The process of depopulation of a rural region on the Hungarian side of the Hungarian-Slovakian borderland located between the rivers of the Sajó and Hernád (demographic changes in the 20th century)

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The 20th century can be called a century of permanent changes due to the significant historical, economic and demographic changes occurred in that period. The geographic space has been permanently changing as well. Borderlands are characteristic segments of this geographic space. This study was carried out along the Hungarian-Slovakian border to study the demographic processes of 58 Hungarian settlements located between the rivers of the Sajó and Hernád. Borderlands are strongly affected by the historical events, because many of those create, change or dissolve certain border fragments. The knowledge of historical background is always essential to understand the recent processes. The historical aspects plays an important role in this study area as well. However, the main emphasis has been put onto the recent demographic processes. It is believed that the historical events are also reflected in the demographic changes.

Although the study is mainly based on statistical data, the author has gained a more thorough understanding of this area in the frame of an ongoing, more detailed and complex empirical study aiming to characterize the socio-geographic environment of the borderlands. This study is a part of that bigger framework. That empirical study was the source of the figures 21 and 22. Figure 21 shows the proportion of the Gypsy population in each of the villages in 1998. The identification of the central places and the delineations of their complementary regions are from that empirical study as well and shown in figure 22.

![Map of the research area](image)

Figure 1. The Research area

The population size of any area and its temporal changes is determined by economical and social factors (G. FEKETE, É. 1991). The population and population structure show the living conditions of the inhabitants. If there are a lot of ongoing unfavorable processes, the
population cannot produce enough offspring to maintain its original size and the processes can become irreversible. These changes often have a significant impact on the economic and social conditions. The resulting trends of abandoning rural villages cause serious social problems: the resources of the abandoned villages are being lost or used much under the potential level, while the social and environmental resources of the bigger cities are overused. (ENYEDI, GY. 1983). Characterizing the population and identifying the ongoing processes and trends is very important to understand the overall picture of the economical and social situation.

The population of the research area shows big changes from the beginning of the eighteenth century (Figure 2.). It decreased in the second part of the eighteenth century, because of cholera epidemics, which killed a big proportion of the population, and because of the filoxera disease of grapes, which made many of the villagers losing their income and forced them to emigrate from the region. The two World Wars of the 20th century retarded the population growth. Even in those periods the net change in population were positive. However, we cannot neglect the impacts of the wars on the population. It slowed down the population increase. In the meantime, a relatively high number of Hungarian immigrants from the surrounding countries settled within the new borders of Hungary (although the study area was not directly effected by the nationality based relocations, KOCSI, K. 1998). These trends occurred all over Hungary (VALUCH, T. 2001). The emigration of the early 20th century from the region resulted a more visible decrease in the population size. In that century the population had been increasing till the 1960s, except for the previously mentioned episodes, but the level of growth started to decrease between 1949 and 1960. Since 1960, twenty years before the start of the overall decrease in Hungary, the population has started a drastic decline. The rate of population decrease has slowed down after 1990, and (based on the permanent inhabitants) even an increase has started. From 1994, the official reports on population sizes are based on the permanent inhabitants only, disregarding those living just temporally in the village. In order to keep the comparability, both values are shown in the figure 2.

![Figure 2. The population changes of the research area between 1828-2001](image_url)

Three main factors can be identified behind the population decline: the low birth rate, the high death rate and the higher number of emigrants than of the immigrants. The most significant of these three was the high emigration rate. The majority of the emigrants were from the younger, more educated part of the society. This selective migration caused an extremely low fertility rate.
It is evident that the region has somewhat different driving forces of population dynamics than that of the overall Hungarian one. One of the main factors that cause these differences is coming from the history of the last century. However, the region has remained in Hungary, but the traditional central places, towns (Rimaszombat, Rozsnayó, Kassa) of the regions have been given to the newly formed Czechoslovakia. The new border has drastically changed the historical spatial structure. The new relations with the new central cities (Miskolc, Ózd, Kazincbarcika) don’t work very well and cannot replace the traditional links. According to László Laczkó, the villages of the region hold all the three main types of limiting conditions: being in a rural, undeveloped area; having a very small size; and having unfavorable natural conditions for the agriculture. In some of the villages even more of these conditions apply in the same time (LACKÓ L. 1975). The undeveloped settlement structure and traffic system are also part of the reasons for the marginal situation (TINER T. 1983). Besides of these natural limiting factors, the official regional developmental policy considered the area as not-to-be-developed, to be eliminated in the future (HAJDÚ Z. 1992, p. 30).

Figure 3 shows the population changes of the studied villages between 1941-2001. Twelve percent of the settlements have increasing population while in the rest the villages the populations have declined. In 33 percent of all the settlements the decline was more than 50 percent, thus the villages has lost half of their inhabitants. In 26 percent of the villages the rate of decline was between 25 and 50 percent, while 24 percent of villages have less than 25 percent of population decrease (Figure 3.).

If we follow the grouping that we used above and examine the net changes of population between 1981 and 2001, the following conclusions can be derived (Figures 4-7.): more disadvantageous processes occur mainly in the smaller villages. The natural changes are the most negative in the villages with the highest population decline. However, the villages with a decline of 25 to 50 % are considered as naturally decreasing as well. The villages with increasing or stable population are expressing a positive natural changes or equilibrium. The less unfavorable trends in the population dynamics of these villages are attributed to the lower emigration rate and positive migration changes.
Figure 4. Factors of population dynamics of the villages with increasing populations between 1941 and 2001.

Figure 5. Factors of population dynamics of the villages with less decreasing populations (0-25% decrease between 1941 and 2001)
Figure 6. Factors of population dynamics of the villages with strongly decreasing population (25-50% between 1941 and 2001)

Figure 7. Factors of population dynamics of the villages with very strongly decreasing population (over 50% decrease between 1941 and 2001)

After dividing the period of 1941–2001 into 20 years segments and examined these segments separately, the followings can be concluded. Between 1941 and 1960, 41% of the villages had decreasing population. However, only 4 villages had a decrease 25% or more, but none of them exceeded the 50% (Figure 8).
Figure 8. The population changes of the studied villages between 1941 and 1960

The most severe loss of population occurred between 1960 and 1981, when almost all but 5 of the villages had declining populations and the rate of decline were very big (Figure 9). Between 1981 and 2001, 16% of the villages showed increasing population size. Although, these increases are linked to the presence of Gypsies (Figures 10-11.) Based on the census of 2001, the gypsy population of Alsószuha is 14 percent, which is higher than that of the 1998 rate. There is no gypsy population in Aggttelek, here the population grows can be attributed to the more favorable migration balance and younger population structure.

Figure 9. The population changes of the studied villages between 1960 and 1981
Figure 10. The population changes of the studied villages between 1981 and 2001

Figure 11. The proportions of gypsy population of the villages having positive population change between 1981 and 2001 (Based on the 1998 data)

Due to the selective emigration, the age structures of the villages have been distorted. The aging index (the number of peoples above sixty per 100 less than 14 years old people) in 1941 was always under 100. Furthermore, the aging index for 90% of the villages had less than 50, meaning much more young than old inhabitants (Figure 12).
In 1990, only Tornanádaska, while in 2001 Tornanádaska and Fáj were the only villages with relatively high proportion of the 15 years old or younger inhabitants, the proportion of the young habitants were above 50% of the old (60 or more years old) habitants. Villages close to the cities and the gypsy population with their very high reproduction rate are linked to younger age structure (Figures 13-15.). The villages with very high aging index have lost their reproduction potential and the population decreases drastically. The aging index could not be calculated in Tornakápolna in 1990, and in four villages in 2001 (Tornakápolna, Teresztenye, Tornabarakony and Debréte) because there were no inhabitants less than 14 years of age.
As it has been showed above, the ethnical composition plays an important role in the population dynamics. Gypsy is the only ethnic group in the region. The reproduction rate of the Gypsies is so much different from the Hungarians. They can be characterized with high birth rate and high mortality rate as well. The Gypsy dominated villages have a young age structure with high proportion of the younger aged habitants, while the villages with less or missing Gypsy population show characteristics of the typical aging community. This difference is shown on the age trees of Szőliget and Tornanádaska in 2001 (Figures 16-17.).
Based on the official census data the proportion of the Gypsy population of the study area was 1.7% in 1941, 10.75% in 1990 and 14.66% in 2001. Unfortunately, the census data is not dependable in this sense, because many of the Gypsies have not declared themselves as Gypsies. But when I personally approached them, they admitted to be Gypsies. Good examples of that are Fáj and Martonyi, where the official 2001 census showed 3.1% and 1.5% Gypsy population. Although, my personal guess was 50% Gypsies for Martonyi and (Picture 1) and 90% for Fáj (Picture 2).

The only partly dependable way to get an estimate of the real proportion was the questionnaire survey for the mayors of the villages, where they gave their estimation of the size of the Gypsy population within the villages (22.14%). This survey was carried out in 1998, but it is still the most dependable source of information from the region.

In 1941, only four villages had a proportion of Gypsy population between 10 and 25% of the total population, and 14% of the rest of the villages had some Gypsy population. Although, even those villages had less than 10% (Figure 18.).

In 1990, 71% of the villages had Gypsy habitants, and 16% of them had a proportion of Gypsies between 25 and 50%. (Figure 19).

Based on the census in 2001, three of the villages have more than half of the total of the Gypsy population (Tornanádaska 63.3%, Hernádpetri 54.9%, Rakaca 59.6%), and 71% of the villages have Gypsy inhabitant. (Figure 20.)

Based on my own survey in 1998, 7 villages had Gypsy population over 50% of the total habitants, and 76% of the villages had Gypsies living there. (Figure 21.)
Figure 18. The proportion of the Gypsy population in 1941

Figure 19. The proportion of the Gypsy population in 1990
This paper is not aiming to go in further detail of the ethnical problems, only its demographic aspects are important for this work. However, it has to be noted that the increasing proportion of the Gypsy population causes severe social problems. The Gypsies are often live within very poor living conditions (Picture 3-4.), and cannot assimilate. If the proportion of the Gypsies exceeds a certain limit, it often generates significant emigration of the Hungarians.
from the village. It seems that the Gypsies are such an ethnic group, which has been forced to settle, but they still could not adapt themselves to the new situation.

It is easy to conclude that the second half of the 20th century is characterized with population decline. The reasons for that have been already mentioned in the first half of the paper (historical, natural environment, settlement structure, political, economic and transportation-geographical reasons). Figure 22. shows the traffic system of the region, while figures 23-26 highlight the population changes in the villages with unfavorable traffic conditions.

Figure 22. The central places and their complementary areas based on the survey carried out in 1998-1999.

The figure above has been derived based on the data from the empirical survey. The study area have been extended to cover the Slovakian side as well, and the central places and the complementary regions have been identified based on the use of shopping and other types of services (MOLNÁR J. 2000.). It was concluded, that the Hungarian side of the study area is pretty much lacking of towns and cities and the number of the middle- and low-level central places are limited as well (MOLNÁR J. 2000. p. 157.). The population decrease of the villages with unfavorable traffic conditions can be seen from the examples of the “dead-end-road villages” (villages located at the end of the road thus having no transit traffic). Between 1941 and 2001, 14 out of the 17 dead-end-road villages have had their population decreased with more than 50%. In the majority of these villages (11 of them) the decline of the population was between 70 and 90%. Tornakápolna has lost 92% of its population within that period (Figure 23.).

Dividing this period of 60 years into three 20 years segments the followings can be concluded: The least rate of population decrease happened between 1941 and 1960. In this period, six of the villages had even increasing population. The decreasing rate never exceeded 30%, and the increase in Szögliget was 23% (Figure 24.).
The most severe emigration occurred between 1960 and 1981. Eleven of the villages had more than 50% population decrease. Tornakápolna, Litka, Perecse and Debréte had even more severe, over 60% decrease in population (Figure 25.).

Between 1981 and 2001, the number of villages with severe population loss has decreased to 8, but their rates were further increased and approached the rate of 70%. In some cases the decreases were over 70 %, For instances Tornakápolna (74,47%), Tornabarakony (70 83%), Perecse: 68,48% (Figure 26.).

Figure 23. The population changes of the dead-end-road-villages of the study area between 1941 and 2001.

Figure 24. The population changes of the dead-end-road-villages of the study area between 1941 and 1960.
Figure 25. The population changes of the dead-end-road-villages of the study area between 1960 and 1981

Figure 26. The population changes of the dead-end-road-villages of the study area between 1981 and 2001

Summary

In the second half of the 20th century the population dynamics of the villages within the study area showed a very bad picture of demographic processes. The population has decreased dramatically; the majority of the villages have lost their capability of maintaining the population size; the birth rate has decreased due to the emigration of the younger age-group; the proportion of aged people has become high, and the abandoned villages and houses
have been occupied by gypsies, which has generated severe social problems in the area. The main reasons for the population decline are the followings:

- Unfavorable natural conditions, limited agricultural potential;
- The historical events, namely the border changes, that restructured the spatial linkage system, and separated the previously synergistic villages from each other;
- Political factors, the “death penalty” for the small, rural villages, meaning no any developmental action taken place from the 1950s;
- Lack of towns and cities, rural characteristics and unfavorable settlement structure;
- Undeveloped economic structure;
- Unfavorable traffic system, many dead-end-road settlements with bad road quality and difficult access;
- Ethnical problems, causing emigration of the Hungarian families.

However, the resources of the region are well known and identified: picturesque landscape, high value of the natural environment; a cave system being part of UNESCO World Heritage; traditional village structure and more than 100 years old houses; traditional handicrafts; the closeness of the border, which may have a positive effect on regional development after the accession to the EU. The loss of population has slowed down or even stopped. The villages have formed associations to examine and explore the potentials and stop the negative trends. Those villages with no Gypsy population taking over the abandoned houses are transforming into holiday villages, and peoples from the surrounding bigger cities buy up the houses. There is a potential to revitalize these villages, but there are still important problems to solve. One of these is the Gypsy problem, which is a quite difficult situation not only locally, but country wise as well.

REFERENCES: