

ACCESSIBILITY AS A FACTOR OF SMALL SETTLEMENTS' DEVELOPMENT

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ABSTRACT

The paper aims at presenting and discussing the role of road accessibility in the life of small settlements in Hungary, while pointing out other important factors. Present study uses secondary data and literature review to draw conclusions related to how transport infrastructure influences regional development, especially in regard to small settlements. Accessibility, while being generally an important factor of development, in the case of Hungarian small settlements, is not the most significant element. Development programmes need to find specific characteristics and potentials to ensure the survival of small villages. Although many studies deal with similar topics as the present study, the topic itself is a very complex one. This paper aims at drawing more attention to this topic and to add some insights related to the Hungarian situation;

KEY WORDS:

transport infrastructure, small villages, rural areas, regional development

JEL classification: R11

Introduction

It is one of the purposes of regional development to improve the wellbeing of people. When doing so, decision-makers and researchers must observe many different factors that influence regional processes. One of the most important factors of regional development is transport infrastructure. No matter how well-endowed a region with resources, if it cannot be accessed externally via roads, waterways or railways, it is doomed to fail. The more developed a country is, the higher its infrastructural level is. It can be observed all around the world that successful countries try to invest in their infrastructure to achieve economic development, and those who cannot afford investments try to find external investors to develop their infrastructure.

On the other hand, poor access is one of the major determinants of the success of a village. Countries, regions and settlements with insufficient transport infrastructural endowment and accessibility must face serious difficulties. For instance, people of those areas will not have the means to access to as many services and jobs, as the ones living in developed urban areas; thus, they will have less chance to successfully find workplaces or to live a high quality life.

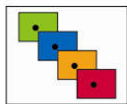
Understanding the role of transport infrastructure in the life of rural villages, therefore, is a very relevant and important task, especially because many Hungarian and international scholars have tried to establish the importance of roads related to regional development, but so far there is no universal method to do so. However, we cannot say that there were not any successful attempts.

Tiner (2011) investigated the role of motorway networks in the location choices of industrial parks in Hungary. He found that, due to technological advancement, the role of proximity has been decreasing compared to some other factors in economic activities, such as industrial production, it is still of key importance. Péli and Neszvényi (2015) also found that there is a strong correlation between development levels and road infrastructure. The investigated the economic centers and the motorways in Hungary, and found that they are strongly correlating.

Both the abovementioned studies found that the higher the development level of the transport infrastructure is, the better the affected regions will perform. On the other hand, Enyedi (2011) wrote that distance had key role in the classical location and regional economic theories, but nowadays its role changes, usually decreases. In his opinion it is true in the production processes too, due to the changing economic structure and the technological advancement. He emphasised that in the information society time and distance loses relevance, not only, for example, stock exchange information, but information streaming between companies, in-between companies or between companies and the population.

Similarly, Glaeser and Gottlieb (2009) makes the assessment of the role of transport infrastructure even more difficult, which says that the improvement of transport infrastructure can make the process of workforce and capital migration from rural areas to the cities faster. The basis of this theory is that rural areas cannot provide services and jobs (which means motivation to stay) for the population of local areas with no connections to the center. But when the connection gets better, people from the lagging behind rural area will consider more moving to the center. Which means the transport infrastructure investment will have an opposite result than what decision makers usually prefer.

It is clear that the issue of the importance of transport infrastructure is a complex one, and there is much controversy about its exact impacts. It is, however, imperative to discuss this topic, since many decision makers build motorways and other transport infrastructural elements, claiming that it is an essential way to develop a region, spending millions or even billions for the cause. This research paper aims to get closer to finding out whether accessibility (better transport infrastructure)



can lead to development, or it is not enough by itself, to see, how much the financial resources spent on road development are worth the effort.

Theoretical background

Transport infrastructure

There are significant differences between the regions of the world, and the primary cause is population flows (Káposzta, 2014). Therefore, it is logical to assume that the easier for people to flow from one region to the other, the larger the territorial differences may become. On the other hand, population flow might lead to disparities in one region, but can potentially decrease them in the other one. From a company perspective it is also important to note that firms need to get inputs for their operations and they also need ways to send their outputs to the market, to the customers. Even in the case of services, such as hairdressers, which do not produce physical goods, accessibility is vital so customers can reach the providers.

Defining the usefulness of transport infrastructure investments, however, is a very difficult task, because it is uncertain how much the development process are affected by them. For instance, if we analyze the income levels in a region before and after a motorway built there, the changes observed are not necessarily linked to the infrastructural investment. They can be caused by global economic changes, other macro-regional processes, changing social policies, tax policies, and many more factors. Some of the most important questions related to the impact of motorway investments are listed below:

- Are the regions competitive due to their high level of transport and other type of infrastructure, or do the regions invest much in their infrastructure, because they are advanced already?
- What would have happened to the surrounding regions if we did not invest into (build) specific roads (the anti-mode, that is) (Oosterhaven – Knapp, 2003)?
- What sort of indicators should be used to measure the impact of such investments?

These questions have yet to be answered; however, there are some clues that could help clearing the picture. For instance, academics managed to prove the necessity of transport infrastructure in many cases all around the world. One of the examples is China, the second largest economy in the world, and it has been able to produce a robust growth in the last decades. However, it is still lacking some important factors to develop further. One of these factors is the motorways, which should be expanded towards the rural areas to create a link between the capital and the countryside (Yu et al., 2012).

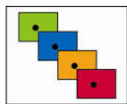
Small settlements in Hungary

After discussing transport infrastructure, it is essential to talk about villages in Hungary. For many decades after the Second World War, the villages could not become significant in regional development (Navracsics, 1997). The Hungarian regional development started to improve only in 1958, when the Commission of Ministers accepted regional plans as significant planning documents (Kőszegfalvi, 1982). As a result, the country was divided into regions (nine regions), which were based on networks of larger cities and towns. The results of the regional analyses were evaluated on country-level as well (Kőszegi, 1964).

The issue of small villages meant a problem even at the beginning of the new settlement development system. The planning of the settlement network was based on the theory that the higher the population number is, the better and more cost-effective the supply and support of the locals. Based on the calculations, the smallest unit of the socialist village policy was the settlement with at least 3000 inhabitants. Villages with a population number of 900-1000 were deemed to be unsustainable, while the ones with 900-1500 inhabitants were classified as “temporarily maintainable”. These results became the part of the Planning Document of the Settlement Network (OTT), created in 1963, in which they were regarded as village-districtcenters, secondary villages and disappearing settlements. The term “villages-to-be-demolished” had not appear in the national level planning documents, but it did in the county level ones. The documents for counties with typically high number of pigmy villages contained the list of settlements to be demolished (Beluszky, 1992).

In parallel to the National Regional Development Concept (OTK), a government decree was also accepted about the order of regional planning, in which the steps and process of planning was laid down. Its main objective was the strengthening of the most lagging behind areas (by improving the economic base and local employment of these areas). The programme supporting this concept put great emphasis on the expansion of production; also, such elements as infrastructure development (establishing basic institutions, developing transport infrastructure and electric infrastructure, etc.) were also part of it this concept (Beluszky, 1993).

Enyedi (1996) considered the political transition as a positive change regarding the Hungarian village network, because since then the local governments can manage themselves autonomously, and they were granted many opportunities to improve their international relations. Many new opportunities opened at that time; for instance, new ways of tourism development and the appearance of the new entrepreneurial sector. However, not all the settlements could use these opportunities; therefore, the differences before the political transition could not cease to exist fully (Bajmóczy-Balogh, 2002).



Small settlements today are still going through a somewhat difficult state. Only 3% (300 000 people) of the country's population lives in small villages, and from all the settlement types they are the least favoured by newly formed enterprises, considering the number of enterprises per capita ration. Also, while in larger cities and the capital had a quite stable population number between 2001 and 2013, the smaller villages gradually lose their population, and there are two major factors of this loss. Between 2001 and 2013 the rate of natural population loss (by death) was 0.77% annually, while the balance of domestic migration was 0.55%. (The highest positive balance of migration can be observed in Budapest and in its agglomeration, signifying its attractiveness.)

As the research results will point out in a later section of this paper, the small villages in Hungary lag behind in many ways compared to other units of the settlement hierarchy. This situation puts great responsibility on the decision makers aiming to develop these settlements and the rural- and peripheral areas in the country, and also requires more and more research activities towards learning about the reasons of the underdeveloped status.

Research methodology

The study deals with the question of how much role the accessibility has in the development processes of rural villages in Hungary. Therefore, the authors investigated the accessibility of small villages from Budapest, county seats and micro-regional centers to see how disadvantageous these settlements are in this regard. The paper uses a certain type of comparative analysis, in which we compared datasets (and maps) about accessibility and other factors of development with each other, concentrating on the spatial situation of developed and underdeveloped areas. Since there are many factors behind the economic development levels of settlement, other factors were involved in the research as well: the education-, employment- and income levels of the inhabitants, the proportion of operating companies in these settlements, and the changes in population number between 2000 and 2013. The authors tried to use the most up-to-date data they could found related to the topic. The authors, based on the national development documents, such as the National Development and Regional Development Concept, considered settlements with a population number lower than 500 as small settlements/small villages.

Research results and findings

The first task is to indicate the location of the small villages in Hungary. Figure 1 represents the Hungarian settlements based on the size. The map indicates that the majority of the small settlements are situated in the Northern-Eastern part, the Southern part and near the Western border. It is important to note that these regions belong to the mountainous areas in Hungary (mountainous compared to the rest of the country, anyway), and the larger settlement sizes are more common in the Hungarian Great Plain.

Figure 2 shows the first indicator of the development level of these small settlements in Hungary: the changes in population number in the small villages.

The authors consider the changes in population number as an indirect indicator for development. There can be many reasons for a decreasing population (negative balance of migration, declining number of births, and several different reasons behind these phenomena), but it is certain that a decreasing population number shows that there is a problem in these villages.

It is generally true, that the greatest challenge for villages is depopulation. In the past two decades the youth in working age tried to leave the small settlements with inadequate jobs, which resulted a change in the social structure of the settlements. The working age population which flown out from the peripheral small settlements started new life in towns and cities, or in their agglomerations. This tendency is not typical only for the social and demographic characteristics. In the case of remote settlements, which do not have abundant resources, the health situation was also different, similarly to the life quality, to the cities. The primary reason of these disadvantages could be their hopeless situation (Horváth, 2012). Although the rural areas hold many advantages and values, which affect the lives of the locals in a positive way, to utilize these potentials there is a need for proper material (financial) and mental background. The research activities of Mária Kopp prove that uncertainty, the weakening social values and ethical basis, as well as the decrease or lack of social solidarity have great negative impacts on health. They cause uncertain mental state, constant stress, which is the highest health risk factor for the population of Hungary. These effects are even greater in lagging behind areas, where long-term planning is difficult, to say the least (KOPP - SKRABSKI 2008).

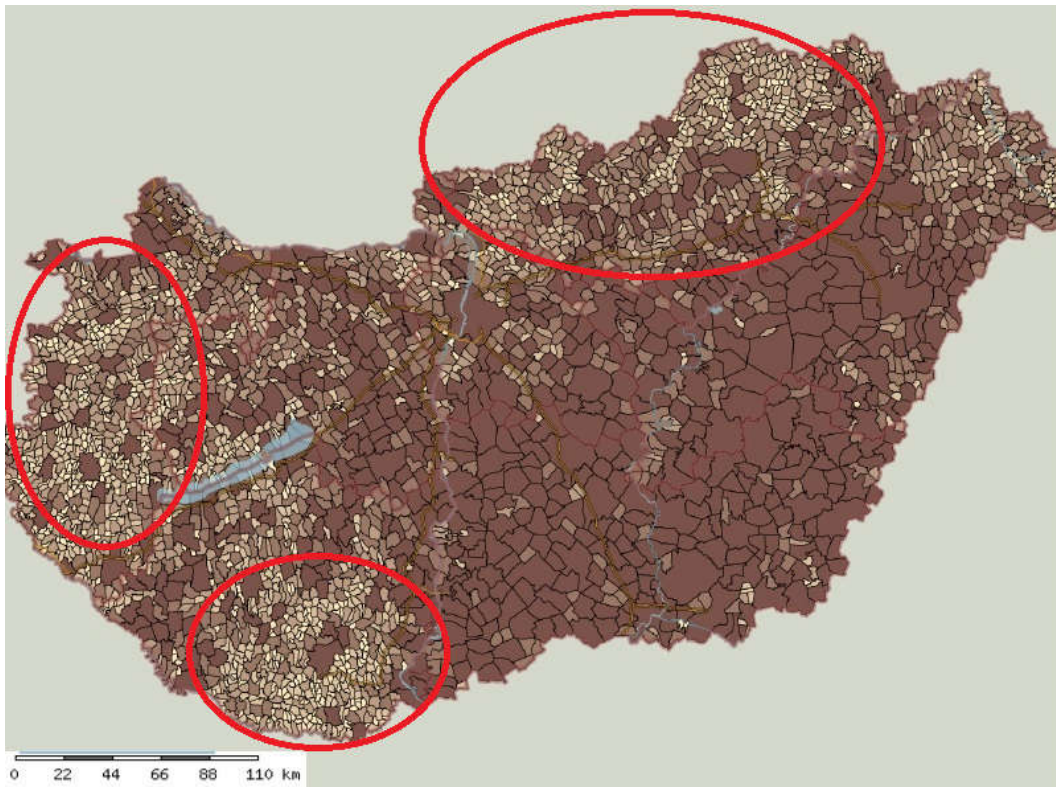
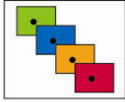


Figure 1: The location of small villages in Hungary

Source: Regional Development and Spatial Planning Information System, 2016

We can see that the population of the small villages decreased by almost 14% between 2000 and 2013.

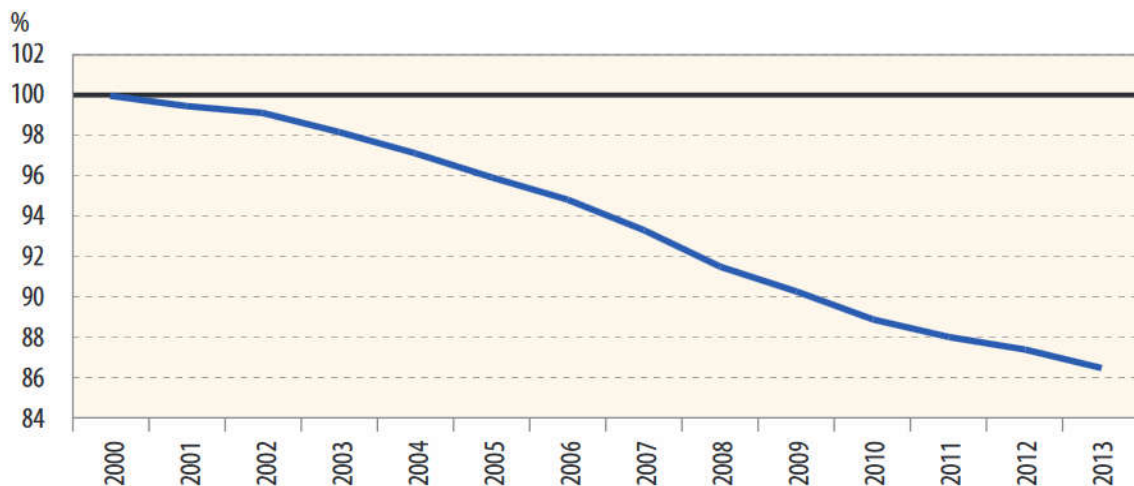
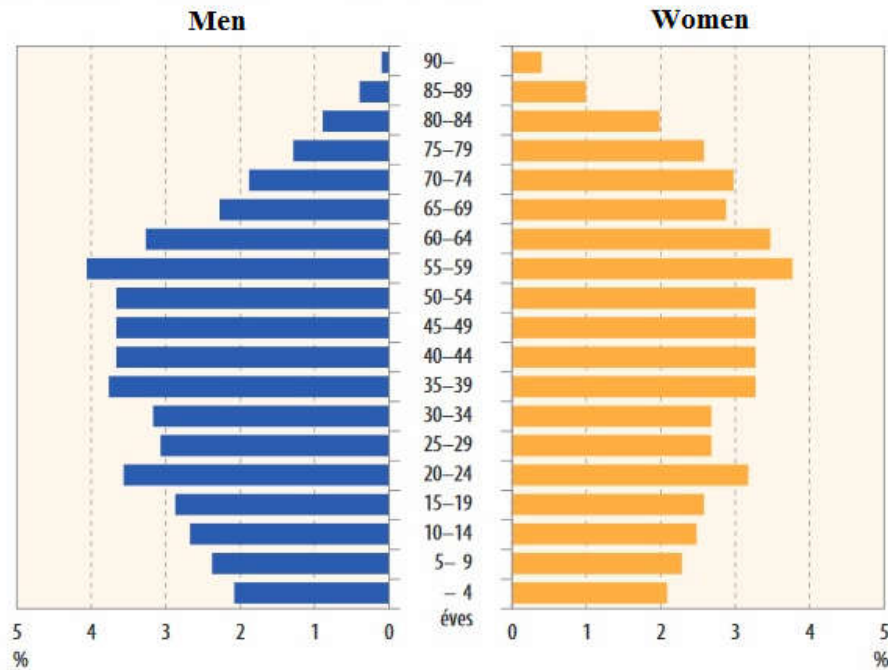
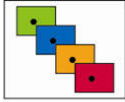


Figure 2: The changes in population number of small villages in Hungary (the year 2000 being 100%)

Source: Hungarian Central Statistical Office, 2015

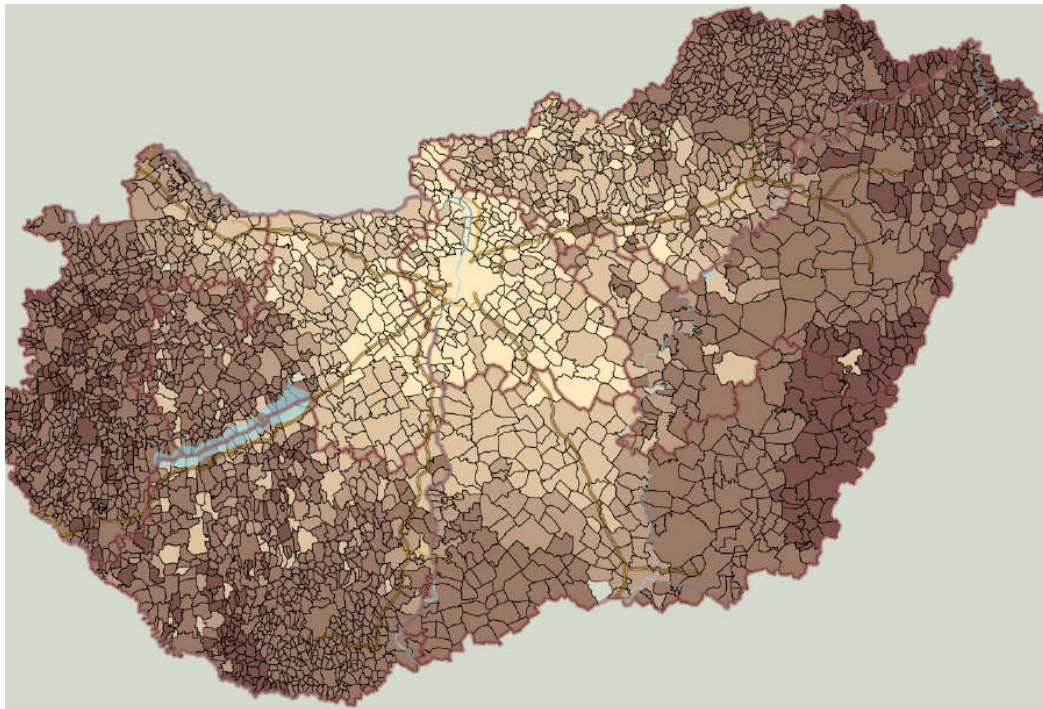
The demographic situation of these regions is also very disadvantageous. Figure 3 points out that the age structure of small villages in Hungary is old. The majority of the people are above the age of 35, and the proportion of younger generations is very low. This is not only a symptom of the problems, but a cause as well, because the lack of young people means less workforce, less active people in these areas. Also, if young people leave these regions, the local service providers will soon go bankrupt, without sufficient demand for their goods and services.



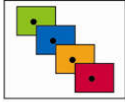
*Figure 3: The age structure of small settlements in of small villages in Hungary (2011)
Source: Hungarian Central Statistical Office, 2015*

We could see two symptoms of the problems above. Next, there are some possible causes presented. As the paper deals with transport infrastructure and accessibility, let us take a look at the how far these areas are from important spatial centers.

The main economic core of Hungary is Budapest. On Figure 4 the darker the areas are, the farther they are from Budapest (in time, not in distance).

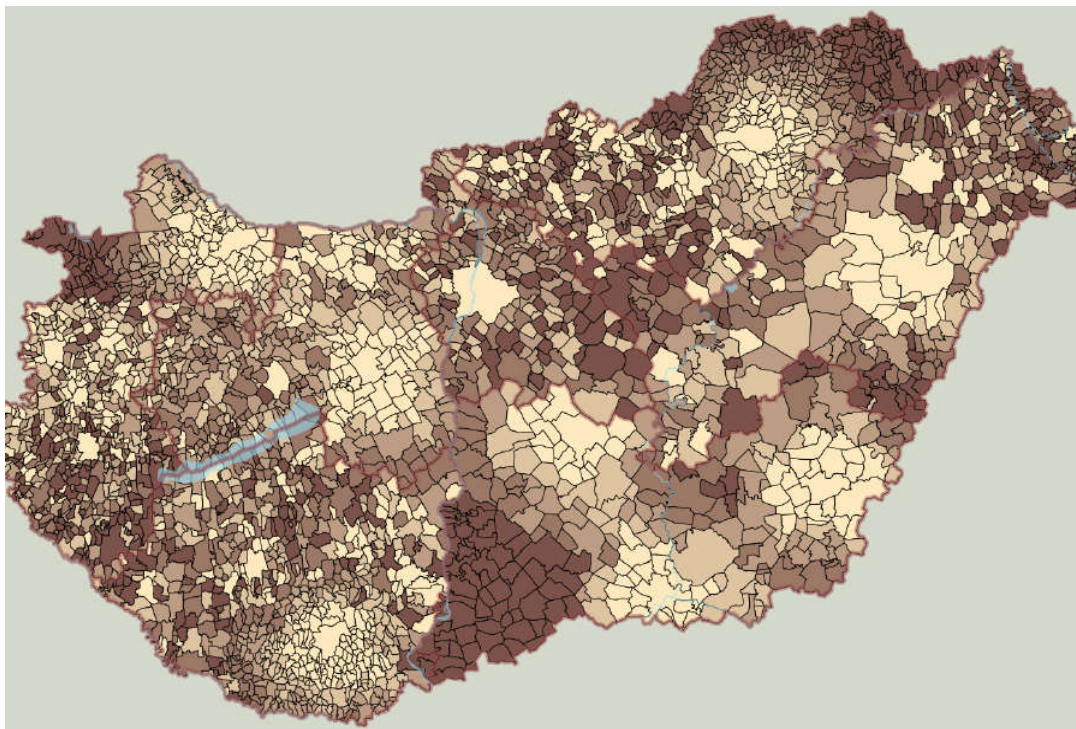


*Figure 4: The distance of settlements from Budapest, in minutes
Source: Regional Development and Spatial Planning Information System, 2016*



We can see that the smaller villages are generally quite far from Budapest. Since the capital attracts the most capital, has the best business infrastructure and most educated workforce, among other advantages, its agglomeration settlements perform generally better than other settlements with similar endowments, farther from Budapest. It means that being close to Budapest is an undeniable advantage in Hungary. However, being far from the capital by itself it should not be a disadvantage for a settlement, because there are other, albeit smaller economic centers in Hungary.

Figure 5 indicates how far the settlements are from the county seats. Having 19 county seats in Hungary, we can see that the majority of the small settlements can access quickly to these cities. There are small settlements, which are colored dark brown (meaning that they are farther in time from the county seats), however, a large number of them are colored with light colors, which mean they can access to the jobs and services of the larger cities easily. (The two lighter colors represent settlements being 23 minutes from the county seats).

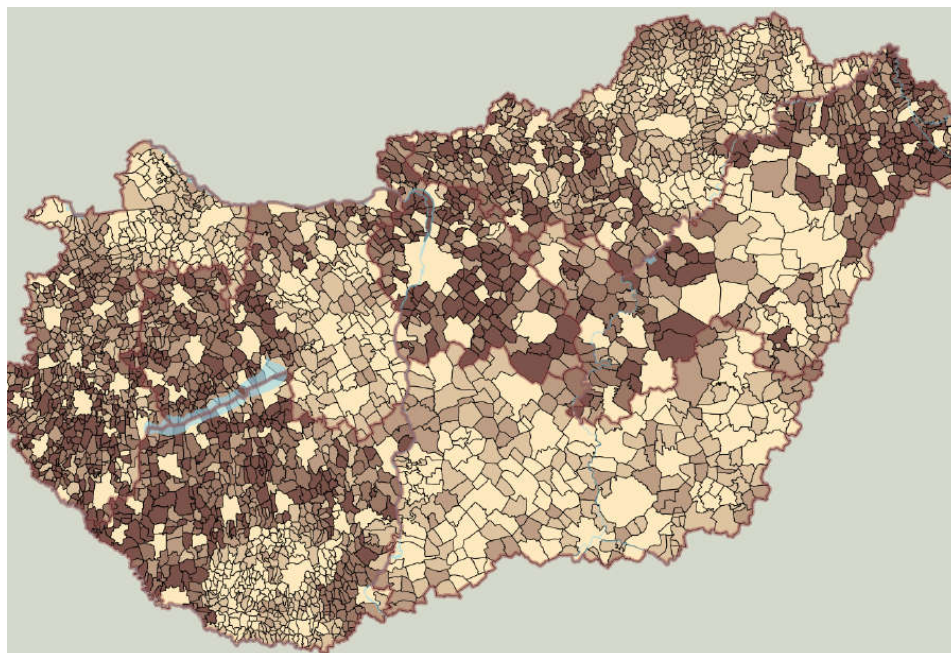
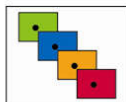


*Figure 5: The distance of settlements from the closest county seats, in minutes
Source: Regional Development and Spatial Planning Information System, 2016*

The next map (Figure 6) indicates how far settlements are from the centers of micro-regions. Similarly to the previous ones, the darker the colors are, the farther the settlements are from the centers (in this case, the centers of the micro-regions). We can see that, in this case, the differences are even lower between settlements (logically, since there are much more micro-region centers, than county seats). Also, from the three main regions with small settlements (the Northern, the Southern and the Western ones) only the villages of the Western region are disadvantageous in regard to their distances from micro-regional centers.

Based on the abovementioned three maps, we can establish that many small settlements have difficulty accessing to regional or micro-regional centers. However, they are not the only ones. We could see that it sometimes takes much longer time to get to these larger towns from larger settlements, which means it is not a typical problem for only small settlements.

We cannot establish that accessibility is a general and cardinal problem for small settlements by itself. But then what are the causes the problems? Why does the population abandons these villages?



*Figure 6: The distance of settlements from the closest micro-regional centers, in minutes
Source: Regional Development and Spatial Planning Information System, 2016*

Education is one of the most important factors of development. Unfortunately, we can see that the level of education of the population of small settlements is not satisfactory. Figure 7 points out that in the majority of small settlements only 69.9% of the people graduated from high schools at most.

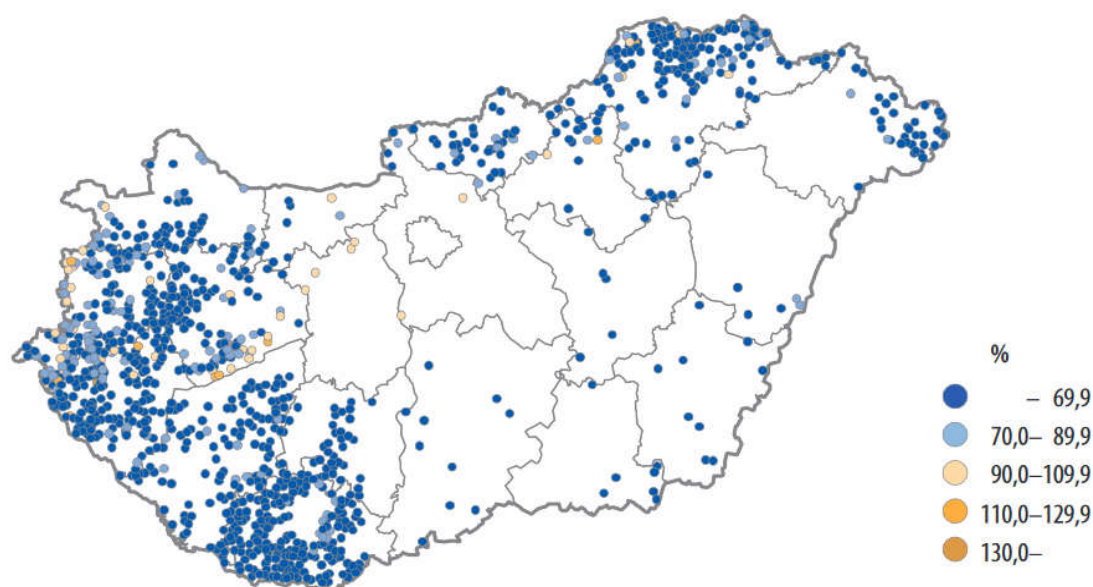
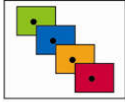


Figure 7: The proportion of people above the age of 18 who have at least high school graduation, in the percentage of the national average, 2013

Source: Hungarian Central Statistical Office, 2015

The above presented problem is a very significant one. People with higher education levels will have better chances on the labor market, and therefore, to ensure the wellbeing of their family and the education of their children. Thus, poor education levels will halt regional development.

Poor education levels are generally related to unemployment, and in the case of small settlements, we can see that it seems to be true in Hungary. The settlements with the worst situation in regard to the education levels are generally the



same ones with the worst employment rates. Figure 8 indicates the proportion of employed people compared to the national average.

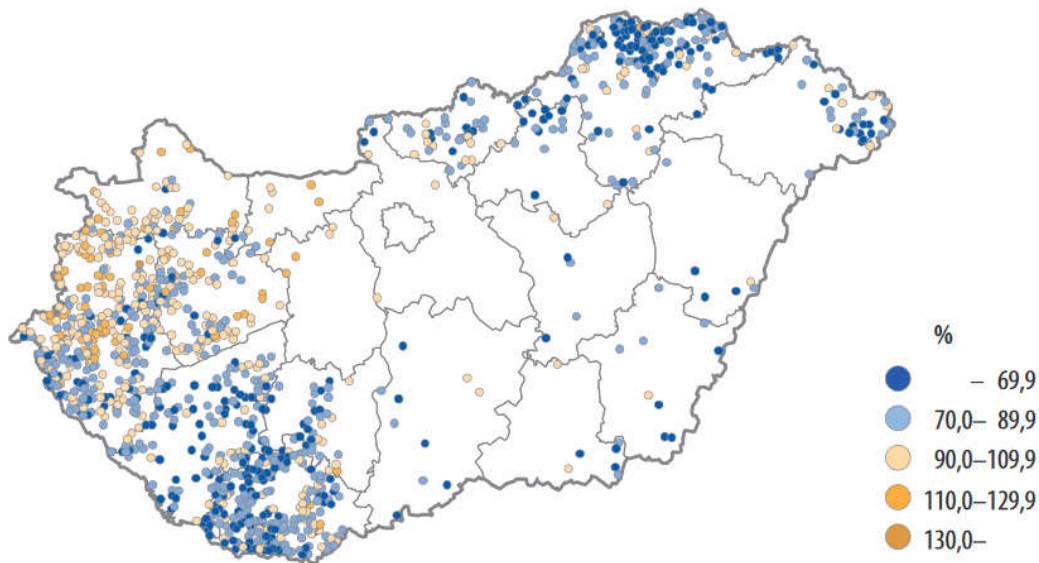


Figure 8: The employment levels of small settlements in the percentage of the national average, 2013

Source: Hungarian Central Statistical Office, 2015

We can see that, while the investigated settlements are in a better situation regarding to this subject than to the education levels, about half of them have lower employment levels than the 70% of the national average.

Not only the education levels, but the income levels fall below the national average as well. Figure 9 indicates that most small villages have inhabitants with much lower income levels than the national average. One of the reasons behind this could be that only 2% of the operating companies can be found in these villages, even though they make up 35% of the settlements (Hungarian Central Statistical Office, 2015).

But what is the reason behind low income- and employment levels? One possible reason can be the economic structure of these settlements. Generally, the more developed cities in the world concentrate more on the service sector, and less on agriculture. For instance, 87.4% of the companies work in the service sector, 12.2% in construction and industry, and 0.4% in agriculture. The less developed the settlements are (with less population number, lower income levels, less capital-attracting ability), the lower the proportion of the service sector becomes, and the higher the agriculture increases. Even in the case of villages (small villages not included) the proportion of agriculture is only 9.1%, but this proportion is as high as 16.7% in small villages.

This would not be a problem by itself, since agriculture is a crucial sector that produces food and helps achieving self-sufficiency. However, these settlements do not possess high level agricultural technologies, machinery; therefore, this sector cannot provide people with high income levels, and thus, with opportunities to rise up and live higher quality lives. Also, due to the lacking service sectors, people have difficulties accessing to service and products, which means their wellbeing is not nearly as high as in more developed settlements with more services.

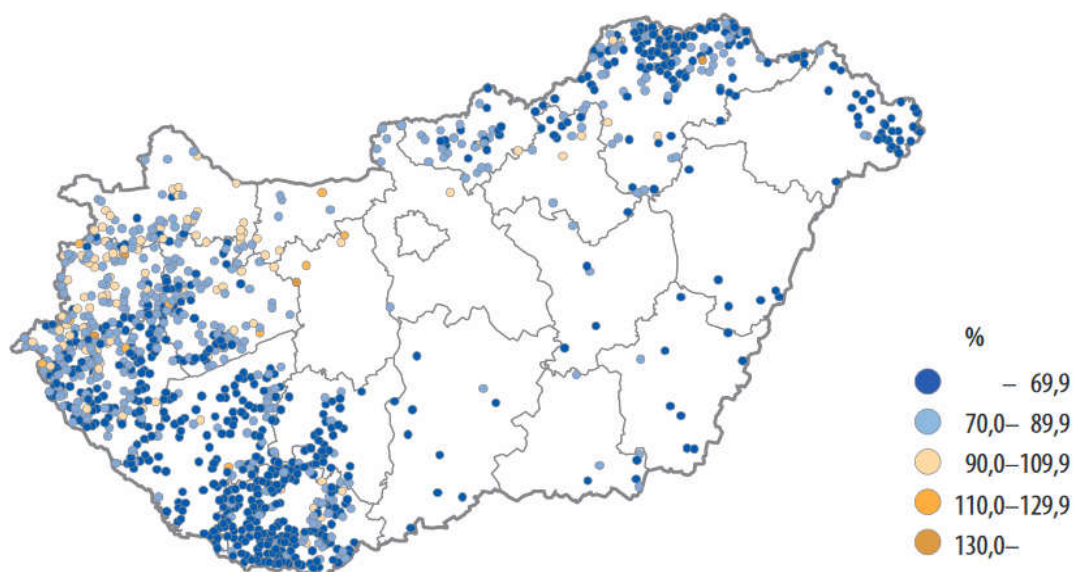
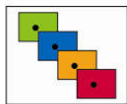


Figure 9: Income levels of the population of small settlements in the percentage of the national average, 2013
Source: Hungarian Central Statistical Office, 2015

Conclusions

We can establish, based on the findings, that accessibility, while being generally an important factor of development, in the case of Hungarian small settlements, it is not the most significant element. Small settlements have relatively good road connections to regional and micro-regional centers, yet they face serious problems they need to solve.

The employment- and income levels are low in these regions, similarly to the level of education. The population numbers are decreasing, and the age structure of the remaining inhabitants is constantly getting older.

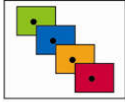
What is there to do to improve the situation of these settlements? First of all, specific investigations are needed, targeting specific regions and villages, to see their challenges and opportunities. It is very important to do so, because some opportunities and potentials are not obvious at first sight, and it can be one reason for underdevelopment. In order to increase the welfare of the population, the elements of intangible capital have to be transformed into tangible ones (Jóna, 2013). The importance of local spaces is based on the fact that every single point in space possesses different characteristics. We just need to find out how to turn the problems to be solved into opportunities (Tóth, 2016; Nagy et al. 2015).

To sum it up: small settlements need to find their own special values and opportunities. In the globalized world smaller spatial units cannot compete with larger ones. They can only survive the competition if they can assess and use their resources wisely. These resources can be physical or non-physical, tangible or intangible resources.

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