Processes of Urbanization in Microregions of Slovakia

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Abstract

The aim of this research is to analyze the processes of suburbanization in the microregions of Slovakia and their impact on the transformation of traditional rural structures, including changes in local identity. The study examines the dynamics of demographic, economic, and social changes that directly influence the urbanization of rural areas. The methods used combine an analytical approach to geographic data, field observations and surveys, and cultural-social and ethnographic information. Through case studies, we reveal how suburbanization trends and their impact on local infrastructure guide the emergence of a new community identity. The results highlight the diversification of functions within rural municipalities, showing that suburban trends create new social and economic opportunities while also presenting challenges related to sustainable development and the preservation of cultural identity. The research emphasizes the need for strategic regional planning that integrates urbanization dynamics and identity transformation into the rural landscape, thereby supporting balanced development in the microregions of Slovakia.

Keywords: suburbanization, rural landscape, Slovak microregions, rural identity, regional planning, architectural heritage

1. Introduction

Suburbanization represents one of the most significant processes of spatial transformation in the contemporary Slovak countryside. The identity of a place is shaped by the community, which reflects its values in daily life, social relationships, and the way it utilizes the landscape and its resources. Patterns of land use, the nature of spatial and architectural interventions, are tangible legacies of historical periods and societal transitions. Rural architecture—formed by local conditions, communal cooperation, and available materials—belongs among the most authentic expressions of regional identity. This research analyzes the impacts of suburbanization in two contrasting microregions: the Červený Kameň Microregion (MČK) and the Horná Orava Microregion (MHO). The study is based on both qualitative and quantitative data gathered through interviews with residents, field observations, and analysis of maps and planning documents. The aim is to identify and compare three key manifestations of suburbanization: Disruption of traditional urban structure, Unplanned densification of plots, Construction of peripheral enclaves, The broader context of these phenomena is examined in relation to demographic trends, housing patterns, spatial planning, infrastructure, and environmental impacts. The article seeks to answer three research questions: How does suburbanization transform the spatial structure of rural settlements? How does it influence community relationships and residents' identity? What challenges does it pose for infrastructure, the environment, and regional planning?

2. Suburbanization and Rural Transformation in the Post-Socialist Context

Suburbanization in the post-socialist space, including Slovakia, has a distinct character that differs from the forms known in Western Europe or North America (Šuška & Šveda, 2019). It primarily occurs within existing historical settlements and is accompanied by weak regulatory policies and rapid construction. After 1989, the countryside became an attractive destination for urban residents seeking a quieter place to live. This migration brought about significant spatial and social changes. Since the early 21st century, the number of individual housing projects has grown, supported by more accessible mortgages and improved mobility. The result is the development of residential zones lacking clear urban planning concepts, disruption of traditional village structures, and changes in the social composition of the population. Suburbanization thus alters not only the physical appearance of settlements but also their community life — shifting from collective farming and shared courtyards to individualism and anonymity. This trend is confirmed by interviews with residents of the studied villages, such as Vištuk and Doľany, where newcomers often do not know their neighbors and do not participate in community life (respondent Vištuk, Doľany, personal communication, March 2025). The following chapter therefore focuses on the demographic and social contexts of suburbanization, which form the backdrop for urban transformation.

Červený Kameň Microregion (MČK)

In this context, the Červený Kameň Microregion (MČK) represents an area where a strong historical identity and urban continuity intersect with increasing pressures of suburban development. The territory currently administered as a microregion was historically part of the Červený Kameň Estate—one of the major feudal domains in western Slovakia, originally managed by the Fuggers and later by the Pálffy family. The economic and administrative center of the estate was the Červený Kameň Castle, built in the 13th century, which remains a visual and cultural landmark of the area to this day (Tibenský, 2011). From a settlement perspective, the

region has long-standing historical continuity. The first settlements appeared during the time of Great Moravia, and the development of villages has since the medieval period been closely tied to the estate's economic functions—especially viticulture, agriculture, and crafts. During the 19th and 20th centuries, industrial and commercial activities were gradually incorporated into the traditional rural economy, leading to rurbanization—the blurring of lines between rural and urban ways of life (Danglová & Zajonc, 2007; Tibenský, 2011). Today, the territory of the former estate is administratively divided between the Bratislava and Trnava Regions, complicating regional coordination. Despite this fragmentation, a union of municipalities called the Červený Kameň Microregion Association (MČK) was established in the western (Bratislava) part of the former estate. It currently unites only eight municipalities: Dubová, Píla, Doľany, Budmerice, Štefanová, Vištuk, Jablonec, and Báhoň. The village of Častá, whose cadastral territory includes Červený Kameň Castle itself, withdrew from the association in 2024, resulting in the microregion losing not only its symbolic center but also its geographical one (Figure 1). However, for the purposes of this research, we work with a broader territorial framework that includes Častá, reflecting its historical and cultural ties. Suburbanization in this area is still relatively gradual, but its onset is evident. A typical manifestation is the densification of village interiors—especially through the subdivision of long, narrow plots and the construction of new housing in the rear sections of yards, often leading to the creation of new streets with no connection to the original urban structure. Although several municipal master plans anticipate this development, in practice the outcomes are often shaped by uncoordinated individual interventions that alter the village character and threaten the cultural legibility of the landscape. It is precisely at this stage—when the early signs of transformation can still be observed and reflected upon—that MČK offers valuable potential for researching suburbanization in its initial phase.

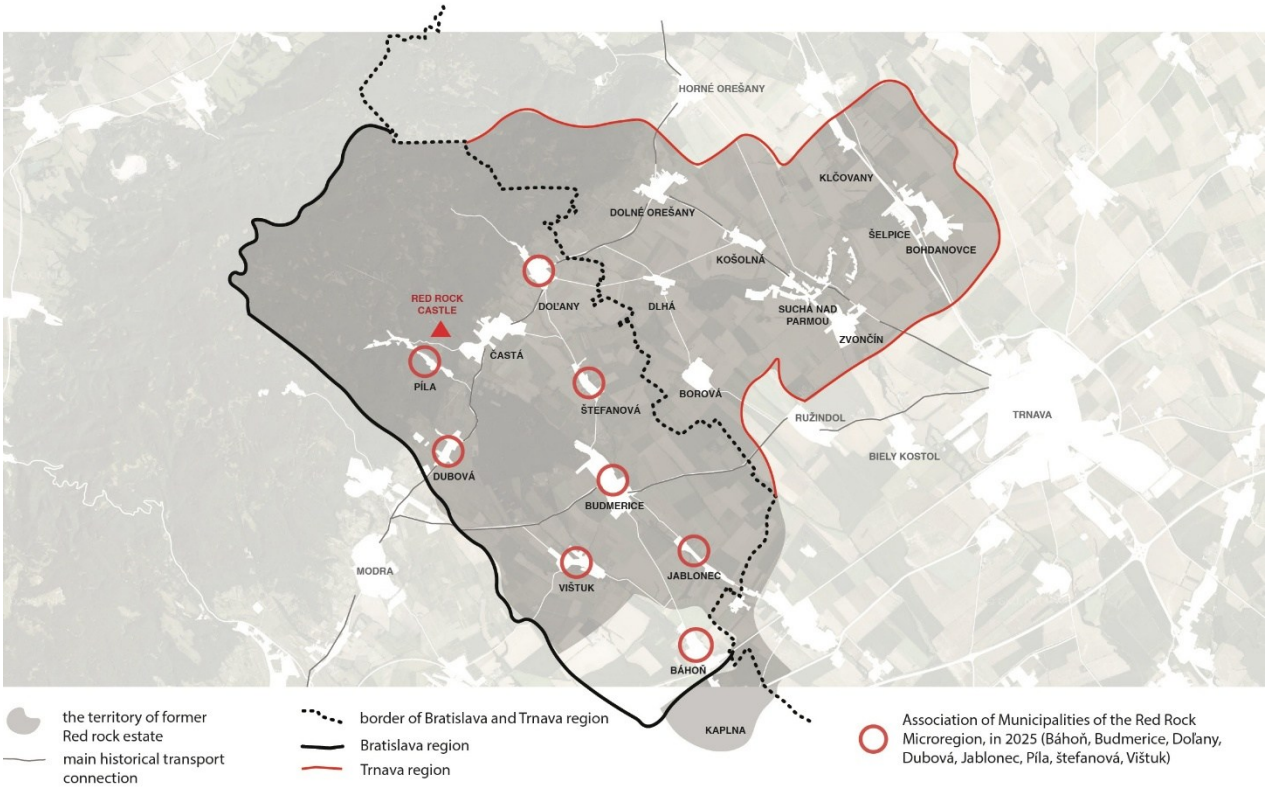

Fig. 1: The territory of the former Červený Kameň Estate in the context of current spatial planning units – Bratislava Region, Trnava Region, Červený Kameň Microregion Association (source: author)

Horná Orava Microregion (MHO)

The Horná Orava Microregion (MHO) developed gradually around the historic trade route known as the Amber Road (Čaplovič, 1998). Today, it falls under the administrative jurisdiction of the Tvrdošín District. In 2003, an association of legal entities called the Association of Towns and Villages of Upper Orava was established, comprising a total of 14 municipalities (Figure 2). The town of Tvrdošín, historically tied to the region, is currently undertaking steps to join the association. Due to its historical and functional significance, Tvrdošín is included in this study as one of the observed MHO settlements.

MHO possesses several favorable characteristics that form the basis for its further development. Its proximity to the Western Tatras, particularly the Roháče mountain area, and the presence of the Orava Reservoir offer potential for both summer and winter tourism. Geothermal activity and large forested areas also provide renewable natural resources (Kavuliak, 1995).The region has a strong historical foundation, with traces of settlement dating back to prehistoric times, as evidenced by numerous archaeological findings (Beňko, 1985). An important trade route—one branch of the so-called Amber Road—once passed through the territory, connecting the Baltic region to the Mediterranean. The colonization process from the 13th to 15th centuries was organized primarily through three legal systems: customary (local), German (emphyteutic), and Wallachian law (Beňko, 1985). Over time, differences between peasant, Wallachian, and gentry settlements diminished. Changes in land ownership, development of feudal obligations, and evolving settlement patterns gradually transformed scattered hamlets into modern villages with permanent habitation and more complex social structures. (Langer, 1993).

Suburbanization in MHO manifests differently across municipalities. We tracked demographic changes from 1786 to the present. Villages with stable populations over the past 200 years have not been affected by insensitive development. These settlements have the opportunity to accommodate new buildings while respecting their historic character and without disrupting the original settlement structure. Although new residents are few, existing buildings in these villages are undergoing transformations. Suburbanization in these areas mainly occurs in historic centers dating back to the 19th century, where inappropriate new construction replaces original vernacular architecture.

Disregard for building lines and disproportionate scales negatively affect the appearance of compact village cores. Examples include Štefanov nad Oravou, Oravský Biely Potok, and Zábiedovo, all of which have maintained nearly unchanged populations for over two centuries. These are primarily end-of-valley villages, not located on through routes, and lie in difficult terrain, limiting their potential for expansion. Other settlements in the region have doubled their population during the observed period. These are typically located near strategic tourism areas, benefiting economically from visitor activity. With better geomorphological conditions, they have been able to grow spatially. Examples include Habovka, Podbiel, Hladovka, and Čimhová. New zones stabilize these villages, extend them at the edges, and follow the shape of traditional plots. In most cases, however, insensitive development also affects the original historic cores. A third group includes settlements with the most significant demographic and spatial changes, such as Vitanová, Brezovica, Suchá Hora, Zuberec, Liesek, and Nižná. This group also includes two towns: Trstená and Tvrdošín. In addition to disrupted historical structures, these places exhibit inappropriate densification—namely, the fragmentation of long, narrow plots into smaller segments and the construction of buildings in their middle or rear sections. New residential zones frequently emerge on village edges, but they introduce foreign parcel layouts that differ in scale and shape, resulting in a "carpet-like" development pattern that alters the traditional rural morphology.

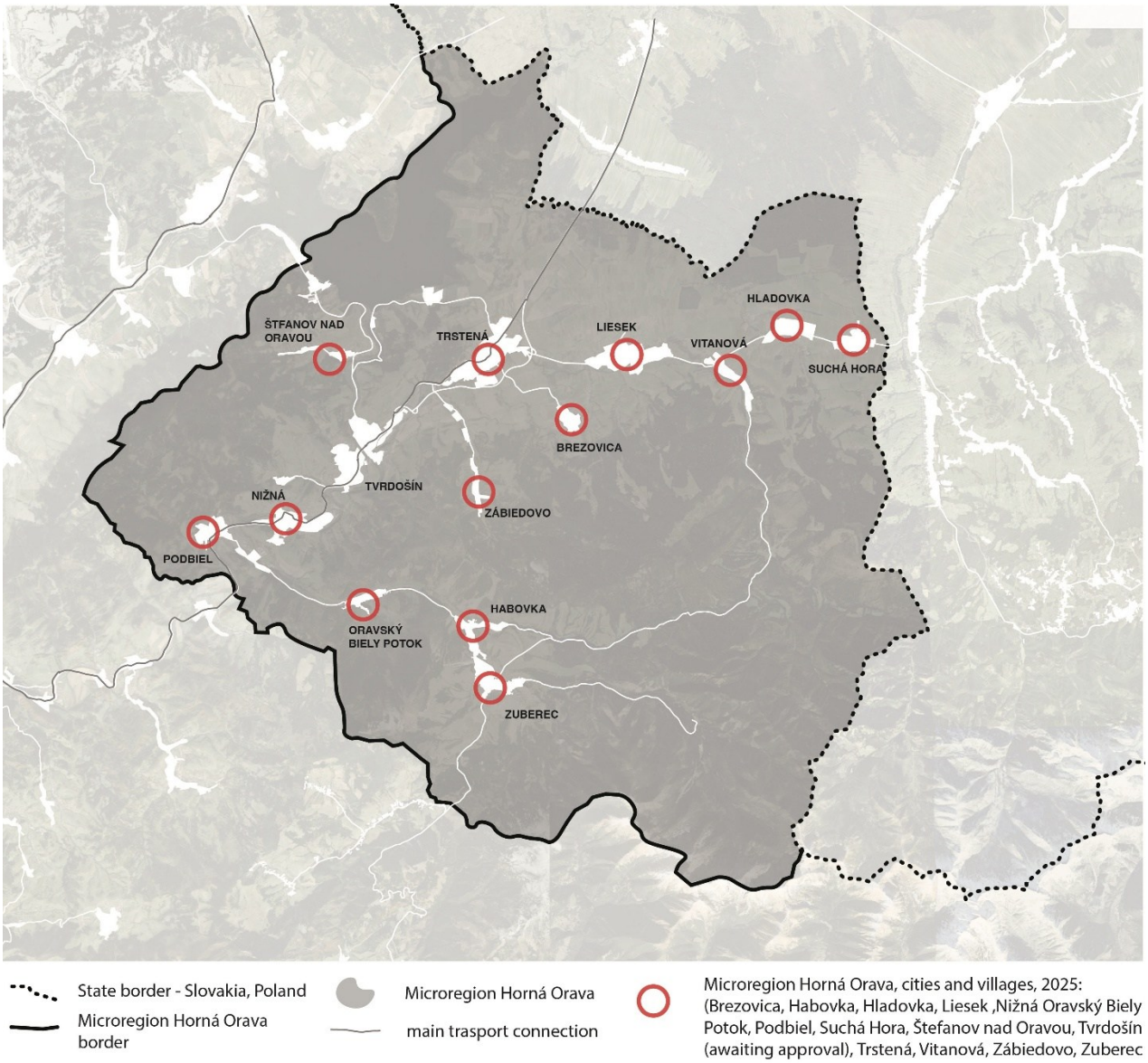

Fig. 2: Territory of the Association of Towns and Villages of Upper Orava (source: author)

3. Contexts of Suburbanization

Suburbanization in the hinterland of Bratislava is characterized by an intense influx of population, with a significant share of migrants coming not only from Bratislava itself but also from other regions of Slovakia. This process fundamentally alters the social structure of rural municipalities and contributes to their metropolization.

Demographic and Social Context of Červený Kameň Microregion (MČK)

In the case of MČK, this trend is reflected not only in population growth but also in the weakening of traditional community bonds (Papcunová et al., 2023). Traditional communities in the microregion were based on strong social ties and mutual cooperation. House construction was often a collective effort using materials available locally (Interviews with nine residents and mayors of MČK, personal communication, March 2025). However, this type of cooperation and knowledge-sharing is now giving way to an individualized form of living—new residents often do not know their neighbors, do not engage in community life, and their construction or renovation practices lack continuity with local traditions (based on interviews with residents of Vištuk, Doľany, and Štefanová, personal communication, March

2025). The owner of a historic house in Vištuk recalls, "I no longer even know who my neighbors are"—whereas in the past, building a house involved help from extended family and the community, today's approach is dominated by individualism, disconnected from local customs (Interview R1, personal communication, February 2025). In Doľany and Vištuk, it became evident that even a strong emotional attachment to place among long-term residents is not enough for them to manage the restoration of their homes properly and independently (Interviews R3 and R4, personal communication, February 2025). Similar trends were observed in Štefanová, where the original generation is dying out and new residents are not forming ties with the local community (Schmidt, 2003). Despite the strong identity of the villages, the community environment is at risk due to lifestyle changes, lack of expert guidance, and inconsistent regulation. In recent decades, MČK's demographic structure has undergone significant changes closely linked to suburbanization and migration. Historically, the region's population consisted mainly of stable rural communities. Today, however, the microregion has become an attractive destination for new residents, particularly from the Bratislava metropolitan area. According to data from the Economic and Social Development Program of the Červený Kameň Microregion, the total population reached 11,832 by 2019. From 2013 to 2019, the population grew steadily, with the highest increase occurring in 2015—a 1.5% rise compared to the previous year. The overall growth during this period was 5.7%, representing an influx of 637 new residents (Papcunová et al., 2023). The age structure shows that the dominant demographic group is residents aged 40–44, with many newcomers being economically active individuals with families or family plans. This pattern is typical of suburbanization, where residents from urban centers—mainly Bratislava and Pezinok—move to nearby rural areas offering better housing conditions and access to infrastructure. A key factor is good transport accessibility, allowing for daily commuting to city jobs (Papcunová et al., 2023). Although some municipalities in the region are experiencing a decline in natural population growth, the overall population continues to rise due to positive migration balance—more people are moving in than out. This trend is reflected in the spatial structure of municipalities, where residential zones are expanding at the expense of agricultural land and individual housing development is increasing. In the long term, stabilization of the working-age population and gradual growth in the post-productive age group is expected—especially in Budmerice and Častá. A milder increase in the elderly population is projected in Báhoň, Vištuk, and Dubová, while a relatively balanced age structure is anticipated in other settlements of the region (Papcunová et al., 2023). This demographic development brings both challenges and opportunities. On one hand, suburbanization stimulates economic growth, increases demand for services, and creates new jobs. On the other hand, it places pressure on infrastructure, transport networks, and civic amenities. Uncontrolled growth can lead to territorial fragmentation, loss of rural character, and weakening of social cohesion. The key challenge for the future is strategic suburbanization management—to preserve the unique identity of the region while ensuring its sustainable development.

Demographic and Social Context of Horná Orava Microregion (MHO)

The expansion of cities into the peri-urban landscape is not a new phenomenon—it has historically occurred through the movement of people, goods, and information. However, after World War II, the development of automobilization loosened the traditional bond between housing and the workplace, fundamentally changing the character of settlement (Šuška & Šveda, 2019). Traditional villages in northern Slovakia had a very strong sense of community. Due to challenging geomorphological conditions, they developed a compact structure, and individual vernacular buildings were naturally constructed in close proximity. The lack of flat terrain meant that rural settlement patterns formed mainly along roads, streams, or the Orava River. Houses were typically self-built, with the builder and the owner being the same person. Families constructed homes to meet their own needs. In-depth interviews with residents of MHO confirm the existence of a relatively strong degree of social control (Interviews with eleven residents and mayors of MHO, personal communication, January–February 2025). If something happened on the street, the entire community often knew about it. This non-anonymous lifestyle had both advantages and disadvantages, but it is now gradually disappearing. Observations and interviews with residents of Štefanov nad Oravou, Brezovica, Zuberec, Liesek, and Nižná show that some new residents have not integrated into the community even after years. Community membership is often defined by participation in Sunday church services, church cleaning, village festivals, or communal efforts such as maintaining public spaces or cleaning the street in one's immediate neighborhood. The original generation is slowly fading away, and younger residents are adopting a more urban lifestyle. The demographic structure of the Horná Orava Microregion underwent its most significant changes after 1970. These shifts are closely linked to the expansion of the local industrial plant Tesla Orava. According to current data from the Statistical Office of the Slovak Republic, population growth is clearly visible in the villages, while the two towns within MHO have experienced a noticeable population decline since 2011. It is likely that the trend of returning to rural areas will not reverse anytime soon. This is partly influenced by the post-COVID situation, which brought about significant changes to many professions and led to the widespread adoption of remote work—even in this region. The rural landscape has become a strong attractor for educated professionals who, after completing university studies or professional internships, are returning to their native region. According to data from the Statistical Office, the population of the municipalities in the microregion has reached 35,856, of which 19,691 people (55%) live outside the urban areas of Tvrdošín and Trstená. Since 2011, the cities have recorded a 1% annual decline in population, while the villages have seen an annual increase of 1.04% during the same period. The age structure of the population indicates that the economically active group (ages 15 to 65) makes up on average two-thirds of the total population. The highest share of residents over 65 years of age is found in Nižná, while the highest proportion of children under 15 is in Zábiedovo. Based on the long-term survey results, a growing trend of relocation to the rural environment of the surrounding villages can be expected. It is also important to note the increasing number of residents in the post-productive age group. (Statistical Office of the Slovak Republic, 2023)

Infrastructure and Environmental Context

Suburbanization places a burden not only on urban structures but also on the infrastructural and environmental capacities of a given area. A sharp increase in population, pressure on transportation networks, and the demand for sewage systems, water, energy, and waste management all highlight that development planning cannot be separated from technical and ecological considerations. The absence of regulation or a mismatch between construction and available infrastructure leads to significant overloading of the territory.

In MČK, construction exerts pressure on transportation infrastructure, especially in municipalities like Dubová, where a bypass is lacking, and in Báhoň, where an underpass has disrupted the historic core. Due to heavy traffic on historic roads, the integrity of historical centers has been compromised in most MČK villages. Suburbanization also leads to territorial fragmentation, disrupting ecological connections and lowering environmental quality. Historically, these villages were self-sufficient and managed local resources—such as wood, stone, and water—in a sustainable way. Today, these principles are being abandoned, while new residential zones are being developed without connections to existing utility networks or public spaces.

In MHO, the strain on infrastructure is also significant. The planned R3 expressway is expected to relieve transit villages of heavy truck traffic, but at the same time, it may intensify pressure for new construction. While the transportation network is functional, local roads and

technical infrastructure—such as sewage systems, landfills, and water supply—remain insufficient. Environmental issues, including pollution of watercourses and the lack of comprehensive waste management, highlight the need for a systemic solution. In villages where development occurs without infrastructural preparation, the quality of the environment and residents' living comfort is declining. These factors confirm that suburbanization requires the integration of urban and environmental planning, especially in areas with historical and natural heritage. Solutions limited to individual municipal cadastral territories are not sufficient.

4. Methodology

The research on suburbanization in Slovak microregions was based on a combination of qualitative and quantitative methods. The goal was to capture and analyze the social, demographic, spatial, and cultural aspects of ongoing changes that influence the character of rural communities. The study focused on two contrasting microregions—Červený Kameň Microregion (MČK) and Horná Orava Microregion (MHO)—each representing different stages of suburbanization. The selection of these microregions was motivated by an effort to observe suburbanization dynamics at various phases of development. MČK is a territory where suburban pressures are still in their early stages. Due to its peripheral economic status and limited development projects, many of its villages have retained an authentic character—including traditional building forms, human scale, and community bonds. In contrast, MHO underwent intensive suburbanization, especially during the second half of the 20th century, which led to visible changes in village urban structures, increased density, and significant spatial and social transformations. The reference periods for assessment were 1950 and 2025. The year 1950 represents a time before socialist planning took hold and reflects the traditional rural structure. The year 2025 is based on current land-use planning documents and anticipated developments, including suburbanization strategies at the municipal level. This comparison enables the study of territorial transformation over a longer time span, acknowledging that the main wave of suburbanization began after 2000. For MČK, research focused on the villages of Doľany, Vištuk, and Štefanová, each illustrating different responses to suburban pressures—from reconstruction of historical buildings (Vištuk), to careful restoration (Doľany), to the creation of new enclaves (Štefanová). In the field, structured interviews were conducted with owners of traditional houses, exploring their relationship to their homes, villages, and the changing character of their communities. These interviews were supplemented by field observations with emphasis on architectural changes, fence typologies, and, in particular, the emergence of uncoordinated development resulting from the subdivision of long plots and the construction of bungalows. These changes often contrast with the intentions declared in local planning documents, which support controlled infill development but in reality result in fragmented, identity-less construction. In MHO, several villages were selected to represent varying levels of suburbanization. Štefanov nad Oravou remains largely unchanged in its original urban character over the past two centuries. As future development is likely, it is important to address potential issues brought by suburbanization early on. Podbiel and Brezovica have doubled their built-up areas, while Liesek and Nižná have experienced a threefold increase in population. The towns of Tvrdošín and Trstená were not included in this phase of research, as the study focuses on rural municipalities near larger urban centers.

In this part of the research, attention was paid to changes in urban morphology, land use, transformation of public spaces, and overall spatial structure. The same tools were applied as in the MČK case, allowing for comparative analysis between the two regions at different stages of development. In addition to qualitative tools, the research also included analysis of available demographic and socio-economic data—particularly from the Economic and Social Development Program of MČK (2021–2027), as well as from databases of the Statistical Office of the Slovak Republic and GIS sources. These data provided a complementary framework to fieldwork, enabling preliminary tracking of demographic trends, age structures, and migration patterns in relation to the observed spatial and societal transformations in both microregions.

5. Impact of Suburbanization on Rural Architecture and Urbanism – Case Study Analysis

Suburbanization, as a phenomenon transforming rural areas, manifests in Slovak microregions in various forms depending on geographic context, historical development, infrastructure, and demographic trends. In this chapter, we analyze the specific impacts of suburbanization processes in two contrasting microregions: the Červený Kameň Microregion (MČK) and the Horná Orava Microregion (MHO). While the former represents a territory in the early stages of suburbanization, the latter shows signs of long-term spatial and social transformation. The aim is to identify and interpret the forms of suburban manifestations and their impacts on community, identity, urbanism, and the environment. Suburban pressures in recent years have significantly altered the traditional spatial logic and architectural expression of rural settlements. Across the studied villages of both microregions, we can identify three dominant phenomena, which appear in different forms and intensities:

1. Disruption of Traditional Urban Fabric – insensitive reconstructions or replacement of original buildings with new structures that fail to reflect the traditional scale and character of the village. This disrupts the spatial continuity and harmony of the established street frontage.
2. Unregulated Parcel Densification – unplanned densification of yards and plots through construction in rear sections. Long plots, which owners are no longer able or willing to maintain, are subdivided for new development. This leads to new building lines at the back of properties, often without connection to existing infrastructure. Construction occurs in an uncoordinated manner, often in disregard of the zoning plan.
3. Peripheral Enclave Expansion – emergence of new development zones on village edges, frequently lacking urban, cultural, and social anchoring. Even where building follows the local master plan, the result is often a monotonous cluster of new houses with no relationship to the character of the territory. The outcome is an environment lacking hierarchy, public spaces, and community ties.

The transformation affects not only the houses themselves but also public space. Open courtyards, passageways, and socially permeable boundaries are increasingly replaced by opaque concrete walls, which fragment the space and reinforce the individualization of residents. These phenomena impact not only the physical appearance of villages but also on their demographic structure, lifestyle, community bonds, and environmental balance. Suburbanization in Slovakia began to manifest more strongly after the year 2000, with a decisive turning point being Slovakia's accession to the European Union and the liberalization of the mortgage market. The key period of expansion came especially in the second half of the 21st century, when individual housing construction became more accessible thanks to credit options and a gradual shift in the population's value preferences (Šuška & Šveda, 2019). Bungalows and catalog houses became symbols of affordable housing, replacing traditional multi-generational homes—mainly due to their cost-efficiency and ease of implementation. Beyond economic and technological factors, social drivers also played an important role: an increasing preference for

privacy, car ownership, and the desire for a "rural lifestyle"—which, however, often had no connection to local traditions or community structures. Construction often occurred in an uncoordinated way, as many municipalities were unprepared for such growth—lacking up-to-date zoning plans, with weak regulations, and local administrations vulnerable to pressure from developers. In the following subsections, we will analyze these three suburban phenomena separately for each microregion.

Červený Kameň Microregion (MČK)

The vernacular architecture of the region has historically been shaped by natural conditions, the availability of building materials, and the social structure of the population. In the Little Carpathians area, this meant the use of local stone for building houses and wine cellars, and the construction of homes from unfired bricks and clay, coated with lime-sand plasters. A typical element of the urban layout in microregion villages was the long narrow plots oriented perpendicularly to the street. At the front of these plots stood deep, three-room houses (room – black kitchen – pantry), followed by added farm structures. At the rear of the parcels, barns, cellars, and vineyards provided self-sufficiency and shaped the functional and social rhythm of the village. From the 18th century, improving living conditions for peasants were also reflected in architecture—particularly in the trend of enclosing previously open courtyards and forming continuous street frontages (Benža et al., 1998). The spatial arrangement of rural villages in the Červený Kameň Microregion (MČK) is now changing under the influence of suburbanization, though to varying degrees. Based on the analysis of zoning plans, historical maps (TUZVO, 1950), current imagery (Google Earth, 2025), and strategic planning documents (Papcunová et al., 2023), the villages of the microregion can be divided into three categories based on the type and extent of development:

Dynamically growing villages, such as Budmerice and Častá, which have seen significant expansion of built-up areas and are undergoing intense new development.

Villages with gradual but visible growth, such as Vištuk, Doľany, Báhoň, and Dubová, which have so far retained their urban character but whose zoning plans indicate large-scale development zones, often featuring bungalow typologies.

Villages with minimal changes in the extent of built-up area, such as Štefanová and Jablonec, which nonetheless face either detached new development (Štefanová) or reconstruction of the historical core (Jablonec).

Based on case studies of MČK villages, we identify three key suburban phenomena, each of which affects the urban fabric, community relations, demographic trends, and the environment to varying degrees. Each phenomenon manifests in a specific way, depending on the local context and the planning documents of the individual municipalities.

Disruption of Traditional Urban Fabric in MČK

The suburban phenomenon of disrupting the original urban and architectural structure is most evident in the form of insensitive reconstructions and new constructions within the historical cores of villages. In Vištuk and Dubová, redevelopment projects often disregard the scale, orientation, and material composition of the original houses. Typical features include plastic windows, concrete fences, cement plasters, and inappropriate architectural details. In the village of Píla, this transformation was accelerated by a natural disaster—a flood in 2011 that damaged a large portion of the original built environment. A village once characterized by a unified architectural identity as part of the Červený Kameň hinterland lost many of its valuable structures. Furthermore, the small size of the cadastral territory limits new construction, increasing the pressure for rebuilding existing houses. In Štefanová and Doľany, a large number of traditional buildings have been preserved, but many are in poor technical condition and at risk of disappearance. In Štefanová, several buildings suffer from moisture and structural instability, and renovations frequently rely on foreign materials. The mayor has expressed a clear intention to protect the village's character from uncoordinated development. A positive exception is House No. 23 on the main street, which the owner is restoring independently—without professional assistance (Figure 3). A quote from the interview: "Through trial and error, I'm trying to deal with moisture and woodworms, but I haven't succeeded yet." The house retains its farm buildings and original structure. The barn, once used as a vineyard shelter, no longer supports grapevines but is at least partially maintained. The owner now lives in a new house on the opposite side of the street but emphasizes a moral responsibility to protect family heritage (respondent Štefanová, personal communication, March 2025).

Fig. 3: House No. 23 in the village of Štefanová, MČK (source: author)

In the village of Doľany, a high proportion of historic buildings has been preserved, which can be attributed to two main factors. The first is the presence of socially disadvantaged residents, or residents who are bedridden, and thus unable to afford renovations—leaving houses in their original but often physically deteriorated condition. The second group includes residents with a strong emotional attachment to their property (respondent Doľany, personal communication, February 2025). One respondent showed us a house that was self-restored without the involvement of architects, yet the renovation displays high craftsmanship—with hand-mixed lime plaster, refurbished wooden windows, and a preserved interior that includes a black kitchen, a traditional oven, and original

furniture and textiles (Figure 4). The house is not currently inhabited—the owners live in a new building at the rear of the plot, while the front portion is maintained as a symbolic heritage site (Interviews R3, R4, personal communication, March 2025).

Fig. 4: House 170 in the village of Doľany, MČK (source: author)

In the cases mentioned above, we observe the phenomenon of spontaneous renovation without professional guidance—many homeowners approach reconstruction independently, without knowledge of traditional materials and techniques. This results in insensitive interventions, but also in rare examples of high-quality craftsmanship (e.g., in Doľany and Štefanová). In Vištuk, we encountered a different case: the owner of one of the oldest rural houses in the village has a strong emotional attachment to her home and a clear interest in its restoration. However, due to a lack of accessible information and methodological support, her interventions are less sensitive (Figure 6). She uses modern materials such as plastic windows and cement plasters, which compromise the original character of the building (Interview R1, personal communication, February 2025).

Unregulated Parcel Densification in MČK

This phenomenon is present in nearly all villages of the Červený Kameň Microregion (MČK). It represents a new but increasingly common form of densification, in which the rear sections of long traditional plots are being subdivided and built upon without any relationship to the existing village structure. In Vištuk, the case involves the oldest house in the village (Figure 6), which is in poor technical condition. The owner stated that she does not know how to proceed with the building. The garden behind the house is currently unused, and she is considering subdividing the land, following the example of her neighbors. In a nearby case, one parcel was divided into four smaller plots, now occupied by bungalows and two-story houses that are entirely disconnected from the original urban fabric—they disregard the building line, differ in scale, and feature concrete fencing. A similar situation is observed in Doľany, where parcel subdivision of rear plots (known as humno) occurs particularly where the agricultural use of the land has ceased or been long abandoned. These areas are being sold off and built up with new homes that do not relate to the original urban structure. The new houses ignore the street alignment, are often disproportionately large, and are enclosed with opaque concrete walls. This process is happening in contradiction to zoning regulations and without connection to existing infrastructure. In Doľany, we observe a situation where craft-quality restored historical homes stand next to new buildings constructed at the back of former humno plots (Figure 5). In Štefanová and Dubová, this phenomenon is currently less widespread, but given the growing demand for development, it is expected to intensify in the near future.

Fig. 5: Village of Doľany – contrast between a long plot in its original state with a preserved vineyard and barn (left), and a long plot subdivided for the construction of new bungalows with no response to the surrounding context (right); (source: author)

Fig. 6: Village of Vištuk – contrast between a long plot retaining its original shape but remaining unused (situation – plot on the right) and a neighboring plot subdivided for the construction of new houses with no response to the surrounding context (situation – plot on the left); photo (left) shows inappropriate forms of fencing (source: author)

Peripheral Enclave Expansion in MČK

In the Červený Kameň Microregion (MČK), new development zones are often planned on the outskirts of villages, disconnected from their historical structure. This phenomenon is especially evident in the villages of Dubová, Budmerice, and Štefanová. In Dubová, the zoning plan anticipates almost doubling the number of houses, with construction occurring in enclaves at the foothills of the Little Carpathians (Figure 7). In Budmerice, new development zones are emerging in close proximity to the historic manor house, posing a risk of disrupting both the landscape and cultural context. In Štefanová, new development axes have appeared at the northern and southern edges of the village (Figure 8). These districts are characterized by poor-quality public space, a lack of sidewalks, greenery, and amenities, resulting in their social and physical isolation from the rest of the village. The development of Budmerice between 1950 and 2025 can be considered largely harmonious—new construction generally respected the composition and spatial principles of the traditional village core. The historic structures in the village center have remained relatively intact, and new streets follow its urban pattern. However, problems have begun to arise with the latest development zones, now appearing in direct contact with the manor house grounds. The construction of bungalows in these areas represents a serious intervention in both the landscape and historical context of the village.

Fig. 7: Village of Dubová – development zones (source: author)

Fig. 8: Village of Štefanová – development zones (source: author)

Disruption of Traditional Urban Fabric in MHO

Stavby na bývanie každej historickej vrstvy majú svoju životnosť, v súčasnosti aj legislatívne stanovenú. Je teda zrejmé, že sídla prechádzali v minulosti až doteraz neustálymi premenami. Na území MHO bola táto sídelná premena najvýraznejšia v druhej polovici dvadsiateho storočia. Aj vďaka silnému priemyselnému závodu a rozvinutej poľnohospodárskej výrobe bol zaznamenaný najväčší plošný rozmach stavebnej substancie a prírastok obyvateľstva. Nové typizované stavby boli realizované často krát však bez nadväznosti na pôvodnú vernakulárnu štruktúru. Dnes je náročné nájsť v obciach niekoľko za sebou radených tradičných objektov z prvej polovice dvadsiateho storočia. Takéto stavby už pozorujeme len fragmentárne, roztrúsené medzi modernejšou výstavbou. Dobrým príkladom stabilizovania takéhoto historického jadra ja obec Podbiel, kde vidíme v urbanistickej štruktúre jasne definovanú hranicu medzi pamiatkovo chránenou časťou vernakulárnej štruktúry a objektmi, ktoré pribudli neskôr. Iné takéto pamiatkové zóny vernakulárnych štruktúr s urbanistickou hodnotou sa v obciach MHO nenachádzajú.

Fig. 9: Stabilized heritage vernacular structure in the village of Podbiel (source: author)

Just like vernacular buildings, standardized postwar structures have now reached the end of their lifespan. They are gradually being reconstructed or entirely replaced with new buildings. The most common problem in the urban fabric is the inappropriate replacement of existing structures from either era with new constructions that ignore the contextual setting. Often, the placement, scale, or massing of new buildings completely disrupts the established visual harmony of the street frontage. In this phenomenon, the issue is not whether the replaced structure is vernacular or standardized—what matters is the loss of spatial continuity and the lack of respect for the urban context.

Fig. 10: Village of Štefanov nad Oravou – Insensitive new buildings within the existing compact street development (source: author)

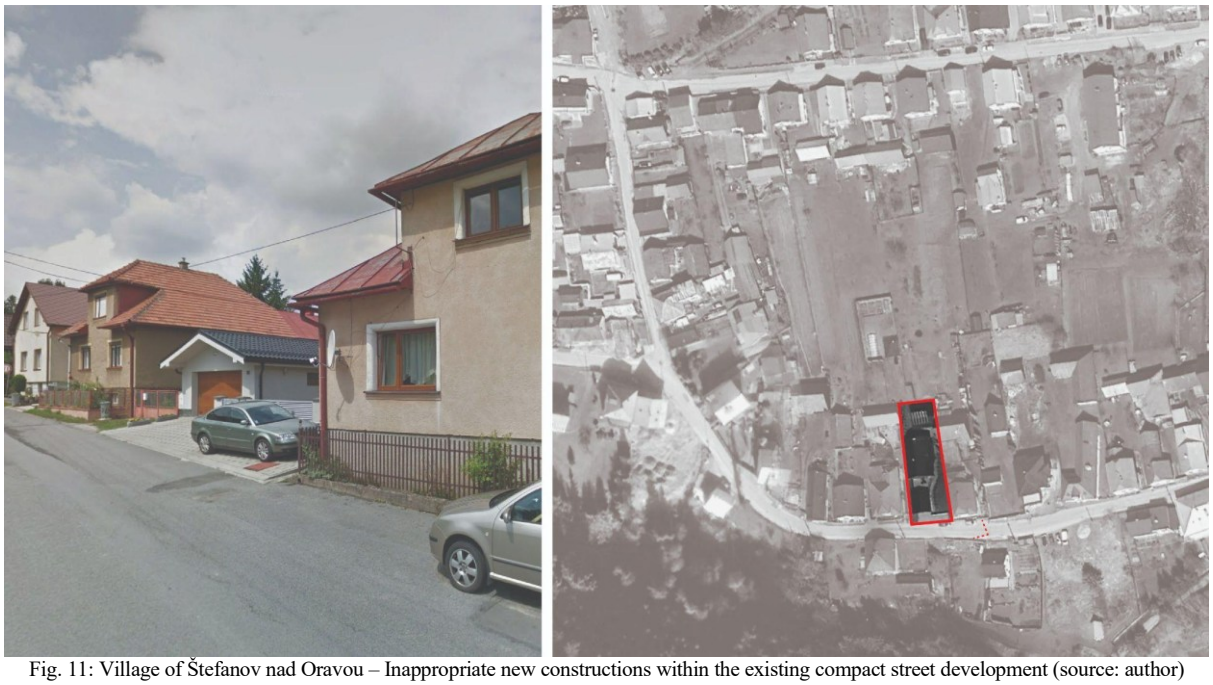

Fig. 11: Village of Štefanov nad Oravou – Inappropriate new constructions within the existing compact street development (source: author)

Unregulated Parcel Densification in MHO

In the villages of the Horná Orava Microregion (HMO), we also observe this type of problem to a large extent. New buildings are no longer placed within the compact row of houses, nor in the position of former utility buildings just behind the residential houses. Instead, they are constructed at the end of long plots, in areas previously perceived as open, continuous garden space. On the access street, this often results in functional gaps between family homes—spaces that remain unbuilt because they serve as driveways to a house located deeper in the garden, or they contain small structures such as garages, which due to their disproportionate scale, stand out from the otherwise defined character of the street—again, a variation of the problem described earlier. The model village of Štefanov nad Oravou was formed by merging two smaller settlements—Horný and Dolný Štefanov. Due to its location near the main road and more favorable topography, the lower part of the village underwent significant expansion in the second half of the 20th century. A new street composed of standardized buildings was added along an existing dirt road in the northern part, resulting in a compact and coherent section of the settlement. Although local residents accepted the modern building methods, the use of the backyard garden remained unchanged, continuing the traditional lifestyle. Each family supported itself through animal husbandry and vegetable growing. A row of utility structures behind the standardized homes, confirmed in interviews with residents, shows the continuation of this lifestyle. These internal blocks were divided by wire fences, which did not cast shadows or act as visual barriers to neighbors. The open garden spaces were diversified based on each family's needs—some had apple orchards, others animal enclosures.

However, in the early 2000s, this lifestyle began to fade. Today, utility buildings in the lower part of the village are gradually being removed, left unused, or repurposed as storage for tools and firewood.

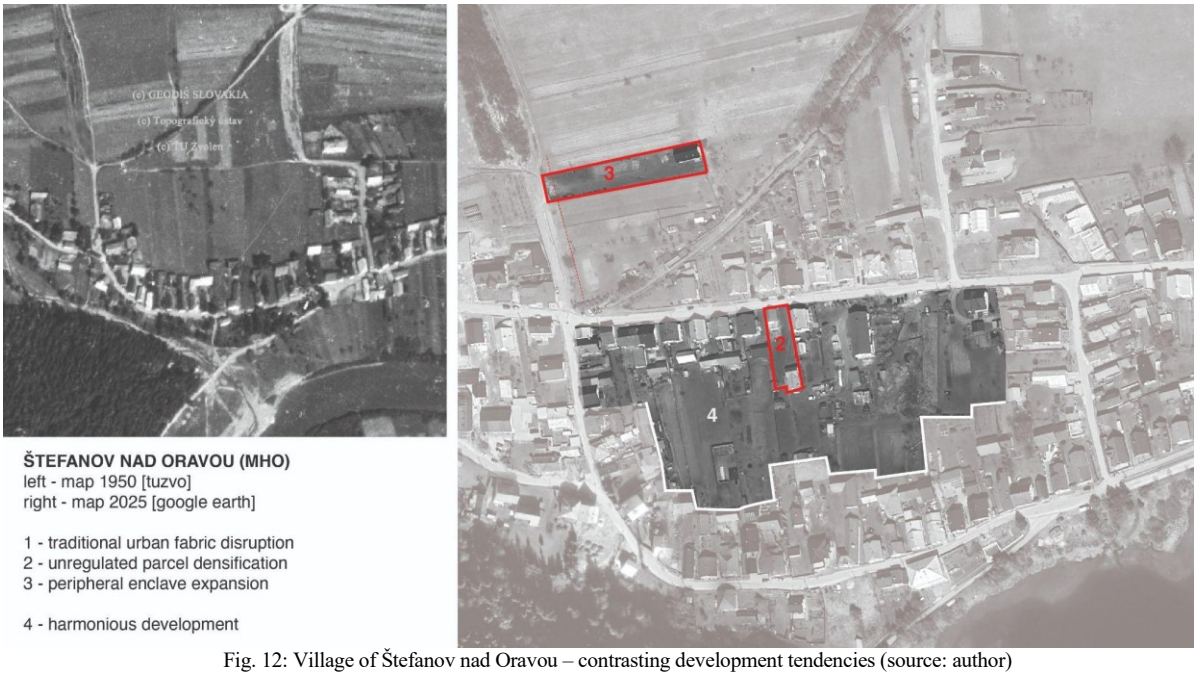

Fig. 12: Village of Štefanov nad Oravou – contrasting development tendencies (source: author)

The same type of problem is also observed in the upper part of the village, where atypically shaped plots are emerging, and new development is being carried out beyond the boundaries of existing agricultural parcels.

Fig. 13: Village of Štefanov nad Oravou – inappropriate development tendencies (source: author)

Peripheral Enclave Expansion

The third and, from an urban planning perspective, the most serious issue is the emergence of a new urban structure—a poorly defined development pattern located outside or on the edges of the built-up area of the village. Without a detailed zoning plan, it is difficult to prevent the gradual and inappropriate construction in such areas. The beginning of this type of development can already be seen in the lower part of the village of Štefanov nad Oravou.

Fig. 14: Village of Štefanov nad Oravou – unsuitable development tendencies (source: author)

In the model village of Brezovica, which has multiplied in size, several phases of new development have already taken place throughout the 20th century. As can be seen in the image, this gradual expansion initially followed the scale and shape of plots consistent with the traditional vernacular structure. However, the new emerging urban structure in the northern part of the village—although it naturally extends the village along its immediate edge, introduces a carpet-like pattern of new family houses built on square-shaped plots. In terms of scale and form, these plots do not correspond with the historic type of development and thus appear alien to the local context.

Fig. 15: Village of Brezovica – contrasting development tendencies (source: author)

The most striking example of suburbanization can be observed in the northern part of the village of Nižná. This development has occurred over the last two decades. Despite the village's gradual expansion during the second half of the 20th century, the historic core and adjacent areas remained compact and cohesive. The streets are densely built, maintaining a clearly defined street line and building alignment. However, the new district gives an ambiguous and disorganized impression. The plots lack uniform character and density. Buildings are constructed randomly, without a zoning plan, and vary significantly in form, volume, and size. As a result, the overall appearance of the development is disharmonious, scattered, and incompatible with the traditional structure.

Fig. 16: Village of Nižná – contrasting development tendencies (source: author)

6. Discussion

Suburbanization, as a process of spatial transformation, exhibits specific characteristics in the Slovak context, which vary by region, historical development, and local conditions. Based on the analysis of case studies in the Červený Kameň Microregion (MČK) and the Horná Orava Microregion (MHO), we identify three dominant suburban phenomena: (1) the disruption of traditional urban fabric, (2) unplanned densification of plots, and (3) the expansion of peripheral enclaves. These phenomena share common roots, yet their manifestations and consequences are locally distinct.

Disruption of Traditional Urban Fabric

In both microregions, interventions are occurring that disrupt the historical character of the villages. In the Červený Kameň Microregion (MČK), this often involves self-initiated renovations without professional guidance, driven by a strong emotional connection to the home, but lacking access to information (Vištuk, Doľany, Štefanová). In the Horná Orava Microregion (MHO), the main reason is the expired lifespan of standardized post-war houses and the absence of regulation to guide new interventions (Nižná, Brezovica). The root causes include a lack of methodological support, weak planning tools, and a disconnect between new residents and the cultural heritage.

Unregulated Parcel Densification

Densification of long parcels is becoming an increasingly common phenomenon. In the MČK (Vištuk, Doľany), it involves the spontaneous subdivision of rear garden plots (humno) regardless of zoning regulations. In the MHO (Štefanov nad Oravou, Nižná), similar patterns are observed, but they are more often accompanied by the loss of community structures and disuse of agricultural land. This trend is driven by lifestyle individualization, pressure for affordable housing, and lack of plot regulation. Moreover, the demand for land in attractive regions (proximity to cities, recreational areas) further fuels developer interest.

Peripheral Enclave Expansion

Peripheral enclaves are emerging as a result of population growth and insufficient spatial planning. In MČK, this manifests in new residential zones with low urban design quality (Dubová, Budmerice). In MHO (Nižná, Brezovica), we observe so-called “carpet-style” development that disregards parcel shapes and spatial hierarchy. While infrastructure improvements—such as the construction of the R3 expressway in MHO—enhance accessibility, they also increase pressure on peripheral areas. The lack of coordination with environmental planning results in landscape fragmentation and loss of ecological connectivity.

Community, Identity, and Infrastructure

Suburbanization profoundly transforms community structures. In the Červený Kameň Microregion (MČK), we observed a strong symbolic connection to properties, but also a lack of opportunities for sensitive restoration. In the Horná Orava Microregion (MHO), the community is strongly shaped by historical development, yet it is gradually losing its identity due to increasing construction that lacks ties to local traditions. The absence or lagging development of technical infrastructure and regulation (e.g., sewer systems, planning, transportation) further intensifies spatial and social fragmentation.

7. Conclusion and Recommendations

Suburbanization, as part of broader urbanization processes, is significantly reshaping the spatial, social, and architectural structures of Slovak microregions. Using the examples of the Červený Kameň Microregion (MČK) and the Horná Orava Microregion (MHO), we identified three key impacts of this transformation: disruption of traditional urban fabric, unregulated parcel densification, and expansion of peripheral enclaves. While suburbanization often brings economic and demographic benefits, it also generates pressure on the landscape, infrastructure, and social ties within communities historically rooted in shared identity. Findings from field research, spatial data analysis, and resident interviews reveal that in MČK, the suburbanization process is accompanied by a gradual loss of local identity

and the disappearance of traditional forms of coexistence. Abandoned or unoccupied houses and shifts in parcel use reflect the weakening relationship between residents and their environment, while architectural continuity is disrupted by individualistic construction lacking sensitivity to local context. Unregulated infill development often undermines the possibility for systematic and planned territorial growth. A notable phenomenon is the hybridization of local identity, indicating tension between the image of traditional countryside and emerging suburban trends, which reflect differing lifestyles and values. In contrast, the Horná Orava Microregion managed to maintain development more closely aligned with traditional urban planning principles during the 1990–2020 period. While this area is not immune to external pressures, its higher degree of architectural continuity and community stability highlights the potential for cultural resilience in a transforming rural environment. These findings underscore the need for a more comprehensive approach to spatial planning, one that considers not only quantitative indicators of growth but also qualitative aspects, such as the continuity of cultural landscapes, preservation of local identity, and community resilience. In the future, it is essential to link regional policy, heritage protection, and participatory planning, which can help balance the demands of development with the values of traditional rural environments.

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