

Geographical Location of Depopulation Areas in the Czech Republic and its Dependence on Transport Infrastructure

Part II: Case Studies

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ABSTRACT: Location of settlement in important routes of transport was always one of the key factors of its prosperity. However, in the car-oriented world of today the distance factor is not so important for many people and they prefer to live in calm rural areas. Simultaneously, many rural areas in peripheral locations are affected by the emigration of inhabitants and global decay. This study explains how good transport infrastructure should be beneficial for rural areas and how it is in reality in the Czech Republic. The study is part of a larger body of research, based on the component analysis of the localization of depopulation areas in the Czech Republic over the years 1869 – 2010. The role of transport is documented, not only by the localization of transport infrastructure, but also by the duration and orientation of the commute to work. Theories and premises are supported by quantitative analysis in all municipalities in the Czech Republic and also by three in-depth case studies, oriented more on qualitative indicators.

KEY WORDS: transport geography, regional development, depopulation areas, transport infrastructure, mobility.

Completion from last issue.

1 RESULTS OF CASE STUDIES

To improve understanding of transport impact on the process of area depopulation and to find factors which are unidentifiable by quantitative analysis, case studies were executed for three model areas, which, to a maximum extent, focus on factors that influenced in the past the current central structure and that were the causes of depopulation in these areas.

The questionnaire surveys show that the most important factors that make life difficult for inhabitants of depopulated areas are poor road conditions, an insufficient number of public transport services, financially demanding transport, and poor road maintenance in the winter season. These factors were marked in the questionnaires as problematic by more than 30 % of respondents, and even in open questions, most objections targeted these factors. Their importance grows with the smaller the size of a municipality or its part where the respondent lives. Small municipalities and their parts are often only connected by poor quality local roads, which are considerably worse maintained than main roads and which are often very old. Unless the villages are located on major routes, public transport

services usually connect small villages less frequently, and the public transport stops are often located only on junctions of main roads and the local roads connecting the villages.

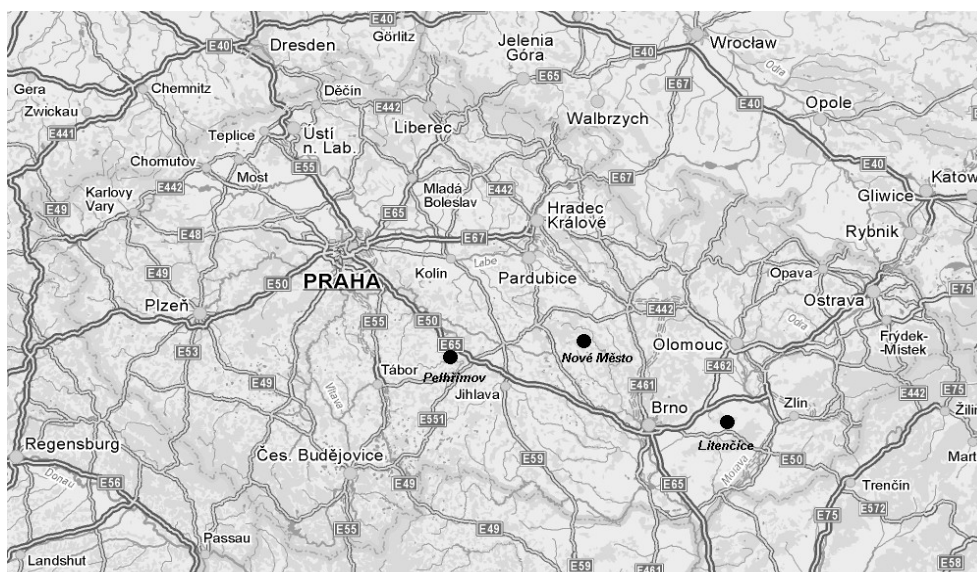


Figure 1: Localization of three model areas where case studies were executed. (www.mapy.cz)

Particularly the problematic funding of public transport in depopulating areas make the inhabitants depend on their passenger cars, since the public transport is unable to meet all their needs. However, the use of passenger cars is a relatively expensive matter for individuals, especially when taking into account the significantly lower average salaries in rural areas than in towns. Consequently, in some cases, improvised forms of car sharing appear in rural areas, and according to the respondents it is possible to decrease costs to an amount even lower than that for public transport.

The aggravating poor road conditions, caused by their age and insufficient maintenance, together with the non-existence of roads to some local parts (particularly groups of solitary houses), is subsequently reflected in the development of the population number in such remote localities. In some extreme cases, small villages were completely abandoned by permanent residents and the existing housing is only used for recreation purposes. However, this process is not irreversible. In some localities where new roads were built and where the aesthetic value of the surrounding countryside is high, the houses became used again for permanent residency. In less attractive areas, particularly agricultural or industrial production areas, this positive trend is scarcely expected, since the abandoned buildings are unused even for recreational purposes and gradually dilapidate.

Interesting results were found within a historical-geographical analysis concerning the issue of transport infrastructure importance for town and village development, when unambiguously the higher quality transport infrastructure has a significantly positive impact on the development opportunities in a region. In model areas some cases were documented where the construction of an important road enhanced the significance of a municipality located on such road, in comparison with other municipalities located away from that road. The most well-known example in the Czech Republic is the decline in importance of the former regional centre town of Chrudim. It resisted the connection to a railway at the expense of the current regional centre town of Pardubice, which is now located on the busiest railway in the Czech Republic. For this reason Pardubice significantly outgrew its competitor. However, the importance of the location on a main road decreases with the size of a municipality. Small villages have only little benefit from such a road, unless

they can offer services. The importance of main roads does not decrease in mountainous regions, where the passability of local roads is worse.

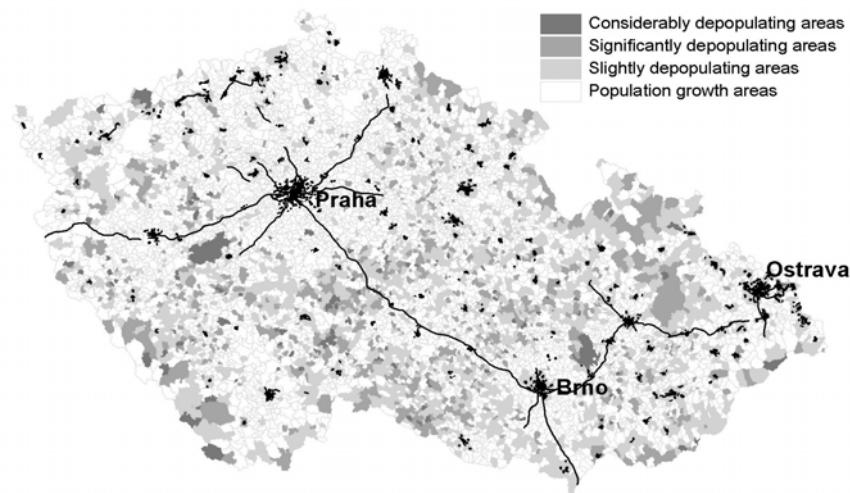


Figure 2: Depopulation areas in the Czech Republic between 2001 and 2010 and their relation to spatial distribution of main roads.

The research of spatial mobility of population shows that localities most affected by depopulation are such localities where respondents spend a minimum of their free time outside their home. If a given municipality is unable to offer facilities for spending free time and if such a municipality is unattractive for residing for a certain reason, there is a gradual migration from such a place to more convenient localities. This unattractiveness of some regions is reflected in spatio-temporal travel behaviour of the population, which in turn leads to a centralization of some larger municipalities where inhabitants of small villages spend more time.

Another important finding is the sensitivity of rural area inhabitants to road fee collection, which was discovered in the model area of Pelhřimov region. Despite the fact that this area is directly adjacent to the artery of the whole Czech Republic, motorway D1, the inhabitants use it rarely for commuting, unless they travel longer distances. A large number of inhabitants of this model area commute to the town of Humpolec, which is located directly on the motorway. Most respondents choose a route along local roads, since, according to their answers, they are unwilling to be charged for using the motorway while there is an option just several minutes longer. Therefore, the inhabitants do not use the potential of the motorway, since it is too expensive for them.

2 DISCUSSION

If the obtained results are compared with other studies dealing with rural area marginalization problems, we find they come to similar conclusions, though through different methods. The definition of problem areas, for example, corresponds very much with the study of Musil and Müller (2006), who analyzed a range of indicators from the economic and social sphere. Nevertheless, the definition on the basis of totally different indicators is, to a large extent, in accordance with the definition of problem areas on the basis of inhabitants' mobility demographic indicator. Many similarities can be analogically found with studies of Havlíček and Chromý (2001), Řehák (2004), Čermák (2005) and others. The time dimension of this hard-to-solve problem can be understood when the current results are compared with older studies, e.g., Musil (1988) or Řehák (1979). The geographical allocation of marginalized areas has not been changed for many decades, which raises the question

whether it is caused only by misdealing with the problem, or whether these areas cannot be successfully developed simply due to the current state of society, life style, and technology solutions.

The results of quantitative analysis can be compared with fewer studies than in the previous case, where the most relevant is the study by Marada (2001). He focuses in his study especially on physio-geographic and administrative factors, where from the analyses arise the fact that the agricultural areas, more extensively exploited, are often marginalized areas. By comparison with state administrative boundaries of various levels, Marada comes to the conclusion that most boundaries have no effect on the allocation of marginalized areas, but it is rather the factor of main centre distance that matters. This finding is in accordance with the results of Commuting Out of the District Boundaries Indicator. The fact that the distance of commuting does not have a big effect on depopulation denies meaningfulness to some studies working with this factor (e.g., Řehák, 1979).

The case studies carried out represent rather isolated research in the Czech Republic focused on problematic rural areas, where such specialized sociological research has been carried out here only once, within the study of border areas (Jeřábek, Dokoupil, Havlíček, et al., 2004). The specific focus of the survey on transportation and spatial mobility of inhabitants is unique within Czech specialized literature. No survey of travel behaviour of inhabitants in rural areas had ever been executed here before this study, and so it is very difficult to compare. Some of the rural area problems are more often reflected by media than by specialized literature (e.g., the issue of rural road maintenance), where the professional public rely on hard data rather than on opinion polls. It is apparent that even the data on the number of kilometers of repaired roads can be misleading, as the roads in the worst condition are not repaired at all. On the contrary, the opinions on public transport frequency are always to be taken with a pinch of salt, as demand for it will always be higher than offer. However, the finding of how significantly the financial factor affects the transport behaviour of inhabitants (not using motorways due to cost saving, as the yearly motorway toll costs about 50 EUR) is certainly appropriate to take into account.

3 RECOMMENDATIONS

As mentioned above, the issue of depopulation of some areas is largely caused by their distance from strong centres. The distribution of these centres in time is relatively stable and therefore the distribution of problematic areas is also a long-term matter. The options to reverse the negative trend and development of these areas are rather limited, since the reduction of the spatial distance factor may only be reached with difficulties. The only way to face this factor is virtually just the technological progress together with the development of transport infrastructure in such localities, which allows for lower commuting times to work. However, this strategy faces the fact that populations in rural areas are often less educated and professionally more focused on work in agriculture and industry. Therefore, populations in rural areas are unable to compete with better qualified inhabitants of more advanced regions, thus the necessary transport costs will still be a burden and will keep them demotivated when taking into account the low salaries in not very prosperous industries.

The solution may lie in supporting local centres. In future, local centres may play a more important role in redeveloping depopulated regions, since they may have jobs corresponding with the education and qualifications of inhabitants of these remote areas. In order to ensure the prosperity of these centres and a sufficient number of jobs for their inhabitants, it is essential to provide good quality infrastructure to connect higher level centres. Not only is transport infrastructure to be considered, but also technological infrastructure,

while currently it is the high-speed internet which has the highest priority. It is probable that despite strengthening local centres, some smaller villages will still face complete depopulation. However, it is a process which has always been present.

Regarding technology, it is necessary to focus on inexpensive and energetically economical technologies, since the financial factor significantly affects decisions of inhabitants in problematic areas. What may help is more extensive service of some transport modes such as car sharing and car pooling, while it would be necessary to adapt these ideas to specific target groups. Similarly, new approaches and the optimization of public transport organization may improve the mobility of the population of these areas, or reduce the financial factors of commuting to work. Last but not least, it is essential to provide good maintenance of the existing roads, since building new roads is unnecessary if the existing ones are of good quality.

4 CONCLUSION

Fighting the decline of remote rural regions is one of the priorities of the European regional policy. Due to the complex nature of causes of this issue, finding a solution is a difficult task which requires measures in different areas. This article aimed to explain which measures may be applied in the field of transport, in order to limit the negative factors as much as possible, or even reverse them. It has been proven that just the presence of transport infrastructure is insufficient to stimulate regional development; it is crucial to take into account the qualitative conditions of the infrastructure, as well as the parameters which are perceived by its users.

Inhabitants of depopulated areas are characterized by lower education and qualifications and worse paid jobs, which needs to be taken into account when designing measures in order to support their mobility. These measures should be very sensitive to the economical demands of transport. Although building new high-quality roads will not always bring about the intended effects on regional development, it should be said that in general it is beneficial with regard to development. Considering the financial demands when building new infrastructure, local centres need to be found, based on their commuting conditions, and connected to quality infrastructure that would allow for delivering products which are produced there to consumers. The local centres may then become development poles and prevent the depopulation and decline of the existing marginalized regions.

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