

Suburbanization within the city. A discussion of an apparent paradox and examples of its environmental consequences.

Urban sprawl is a common phenomenon both in developed and undeveloped countries in the last decades. While it is a mature issue and affecting many people in the developed countries, in the post-socialist Central and Eastern European countries (CEE) the sprawl only gained momentum after the regime changes with the transition to the market economy. Nowadays the rapid urban changes cause a challenge for spatial planning and urban development, which are often unable to control processes. Due to the lack of resources - funds and skilled manpower - and the very frequent changes in the legal framework, the municipal planning methodology and management routine could not be consolidated, so the impacts of sprawl are intensifying in the case of the CEE countries.

While the main motivations to move out of cities are the closeness of nature and to have a better quality of life, ultimately it leads to negative environmental impacts because of the growth of built-up areas, decrease in natural plant cover and the arise of landscape aesthetic problems. Migrating out to suburbs causes intensive road traffic, which leads to higher air pollution levels and greater fossil energy consumption. Overall, it harms the fight against climate change and helps to increase the intensity and area of urban heat islands. The unplanned, rapid, and uncontrolled expansion of the suburban belt has numerous social and economic adverse effects too and brings significant changes to both the economy and the everyday life of local societies.

The Eastern European researches have primarily focused on the suburban zones of the capital and other big cities, and paid slightly less attention to the processes of the rural centers and their suburbs. Many of these post-socialist rural cities in CEE countries have annexed settlements – hereinafter referred to as other inner areas – in their administrative area. These formerly independent villages usually have maintained their original image and rural settlement structure and most of them are physically separated from the main built up area of the core city. Outskirts are scattered settlements within the administrative border of the city, they are farm-like tanyas, allotment, and schrebergarden-like garden zones and holiday-cottage zones and we can find some wine hills there. However, these areas have a significant permanent population, as during and after the socialist era many people moved into the small buildings (often only 30-50 m²) there as a kind of process of substitution for suburbanization which was not typical during socialism. The people living here are more closely connected with the core settlement than normal suburbs because of almost no function available in outskirts (shop, post office, etc.) except to living function. Polish 'osadas' and 'ogród działkowy', Romanian 'cătunes', 'dachas', and 'hajakülas' of Baltic states, Czech and Slovakian 'štáles', as well as farmsteads, hamlets, and allotments near the cities have similar features.

In this survey, I want to examine the following questions related to the above-outlined problems. How does urban sprawl affect the rural-urban periphery of rural centres, and what conflicts and environmental degradations have emerged in the process? What are the most important issues concerning quality of life in local public discourse, and what practices have developed in the local routine to deal with them?

To analyze the impact of urban sprawl on the quality of life, I chose two Hungarian cities Győr (pop. approx. 134 000 people) and Kecskemét (pop. approx. 110 000 people) and Szeged (pop. approx. 162 000 people) as our study areas. Győr is a rural center in Western- Hungary which is developing rapidly thanks to foreign capital investments (especially the automotive sector takes the lead). Thanks to jobs that pay well in Hungarian conditions, a large number of workers are flowing in from the peripheries of the country. Otherwise, the city is a geographically excellent example of post-socialist cities because between 1970 and 1990 the inner settlement ring and many scattered dwellings were attached to the city administrative area. Today they form a dynamic inner suburban belt with many new residents and most of the industrial investments were also established here, causing many conflicts. Kecskemét is the capital city of Bács-Kiskun County a former agro-market town with new industrialization processes, which can be connected to the arrival of Mercedes Benz Manufacturing Hungary Ltd. in 2008. Similar to Győr, there are several satellite settlements within its administrative area whose population has grown dynamically in recent decades. Szeged is a university-city in southern Hungary with significant agricultural traditions. It is suitable for this survey because large rural settlements have been connected to it. Industry of Szeged was less dynamic after 1990, thus, the smaller industrial impact compared to the two previous cities makes it possible to compare the differences.

During this analysis, both primary and secondary data were used and processed using a combination of qualitative and quantitative methods. As for the qualitative side of the research, I conducted a stratified systematic survey that involved 360 households in the outskirts and another 150 in the other inner areas of Győr during 2015 and 2016. This means every fifth household was questioned in the sample area. I asked about the housing and migration history of the household at the beginning of the questionnaire, such as the reasons for choosing the rural-urban fringe area as the place of residence and the satisfaction with their choice. Next step, I prepared 5 interviews with local government representatives and 7 with administrative officials, and 4 others with professionals from NGOs in the sample area to examine their attitude toward planning and development, and their routine in connection with outskirts and other inner areas. In addition to the above-described mainly qualitative approach, we carried out a GIS data analysis based on the Corine Land Cover database to assess the land use changes in the selected cities. These databases were downloaded from the website of the Copernicus Land Monitoring Service. Our quantitative assessment, we mainly use statistical methods which are regularly used for descriptive analysis.

Corine Land Cover data show that both municipalities have experienced significant land use conversions between 1990 and 2018. In each cities in the built-up area has been increased by 20-28%. Mainly greenfield commercial, industrial and residential projects have transformed the space. These investments were, with few exceptions, greenfield projects, largely involving the conversion of agricultural land, which is one of the reasons for its significant decrease in area.

There are agricultural lands or wooded spots between the houses and between incorporated formerly independent villages. For this reason, most investments have not been built on “real” greenfield, but density of existing blocks have been increased (gap-filling). The process shows

significant spatial differentiation, as the few large investments – even gated communities - were built along major roads, but the most of the private constructions started in the harder to reach and therefore much cheaper areas. Due to their financial possibilities, the people who moved into less famous areas mostly made smaller properties that fit into the landscape. At more rapidly developing outer inner areas densely built-in row houses and condominiums have also developed in the previously sparsely populated large blocks. These buildings are very different from the local rural architectural forms and has significant environmental impacts. This rapid boom overloads infrastructure designed for fewer residents and exacerbates social conflicts.

In local discourse, illegal land use is often tolerated. In the storytelling of residents and local governments, these activities are seen as the price of growth and development. It is important to highlight that in recent decades, architectural offices of cities have acted in building cases as a licensing and control body, but they have been unable to carry out inspections due to the lack of manpower. Furthermore, - as expressed by two municipal representatives - many city councils considered this issue as a part of the development, thus they declared the existing state of the built environment to be legal by decrees, so there was no penalty for unauthorized and irregular constructions. The county government office took over the role 3 years ago, but there are still not enough qualified clerks for the inspections, and the houses built between 1990 and 2010 are more than 10 years old, so no penalty can be imposed for them anymore. In addition, the present legislation allows for construction without a permit (up to a certain floor area) and only an authorization for use needs to be applied for once it has been completed.

As a result, a highly complex spatial structure was formed in the peripheral areas of cities, particularly where the attached settlements are relatively close to each other. These areas, the mixing of different land use, social groups, and lifestyles are the main determinants of the chaotic and fragmented land use patterns. Fragmentation also means the degradation of habitats and plant communities. The most visible sign is the appearance of alien species and invasive plants in the landscape. Another form of landscape degradation is littering, which means illegal landfills which appear along the access roads of examined cities. These are usually not the result of the activities of the nearby residents, but it should be emphasized that in the most deprived outskirts there is no garbage disposal service anyway.

Local narrow roads - usually designed for resting area or agricultural purposes - are declining rapidly where traffic has increased significantly due to affluent newcomers. In the less attractive outskirts, the condition of the roads had already deteriorated by 1990 and many manor and tanya-areas have never had paved road network, only trails trampled by horse-drawn carriages on the land are used to this day. In many places, the road was made by state-owned agricultural companies, which are not fit to standards. A few of these roads are so narrow that even a fire engine unable to pass through. There is a significant increase in traffic on all main routes thus, the target areas of intra-urban suburbanization are causing cross-sectional narrowing effect in the transport network of the whole agglomeration.

Residents have attached great importance to the phenomena that impair the viability of the environment. One of the most mentioned issues was waste incineration. Besides air pollution,

another increasingly important problem is the urban heat island. Due to the dense and continuously increasing built-up area, the urban heat island extends towards the city boundary. Urban sprawl has a negative microclimatic effect that could occur in the attached settlements and their immediate vicinity too. We have microclimatic measurements which indicate the presence of the urban heat island. The increasing housing density sharpens the already existing conflicts in water management too. An excellent example is the issue of inland excess water because many outskirts and other inner areas have fields without natural drainage outlets.

Separately, these effects are not significant, but when combined they decisively reduce the effectiveness of green and blue surfaces in urban microclimate control. The ad-hoc and semi-legal investment development techniques continue and have a long-term destructive impact on the urban environment, as well as on local social development through territorial injustices and chaos. The micro-scale problems are difficult to detect, because, due to the geography of outskirts, conflicting processes take place over short distances, so that they remain below the minimum-spatial criteria for land use databases. In addition to their environmental impact, these issues also make it difficult for local communities to function. Spatial injustices have led to persistent conflicts in communities already suffers from segregation and the unequal existence of social capitals.