the sense of proximity to MTA) affect the local quality of life and the degree of perceived problems in the municipality.

## 2. Theoretical departures

The emergence of the first permanent modern MTA can be dated to the mid-19th century in the UK (Evans, 2006); in the US and other countries MTA appeared just a few decades later (Johnson, 2001). After the WWI, new and renovated military sites that could no longer keep pace with the upcoming era of modern times have been constructed, and there was a tendency to exchange the quantity for the quality (Shoebridge, 2011). An unprecedented military division of the world into the Western and the Eastern bloc began to take place in the late 1940s. This also involved the building of new military settlements and bases, technological upgrading and capacity building of troops, as a part of the strategy of the so-called Cold War (Lachowski, 2007; Kramer, 2010). At present, MTA cover an area of 2 to 2.5 million km<sup>2</sup>, which represents more than 2% of the global surface area (approximately the area of Algeria), and they occur in all major ecosystems in the world (Zentelis *et al.*, 2017a, 2017b).

Over the last two decades, the academic literature dealing with MTA has focused on two major aspects. Apart from studies on the history and development of MTA, their spatial and political organization (e.g., Evans, 2006; Lachowski, 2007; Kramer, 2010; etc.), the main research directions included (i) ecosystems, natural conditions, biodiversity specificities in the areas (Harabiš and Dolný, 2018; Bušek and Reif, 2017, Zografou *et al.*, 2017; Lindenmayer *et al.*, 2016), and (ii) environmental management and models of optimization and sustainable development of degraded areas (Fox *et al.*, 2017; Guimarães *et al.*, 2017; Luft *et al.*, 2014; Wanner and Xylander, 2003). The principles of environmental management in MTA have been confronted by Zentelis *et al.* (2017a, 2017b), the models or scenarios of optimization of degraded areas, the behavioral, emotional and cross-cultural perceptions of members of army training in interaction with the inhabitants of adjacent communities have been studied by Önal *et al.* (2017), Damari, Rubin and Logan-Terry (2015) and Oden *et al.* (2015).

MTA are typical by their location, which – in the vast majority of cases – can be described as peripheral, which in general entails a number of economic, social or administrative problems, as well as interesting research aspects in the given areas. Different peripheral areas are located all over the world, yet the definition of the term itself may differ depending on the region or country where the periphery is located. There are several approaches to defining peripheries. Leimgruber (1994) poses four types of peripheries, including (i) geometric (the area is geometrically distant from the center), (ii) ecological (areas face excessive resource exploitation), (iii) economic (areas face low economic activity), and (iii) social (inhabitants of areas are socially excluded, often members of a language, racial, or religious minority).

The economic approach is one of the most frequently used (in this case unemployment and low number of job opportunities), nevertheless, the remaining three will also be considered for the purposes of this paper. These are the geometric approach – distinguishing inland and border peripheries, the social approach – social exclusion, ethnic minorities, internal migration, population aging etc., and the ecological approach – possible environmental pollution by military technology.

Ruane and Todd (2001) outline core-periphery relations in Britain, France and Spain. They presume that globalization, cultural differences and also badly adjusted political systems of the individual countries are the causes of peripheral area creation. Davies and Michie (2011) discuss if (and to what extent) peripheral areas are a problem for the countries of Western and Northern Europe. In their study, they propose alternative approaches to resolving problematic areas, such as providing public services in the excluded areas, training for the socially excluded, etc. Bürcher, Habersetzer and Mayer (2015) indicate the entrepreneurial potential of peripheral areas and advise that if local entrepreneurs are able to negotiate and establish partnerships, the areas might serve as a suitable place for selected business ventures. Baudelle and Guy (2004) discuss the impact of the regional policies of the EU on peripheral areas in selected countries.

Notable differences caused by the Cold War and the division of Europe into 'East' and 'West' can be observed in the literature. Only in the 1990s, with the fall of the Iron Curtain and subsequent transformations of economic management structures, did authors from the former Eastern Bloc manage to develop their theoretical consensus into practical applications. The Russian Federation has the most significant issues with peripheral areas. Massive internal migration of inhabitants younger than 30 years has been recorded. Kashnitsky and Mkrtchyan (2008) state that the depopulation of peripheries causes a dramatic aging of the population and consequently economic stagnation of entire regions. Similar problems have been recorded in Poland (Markuszevska, 2015) and Slovakia (Mikuš, Málíková and Lauko, 2016; Novotný and Přebil, 2016).

As Seidl and Chromý (2010b) state, areas which are typically peripheral were chosen to become military training areas in the Czech Republic, respectively in all post-communist countries. Macešková, Ouředníček and Temelová (2009) state that municipalities in their hinterland often face regional development stagnation. Sustainable regeneration of former military sites (or military brownfields) have recently become one of the greatest challenges for municipal planners and developers. The transition from military to civilian life for these complex, contaminated, isolated, heritage laden and often contested sites in locations ranging from urban to remote is not an easy process, and there is little systematic analysis of what follows base closures, leaving communities, governments, developers, and planners to experiment with untested land use configurations, partnership structures, and financing strategies (cf. Bagaen and Clark, 2016).

Ashley and Touchton (2016) analyzed case studies of military base redevelopments in the US and they conclude that the redevelopment of military sites is specific, particularly by the presence of federal funding, contamination of redevelopment parcels, and economic output in the surrounding counties. Based on the experiences from the US, Bailey *et al.* (2006) summarized the key tasks of public administration and local leaders for successful post-military redevelopment projects: (i) local leaders should begin planning for redevelopment early, and plan with respect to long-term benefits instead of short-term gains, (ii) they should listen to the community's desires, needs,

and ideas and keep the public involved throughout the redevelopment process, (iii) they should consider how best to balance the area’s need for jobs, homes, and public amenities, (iv) they should use the base’s location, infrastructure, historic buildings, and environmentally sensitive lands to the best advantage.

Also in Europe, the revitalization of military sites has become more common during the last decade since vacant developable land is less available, more expensive and more protected in densely populated areas and as a result of emerging policies, economic instruments, and management tools supporting the regeneration processes (Zagroba, 2015; Hercik, Šerý and Toušek, 2011; Pizzol *et al.*, 2016; Skokanová *et al.*, 2017, Klusáček *et al.*, 2019). Recently an ambitious project has been supported by the European Union within the URBACT programme (the European Territorial Cooperation programme aiming to foster sustainable integrated urban development in cities across Europe), which is called ‘Military Assets as Public Spaces (MAPS<sup>1</sup>)’. The aim of this project, which involves partners from nine European countries, is to redefine the function, social role and accessibility of former military heritage. Following the approach of social architecture, dismissed military areas can be deemed the new symbols of a more conscious and participatory urban planning, oriented to the promotion of cohesion and inclusiveness.

In this paper, we explore and analyze local community perceptions of MTA in the Czech Republic, assess positive and negative impacts of MTA on the local quality of life, and discuss possible future development scenarios of these areas with implications for public administration and local governments.

### 3. Data and methods

#### 3.1. Areas under study

Four MTA are currently located in the Czech Republic – Boletice, Březina, Hradiště, Libavá and an already disestablished one, Brdy. The location of the MTA is presented on Figure 1 and the basic characteristics are in Table 1.

**Table 1:** Basic characteristics of MTAs and the bordering municipalities

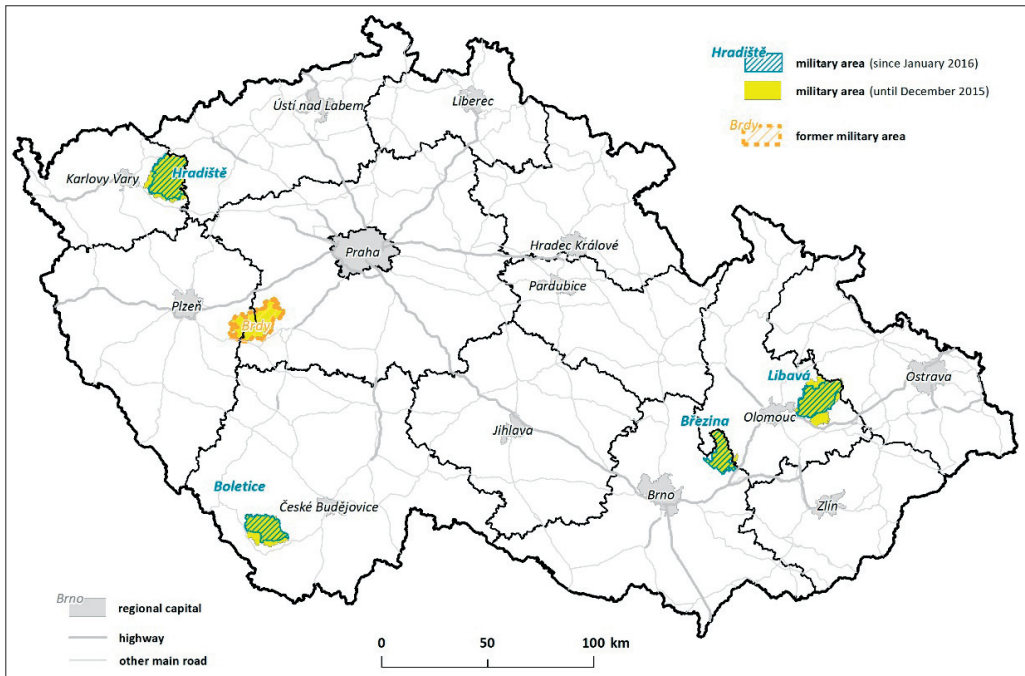
| MTA      | Area of MTA (km <sup>2</sup> ) | Number of bordering municipalities | Number of inhabitants on the border (thousands) | Distance from county seat (km) | Distance from highway (km) |
|----------|--------------------------------|------------------------------------|---|--------------------------------|----------------------------|
| Boletice | 165.5                          | 13                                 | 12.3  | 30                             | -                          |
| Březina  | 149.6                          | 26                                 | 35.8  | 40                             | D46 (3 km)                 |
| Hradiště | 280.8                          | 20                                 | 42.5  | 15                             | D6, D7 (10 km)             |
| Libavá   | 235.7                          | 23                                 | 50.5  | 15                             | D35, D1 (1 km)             |
| Brdy     | 5.6                            | 35                                 | 57.0  | 50                             | D4, D5 (10 km)             |

**Source:** Czech Statistical Office (2017)

1 <https://urbact.eu/maps>

Until December 31, 2015, the residents who permanently lived within the territory of military areas were not able to organize their own local government. A territorial reduction (hereinafter TR) was implemented on January 1, 2016, when all permanently populated sites within military areas were removed from them and were assigned to existing municipalities or new municipalities were established. The reason for this territorial reduction was the effort to save the funds spent by the Ministry of Defense on the operation of buildings and facilities. Within this territorial reduction the area of the MTA Boletice was reduced by about 13%, the area of MTA Březina was reduced by about 5%, the area of MTA Hradiště was reduced by about 15%, and the area of MTA Libavá was reduced by about 31%.

Currently MTA Boletice has an area of 165.5 km<sup>2</sup> and is located in the South Bohemian Region. An area of about 85 km<sup>2</sup> is a part of the NATURA 2000 network and part of the protected landscape area Šumava. Both the area and the unique fauna living there are protected. After the TR, when one municipality was excluded from the MTA, 13 municipalities (12.3 thousand people) bordered directly on the area. MTA Hradiště, located in the west part of the country, has an area of 280.8 km<sup>2</sup>, which makes it the largest one in the country. Due to its size, it is also considered one of the largest in Central Europe and is widely used not only by the Army, but also the Police and the Emergency Service of the Czech Republic. After the TR, when two new municipalities were excluded, 20 municipalities (with 42.5 thousand inhabitants) border on the area directly. MTA Březina has an area of 149.6 km<sup>2</sup> and is located in the South Moravian and Olomouc Regions. Although this area has the most intensive training, it is partially made available to the public, owing to several historic landmarks and bicycle paths located within it. The presence of a large number of man-made reservoirs is an important aspect of this area. They affect the local microclimate, increase the retention ability of the territory, act as a passive fire protection measure and serve for military and fire-fighting training. After the TR, with no new villages being created, 26 municipalities (with 35.8 thousand inhabitants) border on the area directly. MTA Libavá is located in the Olomouc and Moravian-Silesian Regions. It has an area of 235.7 km<sup>2</sup>. Entry to the area is highly restricted by the Ministry of Defense due to the intensity of training. After the TR, when three new villages were excluded, 23 municipalities (with 50.5 thousand inhabitants) border on the area directly. The last area that is subject to research is the former MTA Brdy. Prior to its disestablishment in 2015, it had an area of 260 km<sup>2</sup>, more than 95% of which has been assigned to 27 already existing municipalities nearby. Therefore, only 6 km<sup>2</sup> of military space remained. The area was disestablished mostly for economic reasons and also because only a minimum of it was being actively used for military purposes, which rendered its maintenance cost-ineffective. Although the area has been formally disestablished, entry is still restricted and its bicycle paths are not marked at all. This can be interpreted as proof that the relevant institutions were unprepared for the situation. There are 57 thousand inhabitants living in the municipalities bordering the former MTA.



**Figure 1:** Map of the Czech Republic with the locations of military training areas

**Source:** Authors' elaboration

### 3.2. Survey design and its methodological limitations

During the summer and autumn of 2016, we carried out a standardised questionnaire survey of inhabitants of municipalities located in the hinterland of MTA. Questionnaires were distributed through pupils and students of elementary and high schools to their parents and grandparents, which is a suitable alternative to polling in the streets in larger studies (Punch, 2005). After discarding unfilled or incorrectly completed ones, 1,362 questionnaires from respondents living in municipalities bordering MTA aged 18 and more were assessed (Boletice – 160, Březina – 173, Hradiště – 433, Libavá – 134, Brdy – 462). Basic characteristics of the sample are in Table 2.

The questionnaire consisted of two parts: (i) a generally oriented part, focused on exploring and assessing the common problems of municipalities and (ii) a specifically oriented part, where respondents assessed the positive and negative impacts of MTA on their quality of life. It was composed of closed ended questions, in which respondents rated specific issues on a scale of 1-5, and open ended questions, in which they expressed their personal attitudes to the matter at hand.

Age and educational structure of respondents reflects the selected sample (parents, or grandparents of pupils and students of cooperating schools). That is why two-fifths of respondents are in the age segment '20-39' and half in the age segment '40-49'. The gender disparity (nearly two-thirds of respondents are females) can be explained by females being more involved in questionnaire surveys because of their greater empathy

**Table 2:** Basic characteristics of the survey sample

| Number of respondents      | In total: 1,362 (100%)  |                               |                                      |                        |                      |                           |
|----------------------------|-------------------------|-------------------------------|--------------------------------------|------------------------|----------------------|---------------------------|
|                            | Male (34%)              |                               |                                      | Female (66%)           |                      |                           |
| Gender                     |                         |                               |                                      |                        |                      |                           |
| Age                        | 15-19<br>(6.2%)         | 20-39<br>(40.0%)              | 40-59<br>(50.1%)                     | 60 and over<br>(3.8%)  |                      |                           |
| Education                  | Basic school<br>(11.7%) | Secondary school without GCE* | Secondary school with GCE<br>(38.1%) | University<br>(17.6%)  |                      |                           |
| Economic activity          | Employed<br>(67.9%)     | Self-employed<br>(11.1%)      | Student<br>(8.2%)                    | Unemployed<br>(4.1%)   | Retired<br>(3.7%)    | Maternity leave<br>(5.0%) |
| Life spent in municipality | 0-9 years<br>(16.1%)    | 10-19 years<br>(28.8%)        | 20-29 years<br>(11.5%)               | 30-39 years<br>(20.5%) | 40+ years<br>(23.1%) |                           |

**Note:** \*General Certificate of Education

**Source:** Authors' survey

and greater need for emotional closeness (Smith, 2008). Another possible explanation is that since the questionnaires were distributed to schools, the students, asked to 'give them to their parents' handed the questionnaires to their mothers, who are more involved in school activities, parent-teacher meetings etc.

A high proportion of working-age respondents and a low proportion of elderly respondents might also partly be a result of the distribution method. In addition, a considerable number of municipalities are located in the inner or border peripheries, which are both characterized by a high ratio of people over 15 years without school leaving exam, and the lowest number of people employed in the tertiary economy sector (according to Musil and Müller, 2008). This is also indirectly reflected on the degree of education that local inhabitants need in order to find employment. The educational structure of the local population was also reflected in the respondents' economic activity. More than two thirds said they were employees, while only about 10% were self-employed, about 4% were unemployed and nearly 4% were retired people. Therefore, the research, affected to a greater extent by the respondents of a certain age and social group (with children in elementary and secondary schools), is likely to be distorted because of unrepresentativeness of the sample and the results cannot be attributed to the entire target without particular caution. On the other hand, this sample of the population would be for the most part representing residents who have a closer relationship with their municipalities and an interest in local development and prosperity.

Length of life spent in the municipality might have a significant impact on the response structure – but none of the categories deviated significantly in our research. Although the MTAs close to country borders are located in the former Sudetenland (Boletice, Hradiště, Libavá) and were repopulated after the expulsion of its original German population after World War II, this fact is losing its importance nowadays (Chromý *et al.*, 2011). Local residents without historical ties to the area have already



built a relationship to it or have moved elsewhere. Yet, because of the aforementioned deviations from national trends, it would be appropriate to consider these facts and also the social, economic, and demographic structures of the local population when creating possible future development scenarios for the MTAs.

## 4. Results

### 4.1. *Quality of life and public administration problems*

First, as an introduction to the matter at hand, the research will focus on general aspects of life in municipalities across the MTAs. Simply said, the main problems of municipality life on the borders of military training areas (see Table 3) are not fundamentally different from long-term problems of Czech villages in general, especially of those located in inland or border peripheral area (e.g., Frantál and Vaishar, 2008; Chromý and Janů, 2003). Low unemployment support, lack of new employment creation, possibility of obtaining their own housing, maintenance and development of road infrastructure, leisure activity possibilities and dangers of criminal activity are perceived as the most acute. A specific issue that needs to be addressed in these municipalities is ensuring a harmony of municipal development and MTA activities. In this respect, a considerable part of the population (especially those living close to MTAs) perceives a rather negative impact of the MTAs – a restriction of their free movement and leisure activities.

**Table 3:** Classification of problems according to perceived importance

| Aspect of life   | Average score | Variance |
|--|---------------|----------|
| Support of employment  | 3.32          | 1.17     |
| Possibility of obtaining housing                             | 2.90          | 1.88     |
| Ensuring harmony of municipal development and MTA activity   | 2.82          | 0.95     |
| Maintenance and development of municipal road infrastructure | 2.82          | 1.16     |
| Ensuring personal safety and crime prevention                | 2.78          | 1.09     |
| Development or recreational and leisure infrastructure       | 2.72          | 1.40     |
| Ensuring protection of citizens from natural extremes        | 2.60          | 0.91     |
| Provision of services for the elderly                        | 2.58          | 1.29     |
| Inter-municipal cooperation development                      | 2.53          | 0.80     |
| Transport infrastructure and accessibility                   | 2.50          | 1.09     |
| Cultural and social life development                         | 2.47          | 1.16     |
| Water and sewage network maintenance and development         | 2.41          | 1.19     |
| Variety of services and retail                               | 2.39          | 1.35     |
| Handling affairs with the authorities                        | 2.33          | 1.07     |
| Awareness of citizens about municipality events              | 2.18          | 1.10     |
| Provision of services for families with children             | 2.17          | 1.04     |
| Recycling and pick-up of municipal waste                     | 1.99          | 0.98     |

**Note:** The current state of the issues or topics was assessed on a 5-point scale (1 = definitely good, 2 = mostly good, 3 = neither good, nor bad, 4 = mostly bad, 5 = definitely bad).

**Source:** Authors' survey

For the purposes of statistical analysis of perceptions in different categories of municipalities and population groups, a summation index was calculated. This index (the sum of the assessments of 17 specific aspects) can hypothetically reach a maximum of 85 points. The average in our sample is 44 points, whereas the median (middle value) is 43 points.

The differences in the problem perception of individual areas are relatively small, yet statistically significant. The clearly highest rate of problem perception (index = 45.7) is in the municipalities bordering MTA Hradiště, then MTA Boletice (43.9) and MTA Brdy (43.1). The problem perception index in municipalities around MTA Březina (42.3) and Libavá (41.6) is statistically significantly lower ( $\eta^2 = 0.135$ ;  $F = 4.688$ ;  $p < 0.01$ ). It can be stated that the results reflect regional socio-economic differences within the Czech Republic, or the long-term problems of structurally disabled regions and economically disadvantaged peripheral (border) areas (Chromý and Jančák, 2005; Burda, 2016).

A correlation analysis revealed further significant differences in the degree of problem perception depending of municipality size, its location and the job market (see Table 4). Problems are being more perceived in smaller municipalities with higher unemployment, which are located closer to military training areas. However, the detected correlations are very low. Our sample of municipalities also shows that the rate of unemployment is generally related to municipality size (higher unemployment in larger villages) and correlates weakly with its distance from the county seat and the border of the military training area (the closer to MTA, the lower the unemployment rate). In this sense, the MTA may have a positive influence in terms of job opportunities for the close communities.

**Table 4:** Matrix of inter-correlations between problem perception and characteristics of municipalities

|                           | Problem index | Population | Unemployment | Distance from MTA | Distance from county seat |
|---------------------------|---------------|------------|--------------|-------------------|---------------------------|
| Problem perception index  | 1.000         |            |              |                   |                           |
| Population                | -0.083**      | 1.000      |              |                   |                           |
| Unemployment              | 0.101*        | 0.516**    | 1.000        |                   |                           |
| Distance from MTA         | -0.064*       | 0.261**    | 0.099**      | 1.000             |                           |
| Distance from county seat | -0.029        | 0.347      | 0.135**      | 0.093**           | 1.000                     |

**Note:** Correlations are statistically significant on the level \*\*  $p < 0.01$ , \*  $p < 0.05$ .

**Source:** Authors' survey

The problem perception index also grows statistically significantly with age and the degree of education. The problems are more perceived by entrepreneurs and self-employed people (index = 45.3) and also the unemployed (45.0), less by employees (43.8), the retired (43.4), women on maternity leave (43.2), and the least by students (39.9).

#### 4.2. Positive and negative impacts of MTA on local communities

Regarding the perception of specific positive and negative impacts of military training areas on the life of the population, it can be said that the negatives prevail (they are highlighted by italics in Table 5). Although almost half the respondents agree that the MTA have contributed to the conservation of nature (especially in Brdy and Boletice), almost half the respondents perceive the restrictions on their free movement and leisure activities negatively. Almost a third of the respondents are disturbed by the noise of military equipment, shooting ranges, etc.

The greatest consensus among respondents across MTAs and municipalities is that the MTA had almost no effect regarding better housing availability, variety of retail and services and availability of fuel and material. Only every tenth person perceives a positive impact of the areas in this regard. The greatest variance in the responses appears in the case of perceiving noise, feeling stress and also the restrictions on movement and leisure activities. Perception of these negative aspects significantly correlates with the distance of the municipality from the MTA border.

**Table 5:** Perception of positive and negative impacts of MTA

| Impact of MTA on municipality life   | Rate (%) of agreement | Mean | Variance |
|--|-----------------------|------|----------|
| Spatial restrictions contributed to preserving nature                            | 48                    | 3.62 | 1.46     |
| <i>Limits of free mobility and leisure activities of the inhabitants</i>         | 43                    | 3.25 | 1.71     |
| <i>Disturbs the inhabitants with noise (shooting ranges, military equipment)</i> | 32                    | 2.88 | 1.57     |
| Has created job opportunities for the local population                           | 21                    | 2.79 | 1.26     |
| <i>Moving military equipment pollutes air and damages roads</i>                  | 20                    | 2.62 | 1.35     |
| <i>Environment pollution (chemicals, fuel)</i>                                   | 19                    | 2.76 | 1.26     |
| <i>Concerns about municipality development (uncertain future use of MTA)</i>     | 17                    | 2.76 | 1.18     |
| <i>Deterioration of transport and accessibility of municipality</i>              | 16                    | 2.41 | 1.33     |
| Helped improve the supply of material (fuel, construction material)              | 15                    | 2.70 | 1.06     |
| <i>Causes the inhabitants tension and stress (fear of accidents, explosions)</i> | 14                    | 2.49 | 2.01     |
| <i>Restricts and complicates municipality development</i>                        | 12                    | 2.38 | 1.23     |
| Contributed to better housing availability                                       | 11                    | 2.45 | 1.10     |
| Contributed to the variety of services and retail                                | 10                    | 2.39 | 1.12     |

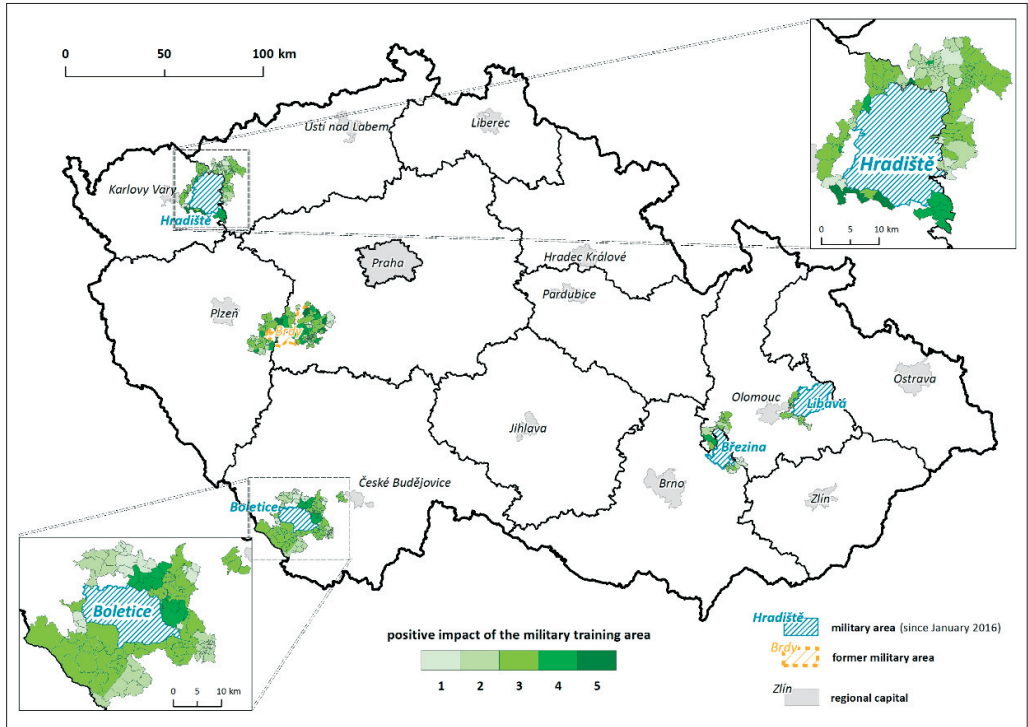
**Note:** Negative impacts are in italics.

**Source:** Authors' survey

The positive aspects are more often perceived in the cases of MTA Brdy and MTA Boletice (particularly regarding the positive impact on conserving the untouched nature and creating job opportunities). The negative aspects are more often perceived around MTA Březina and MTA Libavá (especially in terms of movement and activity restrictions, restrictions on municipality development and negative effects on the environment).

Young and less educated people living in larger municipalities with higher unemployment rates, which are located at a greater distance from the county seat, perceive

the positive impacts of MTA more often. However, the distance from the MTA border does not influence significantly the perception of the positive aspects. It is quite clearly visible also in the map with municipalities being categorized according to the perception of positive impacts of MTA (see Figure 2).



**Figure 2:** Categorization of municipalities according to the perception of positive impacts of MTA

**Source:** Authors' elaboration based on own survey

## 5. Discussion, conclusions and policy implications

Municipalities bordering military training areas and their inhabitants face problems that are quite similar as the problems of other Czech villages and peripheral areas. An extensive survey of the inhabitants of the bordering municipalities showed that they are most burdened by low support of employment and creation of job opportunities, possibilities of obtaining their own housing, maintenance and development of road infrastructure, the danger of crime and the possibilities of leisure activities. A specific issue that needs to be addressed in these municipalities is ensuring a harmony of municipal development and MTA activities.

The differences in the problem perception in individual areas are relatively small, yet statistically significant. The highest problem perception rate is in the municipalities nearby MTA Hradiště, MTA Boletice and MTA Brdy. The problem perception index in municipalities around MTA Březina and MTA Libavá is statistically signifi-

cantly lower. The results reflect regional socio-economic differences within the Czech Republic, or the long-term problems of structurally disabled regions and economically disadvantaged peripheral borderland areas (see e.g., Bański *et al.*, 2018; Malý, 2016; Malý and Mulíček, 2016; Kebza, 2018; Vaishar *et al.*, 2013).

A correlation analysis revealed further significant differences in the degree of problem perception depending on municipality size, its location and the job market (see Table 4). In general, problems are perceived more likely in smaller municipalities with higher unemployment rates, which are located closer to military training areas. However, the detected correlations are very low. The results also indicate that the rate of unemployment is generally related to municipality size (higher unemployment in larger municipalities) and correlates positively with the distance from the county seat and the distance from the military training area (the closer to the MTA, the lower the unemployment rate). In this sense, the MTA may still have a positive influence in terms of job opportunities for the close communities.

Regarding the perception of the specific positive and negative impacts on life in the municipalities, we can say that the negatives prevail, although many of the responses have negative as well as positive meaning for the population (typically: restrictions of free movement vs. preservation of nature, tourism vs. the fear of a surge of tourists). More than two fifths of the negative answers concern the restrictions of the free movement and leisure activities of the inhabitants, a third is concerned by the noise from military exercises, shooting ranges and movement of military equipment, and roughly a fifth concern environment pollution and general municipality development, including the deterioration of transportation options and municipality accessibility. The inhabitants near MTA Hradiště and MTA Libavá strongly feel the deforestation and loss of green spaces, while the fear of increased criminality and conflicts with the Roma ethnic people are typical near MTA Hradiště and Brdy. Concerns about a surge of tourists after opening the area for civilian purposes are specific to the former MTA Brdy.

On the other hand, conservation of nature due to a number of restrictions is positively perceived (almost half of positive responses) as well as the creation of job opportunities (a fifth of responses). After opening parts of MTA Boletice, MTA Hradiště and MTA Libavá, greater possibilities of tourism, entry into the area (e.g., to collect forest berries) and shortening of driving distances (not only) between the bordering municipalities are expected. The good condition of the sewage network and treatment plants, awareness of the citizens about events in the municipality or the development of inter-municipality cooperation can be classified among the positive aspects. Greater activity in business and services is associated with the expected development of tourism in the former MTA Brdy. The administrative division of the territory of MTA Brdy is already done, with the area being divided among 27 municipalities located in its immediate hinterland. However, we would advise that the former barracks be offered to a private investor through a public procurement to be renovated and offered to other buyers, as was the case with military training areas in Germany (Cooper, Götz and Paskaleva-Shapira, 2013) or Poland (KorczaK, 2014).

Using the results of the survey and the available information and data about the land use changes and socioeconomic indicators (Jaňurová, 2017; Skokanová *et al.*, 2017), it would be possible to propose and discuss potential future socio-economic activities or future development ‘scenarios’ of the areas. These are summarized in Table 6. In the context of the proposed development scenarios, the authors are aware of the subjectivity of attitudes and opinions of respondents and their questionability, which constitute the most significant limits of the presented research results. It is necessary to realize that such a significant transformation of large areas will bring various pitfalls in terms of creating a suitable financial framework, the administrative division of the territory and ensuring that the selected strategies are correct and meet their objectives.

**Table 6:** Summary of possible future scenarios and policy implications for MTAs

| MTA      | Proposed development scenario  | Reasons and assumptions   |
|----------|--|---|
| Boletice | Significant territorial reduction and demilitarization   | Shared area with PLA Šumava and NATURA 2000, proximity of National Park Šumava, strong ties to tourism and secondary housing, lesser long-term usability.   |
| Březina  | Keep the military area in its current form.  | Ties to a nearby military institution – the University of Defence (Brno, Vyškov), smaller area, economic profitability of usability, less significant negative impact on bordering municipalities.                |
| Hradiště | Partial territorial reduction and demilitarization, preservation of a large part of the MTA      | Area with considerable structural issues (industry), high unemployment rates, strong Roma community, external periphery – territorial reduction and demilitarization will not have the desirable economic effect. |
| Libavá   | Considerable territorial reduction and demilitarization, preservation of a small part of the MTA | A third of the area already demilitarized, strong negative attitude of local population to the intensity of military exercises, high unemployment rates.  |
| Brdy     | Disestablished on 1. 1. 2016   | A very small part of the MTA used for military exercises, attractive location for investors and developers near Prague, development of housing, secondary houses, business, tourism.                              |

**Source:** Authors’ elaboration

Bailey *et al.* (2006) suggested that one of the key tasks of public administration and local leaders for successful transformation and redevelopment of military areas is to listen to the local communities’ desires, needs, and ideas and keep the public involved throughout the redevelopment process. In many cases, even good conditions for the effectiveness and prosperity of a locality (and for redevelopment projects) may not be utilized if there are subjective problems and barriers, such as a weak local political involvement, a deficit of information, poor communication and cooperation, i.e., if the key actors are not able or do not want to exploit the potential of the locality. On the contrary, ‘soft factors’ such as political leadership, ‘good governance’ approach (Klusáček *et al.*, 2018) and cooperation of stakeholders can turn even insufficient conditions and low potential into positive results. There are many examples of so-called best or smart practices reporting how human factors as initiators of regeneration of underused sites (e.g., making a good project proposal, gaining a local community sup-

port, acquiring of grant titles, etc.) have overcome locational handicaps or have modified the characteristics of suitability of an area or a concrete brownfield site according to specific project purposes (Frantál *et al.*, 2018, Navrátil *et al.*, 2018).

In this respect, it is very important to study the specific local political, cultural and social structures and contexts of urban and rural regeneration processes, the roles of specific actors, etc. That is a broad area for future interdisciplinary research. At the same time, it is very important to analyze and promote good practices as examples of the successful regeneration projects in various geographical and land-use contexts. We can assume that other significant territorial reductions and demilitarization will not occur in the next few years, but will be rather long-term concepts. In the future, it will be necessary to communicate with the representatives of both local authorities and military institutions (Ministry of Defence, Military Forest and Land authority – state-owned forestry company), and the Government of the Czech Republic. The membership of the country in NATO and the related obligations will also need to be considered, political decisions and legislative measures on a national level will therefore be one of the most essential.

Through this paper, we have tried to present aspects of life in the municipalities bordering MTA and contribute to the limited academic discussion on the topic, which was our goal. Virtually all European countries face and will face similar issues. Despite the aforementioned pitfalls, to a certain extent, it will be possible to synthesize and generalize individual results to the level of other Central European countries. We believe that the opinion platform of the local population which we have presented does have and will have a considerable influence on further anticipated territorial reductions and demilitarization of military areas.

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