Dynamics of the Internal Structure and Habitation Conditions of the Ghettoized Urban Structure of Harman Mahala Quarter—Plovdiv, Bulgaria (Through Combined Application of Remote Sensing and Field Research Methods)

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Abstract Post-communist societies are facing numerous challenges leading to complex structural changes. New models of socio-spatial polarization of the cities have emerged. In recent decades, Bulgaria has seen a clear trend of growing number of Roma people residing in cities. In the majority of cases, the Roma settle either in already existing Roma quarters, or the new settlers form completely new Roma quarters. The swift explanation of the Roma quarters in both horizontal (spatially) and vertical (height) aspect, makes it difficult to trace the changes. Considering that most buildings are illegal, they are not present on cadastral maps and urban spatial plans. The serious difficulties which Bulgaria has been encountering regarding the integration of its Roma population, together with the increased ghettoization of the Roma living in cities and the eventual threats of social cataclysms, determine the necessity of carrying out this study. Its main objective is to analyze the spatial development trends and the internal structure of the Roma quarters, based on the case study of the Roma-inhabited Harman Mahala quarter in the city of Plovdiv, applying remote sensing and field research methods.

Keywords Spatial segregation · Ghettoized urban structure · Harman Mahala quarter—Plovdiv · Roma population

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Introduction

Spatial segregation has attracted the attention of geographers and sociologists for more than a century. Their research focuses on the analysis of spatial segregation patterns, the causes of their occurrence, their development and of course—the consequences. The proximity of ethnic groups determines patterns of social interaction and spatial access to social services: ethnic groups living apart from one another are unlikely to interact with each other and use the same social institutions (healthcare, educational institutions, parks, social centers, etc.). As the spatial proximity increases, the probability and degree of social interaction increases too.

In the United States, the concept of segregation is mainly perceived through indicators related to ethnic or racial affinities of the individuals, whereas in Europe—mostly to socioeconomic status, education level, housing quality—as Van Kempen and Özuekren (1998), Musterd and Ostendorf (1998), Friedrichs (1998), Johnston et al. (2002), Maloutas (2007), Van Kempen (2007) and other authors reveal. The above-mentioned researchers emphasize the growth of spatial segregation in the cities of most countries, pointing out as main factors the immigration flows, the "withdrawal" of the "social state", the housing market, the unequal distribution of council housing, the ethno-cultural specifics of the minority groups, etc. Overall, the level of spatial segregation in Southern European cities has been deemed lower compared to that of the Western European ones. Malheiros (2002) highlights that the nature of the existing spatial segregation in Southern European cities is determined by four features: (1) poorer housing conditions; (2) high levels of informality; (3) more complex housing distribution patterns; and (4) a higher degree of suburbanization. At present, scientists point out that the above-mentioned processes have become one of the main features of cities across post-communist countries of Europe as well. Although there are significant differences between the former communist countries themselves, it can be argued that their cities are characterized by a lower degree of segregation compared to the rest of Europe. Eastern European authors such as Szelenyi (1983), Marcińczak (2007), Toušek (2009) explain the lower degree of spatial segregation with the political agenda during the communist period, aimed at social equality. The post-communist socioeconomic transformation, as well as the introduction of the neoliberal model of state development, however, triggered a process of sociospatial polarization, with the explicit clarification that the segregation processes are valid for all social groups of people, especially for those who identify themselves as Roma. The above-mentioned authors state that the different forms of spatial segregation are related to the spatial concentration of representatives of the Roma ethnic group. Despite the great interest in that ethnic community, especially during the so-called "Decade of Roma inclusion", the empirical studies of the Roma neighborhoods and the place they hold in the urban area are relatively scarce in Bulgaria.

Categories and Methodology of the Research

The structural analysis of the changes occurring in urban neighborhoods, housing differentiation and the concomitant processes of spatial segregation and concentration, originated in the Chicago School of Sociology (see, for example, Burgess 1925; McKenzie 1925). Various spatial patterns of the cities exist, usually involving concentric zones—Burgess (1925), specific sectors (Hoyt 1939) or multiple nuclei (Harris and Ullman 1945). The spatial aspects of the social processes are theorized in the pioneering works of Harvey (1973, 1982) and Castells (1972). Each object or subject demands space. Since no object/entity can occupy the same space simultaneously with another one, space becomes divided, which is its basic physical characteristic (Harvey 2006; Simmel 1997). The same authors claim that space is never purely physical (absolute) or mathematical (geometric), but it is always also social. Space is defined by Bourdieu (1989) as a "system of relations", and Massey (2005) defines space as a "product of relationships".

It is hard to find a clear and common definition of *spatial segregation* in scientific literature. There are different ways to perceive and address the problem. The definition of the term *segregation* in the Dictionary of Human Geography is brief, describing spatial segregation as *a division of a particular community into subgroups throughout the area of residence* (Johnston et al. 1986). Despite the seemingly simple definition of spatial segregation, the term remains relatively unclear. Van Kempen and Özüekren (1998) believe that the essence of spatial segregation is expressed in the concentration of a particular group in some areas, compared to others where the same group is represented to a lesser extent. Closely related to spatial segregation is the theory of *spatial assimilation* (Massey and Denton 1988; Massey 2005), according to which the levels of acclimatization and integration determine the concentration of certain groups in a given territory. Spatial assimilation is the result of two opposing spatial forces: (1) concentration—that leads to ethnic segregation and (2) dispersion—where ethnic assimilation of given ethnic groups occurs. According to Van Kempen and Özüekren (1998), the opposite process of spatial segregation is the formation of the so-called *mixed residential areas*, defined as a situation where representatives of all ethnic groups live together.

In most definitions, spatial segregation is regarded as residential segregation, but it may also refer to the formation of separate groups in schools, at work, during leisure activities, etc. Research has shown that almost every criterion (social status, material status, ethnicity, mother tongue, race, religious beliefs, etc.) differentiating individuals and groups of individuals can become the basis for physical separation. A special feature of the Roma ethnic group is that spatial segregation, in that case, is not just ethnic and social, but also economic, cultural, and so forth. Depending on the spatial scale, different forms of segregation are observed: for example—segregation between the cities and their suburban belts; between individual neighborhoods within the city itself; between blocks of flats in a given neighborhood and even on a vertical scale (between the floors in a residential building).

The study of spatial segregation by urban geography in recent decades has been strongly influenced by the metaphor of the "dual city," which in its essence describes the trends of polarization of urban societies. The relationships between individuals, the way they interact, the differences that exist between them, are at the basis of the concept of the *dual city*—a concept formulated by Marcuse (1989, 1993), Mollenkopf and Castells (1991) and Sassen (1991), or the *divided city* of Fainstein et al. (1992). Van Kempen (2007) on the other hand makes the connection between the divided society and the divided city: if a society is divided, the city space will also be divided. Closely related to the theory of the divided city is the formation of various spatial urban structures such as *ghettos, ethnic enclaves*, etc., that are the product of the processes of spatial segregation. Marcuse (1995, 1997, 2005) suggests that the term *ghetto*, therefore, should be replaced by the term *ethnic enclave*. Marcuse distinguishes the *enclave* from the *ghetto* in the way those two form: according to that author, the formation of the ghetto is the result of the application of force, whereas in the case of the enclave that element is missing. Another major difference, according to Marcuse, is that in the case of the enclave it is the inhabitants who set the boundaries of the enclave, that is—it is generated "from the inside", while in the case of the ghetto, the dividing line is imposed "from the outside". Wirth (1998) refer to such areas (enclaves) as to *voluntary ghettos*—quarters which are formed in order to strengthen a shared (ethnic) identity.

Closely related to the study of the various urban spatial structures is the term *quarter*. There is no commonly accepted definition in the literature: Van Kempen (2007) distinguishes three approaches to defining the *quarter*. The first approach, adopted by Megbolugbe et al. (1996), considers the neighborhood as a homogeneous area with common demographic and residential characteristics. In this case, however, some areas are unlikely to be included in any quarters, given that many urban areas are characterized exactly by their heterogeneity. According to the second approach, adopted by Galster (2001), the boundaries of the quarter are outlined by the inhabitants themselves—on the basis of the shared identity or the way they perceive the quarter, i.e., based on the formed *sense of place*. Van Kempen (2007) points out that this approach, just like the first one, also excludes some areas, especially at a time when individualism is in its heyday. Van Kempen (2007) perceives the so-called *functional approach*, according to which urban space is divided into statistically defined areas whose boundaries are administratively imposed. This approach, the author points out, eliminates the possibility of some parts of the city not being included in the urban space. In the present study, the boundaries of Harman Mahala quarter of the city of Plovdiv, Bulgaria, are outlined on the basis of the ethnic homogeneity, the morphological structure and the urban planning characteristics of the neighborhood. In this study, the term *ghettoized urban structure* (GUS) is used. In defining that term, along with ethnicity, social and economic criteria are also used, such as unemployment rates, poverty level, infant mortality rate, the share of gray economy employment rate, vocational and educational level, etc. Another distinctive feature of the studied quarter is the long-term accumulation of interrelated problems of various natures: economic, social, urban, ecological, etc. The spatial range of a GUS can vary greatly: it can cover a whole neighborhood, part of it or just a group of

adjacent residential buildings. In infrastructural terms, the GUSs are characterized by deteriorated housing, poor technical and social infrastructure, poor public transport access, chaotic planning of the housing units and so forth.

Urban geography is open to various research methodologies. In the tracing of in the transformation trends of Plovdiv's urban space, orthophoto images (1952, 1965, 1975, 1982, 1989, 2005), cadastral plans (2010), the Integrated Plan for Urban Regeneration and Development of the city (2013) and its Spatial Development Concept (2015) were used, as well as unmanned aerial vehicle images (2018). Those images were georeferenced and digitized in GIS environment. GIS technologies were used to trace, visualize and analyze changes in the urban space's structure and to calculate building intensity ratios, the height of buildings, etc. data, which were later attached as attribute information to the corresponding ArcGIS layer. The studied area has been photographed by an unmanned aerial vehicle (UAV) from a low altitude—90–120 m, with precision instruments for capturing and recording data in the visible spectrum. Detailed maps of the actual state of the buildings—their outline, height, construction density, surface area, etc., have been elaborated on the basis of subsequent processing of the data obtained from aerial photo shooting, as well as the application of appropriate methods and algorithms. The values of some basic urban planning indicators—such as the construction density index and the percentage of landscaping—have also been established. Spatial data have been combined with field studies data, through quantitative and qualitative methods of gathering information, which all complement the characteristics of the living environment of the residents of Harman Mahala quarter. According to Bryman (2006), the choice of a research strategy of this kind provides authors with "data richness," considering that quality methods of collecting information are used to understand the relationships previously identified through quantitative research. The quantitative survey involved 500 inhabitants of Harman Mahala: through the developed questionnaire, empirical information has been collected about some ethno-demographic indicators, economic and housing conditions, degree of satisfaction with the quarter the respondents live in, social networks, etc. The purpose of the interviews was to collect quality data about the preferences and desires of the inhabitants, and to find out about the reasons behind the results of the survey. By applying the above-mentioned methods of data collecting, it was intended to give a complete picture of the situation of the Roma ethnic group, whose study normally is seriously hampered by the lack of data.

Tracing the Trends, the Origin and the Development of the GUS of Harman Mahala

Historically, four Roma quarters have emerged in the city of Plovdiv. Among those, it is only Hadji Hasan Mahala quarter (9 ha), which is located in the central part of the city—at the foot of the "Ancient Plovdiv" architectural reserve. All other Roma quarters are located on the outskirts of the city, as in the case of Stolipinovo

(formally "Izgrev")—situated in the eastern administrative region of the city over an area of 54 ha. The historical data show that the neighborhood was formed in the beginning of the last century, around 1910–1915. "Sheker Mahala" or "Todor Kableshkov"(10 ha), on the other hand, is situated in the northern administrative region of the city. After the great flooding of Harman Mahala quarter in the 1950s, people were massively relocated to what is now Sheker Mahala quarter, for which purpose the government built massive, single-storey houses for the newly settled residents. Harman Mahala quarter (5 ha, formally known as "Hadzhi Dimitar") is also located in the northern administrative region of the city, next to the northern industrial zone of Plovdiv, and is the most densely populated GUS in the city. Since the beginning of the so-called transitional period, as a result of the intra-migratory movements and the concentration of Roma in urban settlements, the micro-quarters of Shumen and Kanala Kar emerged in the immediate vicinity of Stolipinovo quarter, becoming part of that ethnic megastructure. The total area of all Roma quarters in Plovdiv combined is 80 hectares, which constitute 2.3% of the total residential area of the city (Fig. 1).

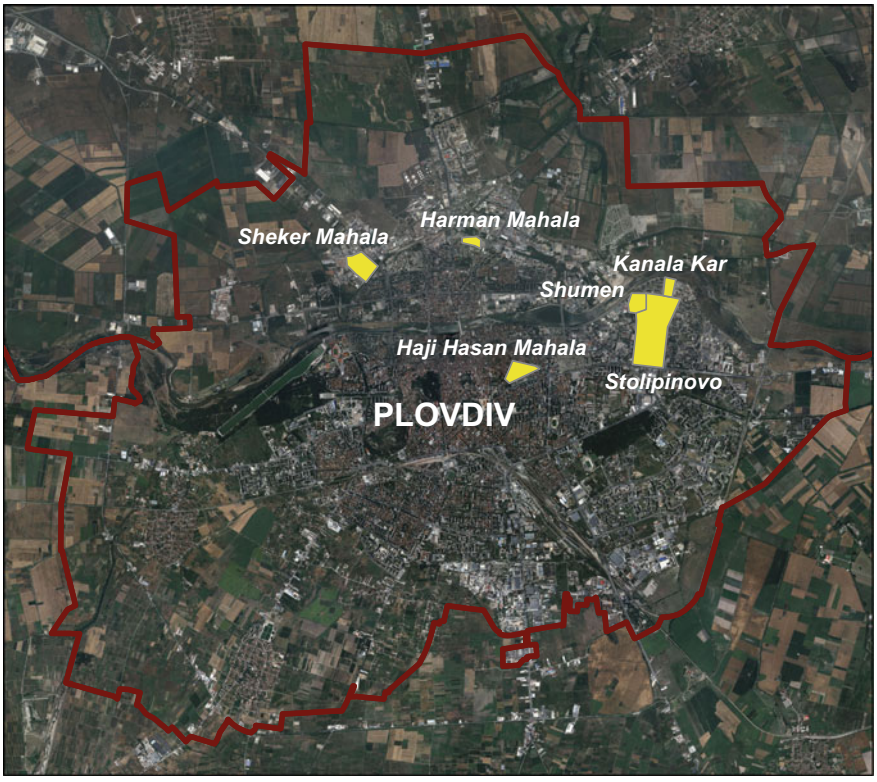

Fig. 1 Location of the ghettoized urban structures (Roma quarters) in the city of Plovdiv

Harman Mahala is located in the Karshiyaka suburb of Plovdiv—until the beginning of the twentieth century—beyond the urbanized part of the city, which facilitated the adaptation of most of the migrants arriving from villages around Plovdiv. Asenov (2018) states that "although we have no reliable information about this, we can assume that at the end of the nineteenth and in the early twentieth century, there is a "Roma" neighborhood in the Harmanite locality outside the city. Asenov justifies his assumption with conversations he had in the early 1990s with elderly inhabitants of the quarter, when those residents were already 75–80 years old and, when asked about their place of birth, declared Harman Mahala as their birthplace. This suggests that by 1910–1915, the neighborhood already existed. Asenov further states that on the basis of the information gathered from archives, it is safe to say that in the second half of the nineteenth century, an ethnically distinct neighborhood was formed in the block formed between "Eledzhik", "Nikola Belovezhdov", "Velyu voyvoda" and "Belozem" streets. For the formation of the quarter some natural phenomena also played a role: after the great earthquake of 1928, a large part of Plovdiv was affected, as many buildings were destroyed, especially in the densely built city center. Families who became homeless—mainly Roma and Turks residing by that time in the city center—moved to Harman Mahala, where there were available lots. The Roma residents were forced to leave the central, nicer areas of the city, and were driven to the outskirts—to more disadvantaged areas, in the obedience of a local authorities' resolution. Initially, those areas were beyond the administrative limits of the city, but due to its territorial expansion, the two neighborhoods were gradually "swallowed" by the city. Another natural disaster which played an important role in the formation of the studied neighborhood was the great flooding of 1957, which destroyed most of the houses located in the eastern part of the quarter. The government and the local authorities, together with voluntary work on behalf of the victims of the flooding, built 140 one-family, one-storey houses in Todor Kableshkov (Sheker Mahala) district of Plovdiv, which lead to the formation of that new Roma quarter. Based on the information provided by the respondents, it turns out that the majority of the flooding victims were not locals residing in Harman Mahala, but were migrant Roma who came to the neighborhood in the 1940s and the 1950s. By relocating some of the residents of Harman Mahala to the newly emerged Sheker Mahala, the vacated space was quickly "captured" by their relatives, who until the flooding lived outside the neighborhood. In fact, that natural disaster lead to the formation of the final ethnic profile of the population of Harman Mahala, apart from the Bulgarian families who were gradually moving out of the quarter until the beginning of the twenty-first century. The spatial development of Harman Mahala in the following decades was a consequence of several components: migration into the neighborhood, demographic growth and availability of vacant municipal lots. During the period between the two mappings—the one of 1965 and that of 1987 (Figs. 2 and 3) the following changes are worth mentioning: (1) the construction of the Textile Technical School, which limited the spatial expansion of the quarter to the south; (2) the construction of the block of flats known as "The Small Giant", just outside the southwestern corner of the quarter, where part of the Roma families were later accommodated. However,

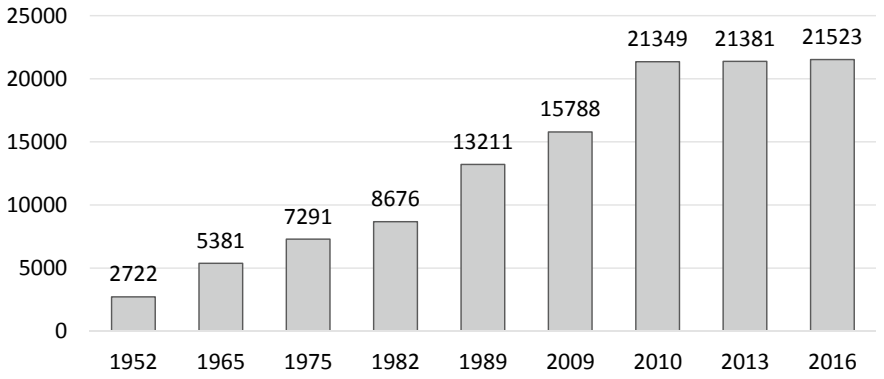

Fig. 2 Dynamics of the built-up area of Harman Mahala in the 1952–2018 period

some of the owners (of Roma origin) sold out their apartments and rebuilt their either rickety or more solid homes on the expropriated municipal (council) lots.

After the second half of the 1990s there has been a trend which remains hidden for numerous institutions, researchers and the macro-society, namely—the trend of mass construction and reconstruction of new residential buildings, both within the neighborhood itself and on newly acquired municipal lots. What is the current state of Harman Mahala in terms of space: significant expansion in vertical direction and continuing construction of homes on any space available even through acquiring parts from the street network and the pavement areas. The desire to maximize every space available often creates severe conflicts between neighbors, although the vast majority of the homes existing homes, as well as the ones about to be built are on municipal lots—i.e., not even owned by their inhabitants. The allowed legal construction requirements make no sense in the neighborhood and, therefore, those are completely overlooked by the residents. The result is both sad and comical: a 60-cm-wide street; a balcony almost entering the neighbors' bedroom; windows of two neighboring buildings standing at 50 cm from each other; a 4 m^2-room etc., etc. The main current spatial trend of the structural development of the neighborhood involves vertical growth of the existing building stock. Despite the intensified control over the last few years, aimed at prevention of illegal construction, the ongoing trends for horizontal expansion of the neighborhood in almost all directions (north, east, and southeast) continue as well (Fig. 3).

As it is seen from Figs. 2 and 3, the major part (76%) of the housing stock in the studied quarter was built after the socio-political changes following 1989: the first decade of the twenty-first century marked the highest peak in construction as 34% of the buildings in the quarter were built in that period. Compared to the city of Plovdiv as a whole, exactly the opposite situation is observed—74% of the building stock was erected before 1989, 12% in the 1990s and 14% after 2000.

The spatial data enables the visualization of the continuous horizontal, and, due to the existing limitations, vertical expansion of Harman Mahala quarter in recent years.

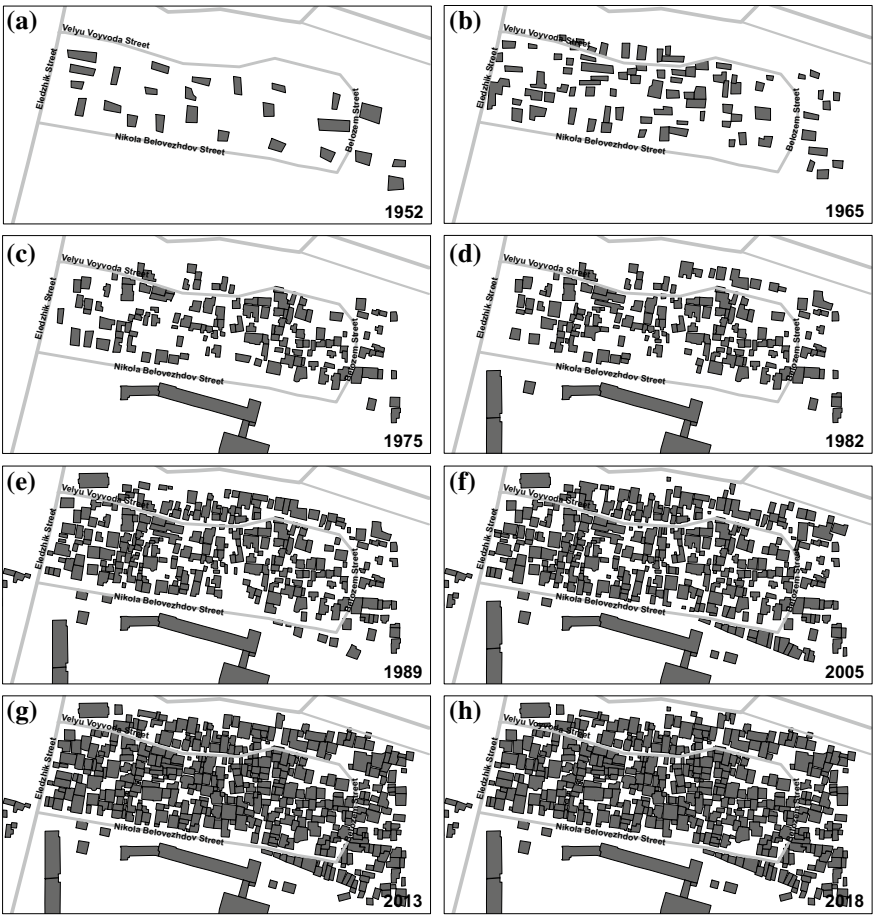

Fig. 3 Spatial expansion of Harman Mahala in the 1952–2018 period—**a** 1952, **b** 1965, **c** 1975, **d** 1982, **e** 1985, **f** 2005, **g** 2013, **h** 2018

Space has become the most valuable asset in the neighborhood. As it is seen from Fig. 3 the building density rose from 13% in 1952, to 63% in 1982, and over 95% in 2018. The street network is inadequate and in an extremely poor condition—the streets are narrow, sometimes to a point where two people can barely pass through. In many places, the area represents a construction site. No urban planning regulations apply here: who is going to build and where—are all matters solved by internal arrangements within the community. The degree of proximity between the individual families is crucial, as each family negotiates and decides whether a certain family is "ours" or not so much. The only laws applicable are the internal community laws. The recent removal of an electric pole by the municipal authorities, for example, caused serious problems and provoked protests among the local population, since any action to eradicate even illegal life-threatening constructions, is perceived by the

residents as a personal encroachment on their identity. No green spaces exist in the quarter. The service infrastructure is only represented by primitive shops for essential everyday products.

Even though Harman Mahala is relatively small and it has been in existence for more than a century, governments and local authorities have failed in dealing with its dissolution and spatial assimilation. An accumulation of incoherent and mediocre policies has been observed, which unfortunately have been unable to cope with the expansion (both horizontally and vertically) of the Roma quarter. The only attempt to eliminate the unwanted spatial concentration of the Roma population dates back from the 1960s and the 1970s when a decision was made by the local authorities to expel the Roma from their neighborhoods and settle them in other districts of the city, mainly in the then newly built residential complex of "Trakia". That attempt however failed and the reason for that failure was the fact that when it comes to cohabitation in ethnically mixed neighborhoods, the Roma feel insecure and eventually they return to the Roma neighborhoods, thus expanding the range of segregated spaces. That process has been intensified since the early 1990s, i.e., after the fall of the communist regime in Bulgaria.

In recent years, local authorities have been obliged to develop anti-segregation plans and urban development projects, which, however, often remain merely on paper, since there are no sanctions whenever those plans and projects are not applied. Spatial inequalities, therefore, have deepened and, combined with other forms of social and ethnic exclusion, have created a seemingly indestructible "vicious circle", leading to an increase of the existing social gap. The impossibility of solving the problems eventually has brought actions to a halt. The partial demolition of Harman Mahala quarter caused serious local residents' discontent, which they expressed through massive public protests. Apart from the apparent result of the partial demolition of the quarter in 2018, there has also been an increase in the sense of fear and uncertainty about the future of the inhabitants' dwellings. The above-mentioned local authorities' actions were actually taken due to investing interests in the area. The Spatial Development Concept of Plovdiv Municipality states that "incorrectly implemented integration programs—starting from displacement to construction of alien to their (of the Roma) ethnic culture housing units—have not improved their (of the residents) condition. It has become clear that neither displacement nor housing construction can solve the problems, but rather the implementation of micromanagement measures so as to achieve a certain community standard, consistent with the local residents' cultural identity. In case of possible future actions such as the construction of housing for the Roma communities, apart from all parameters such as social status, building requirements, income levels, etc., it is necessary to carefully consider the so-called *family factor*, the family relations and the inter-family relations. The effect of the numerous projects aimed at solving the GUS's problems has been insufficient, and unless the government intervenes (at the national level) and initiates the elaboration of a strategic action plan for solving the problems of ethnic minorities, the socioeconomic disparities in the Bulgarian society will increase and the consequences in the near future can lead to serious political and social shocks and upheavals.

Demographic Characteristics, Habitation Conditions, and Structure of the Housing Stock

The total number of Roma people in the city of Plovdiv according to the official statistics is 9,438 (as of February 2011), or just 3.1% of the city's population. According to unofficial data, however, around 45–50,000 Roma reside in Stolipinovo quarter alone, another 5000–6000 in Sheker Mahala, some 3000–4000 in Hadji Hasan Mahala quarter, and in Harman Mahala—1800 residents. The Roma in the city of Plovdiv thus accounts for approximately 20% of the city's population and about 10% of the total (unofficial) number of Roma in Bulgaria (750,000 according to the so-called expert assessment).

The quantitative surveys show that 75.8% of the population in Harman Mahala identifies themselves as *Turks, 19.8% as Roma* from the *burgudzhi* subgroup, who inhabit the western zone of the neighborhood, and *4.5%* identify themselves as *Bulgarian*. There is a clear distinction between the three ethnic communities.

Since the accession of Bulgaria to the EU (2007) there has been a gradual increase of emigration abroad of Roma people. As a result of the quantitative surveys and according to the data from the local administration, it has been estimated that about one-third of the permanent residents of Harman Mahala have indicated a foreign country address as their current place of residence. Resettlement to other parts of the city is normally not observed, apart from a trend where wealthier representatives of the Roma ethnic group from other quarters, buy houses and lots in Hadji Hasan Mahala quarter because of the higher social status of its residents, together with its better geographic location within the city center.

Along with the population number and the age structure of Harman Mahala quarter's population, the structure of the households is yet another important feature. The average size of a household in the neighborhood is 5,4 members. According to the survey, extended families constitute 68% of all households, given the fact that in many cases two or three generations share the same home. Nuclear families, on the other hand, account for 32% of all households. Over 90% of the married children stay with their parents—sharing one home, one yard, or in the immediate proximity. Thus, younger families wish to have more autonomy, but the parents stay nearby or even in the same house. The elderly (the grandparents) do not wish to be an obstacle to the young, but they still prefer being nearby or living in something like a semi-detached house. In order to solve the housing problems, outbuildings are made mostly, or new houses are built in place of the old houses. If possible—if the housing conditions permit this—married sons normally remain with their parents (and if the parents can afford it, they provide shelter for their married daughters as well). In cases where housing conditions do not allow that, outbuildings are built in the yard, reconstructions of old buildings are made, or collecting of funds comes into practice: all members of the household are involved, and the old buildings are torn down, while new houses are built and in their place. The new house of course is higher, larger, taking areas away from the yard, the street or the neighboring lot.

Housing conditions are mainly the result of the interconnection between household resources, household preferences and how affordable the dwellings are in terms of prices. This interaction does not take place in a vacuum—it occurs in the context of demographic, economic, political, and ethno-cultural characteristics. An important determinant of the housing situation in one household is the situation of the working-age members on the labor market—whether they are employed, and, the size and structure of the income in particular. The residents of any GUS are forced to live in such areas mainly due to lack of sufficient or any income, low educational level (or no education at all) and lack of professional qualifications so as to meet the labor market's demand. It is these deficiencies which actually restrict the access to other urban residential areas.

Prior to the socioeconomic transformations in the early 1990s, one of the most important positive features was the nearly full employment of the working-age Roma population. Most of the residents of Harman Mahala for example used to work in the textile factory nearby. After the restructuring of the economy in the early 1990s, however, there has been a huge decrease of jobs for low-skilled workers such as the vast majority of the Roma. Thus, in the first years of the so-called transitional period, many households became dependent on social welfare. Since the beginning of the twenty-first century, however, there has been a clear trend of decreasing number of families dependent social welfare, which is evidenced by the results of the quantitative survey—only 7.3% of the families actually rely on social welfare. After the "withdrawal" of the state, the Roma started looking for a solution to their daily domestic problems on their own, leading to increasing numbers of those involved in the so-called gray (or informal) economy. The Roma started taking advantage of newly emerged opportunities which the gray economy provides, such as the so-called "suitcase trade" (retailing of products bought at a cheaper price across the border with a neighboring country), production of illegal alcohol, etc. Along with all that, entirely legal activities, such as establishing companies that provide jobs in the field of construction, for example, were also initiated. The "opening of the borders" after Bulgaria's accession to the EU in 2007 provided opportunity for the Roma to legally work abroad: according to the survey 44.8% rely on income generated by relatives who work abroad, 56.3% declare that a member of the family has worked at some point, or is currently working abroad. With the income increase which has been observed, apart from the vertical expansion of the neighborhood, there has also been an increase of the purchasing of apartments in the block of flats next to the quarter—a building known by the nickname "The Small Giant". It is interesting to mention that the prices of the apartments located on the side of that building facing the quarter itself, and of the apartments on the lower floors, are by some 100–150 euros per square meter cheaper than those apartments located in the opposite side of that same building.

The ethnic grouping into a certain city area (quarter) reduces the solitude of the members by supporting those who are of the same ethnic origin, through developed internal social networks, which provides safe living space and helps solving everyday problems. The "hostility" of the majority has generated individualism and isolation among the ethnic minority representatives, who fear contact with others. On the other

hand, the acute need for solidarity and social support at the collective level, also serves as a shield against discrimination by the majority and even provides certain advantages of economic (creation of specific livelihood strategies and alternative economic structures), cultural (the ability to maintain and unite common cultural patterns), social (linking to social support networks), and political nature (creation of alternative political institutions) (Boal 1981; Marcuse 1997). The Roma in Harman Mahala, therefore, most often (75.5%) refuse to live outside that neighborhood.

When talking about a sustainable urban environment, it is necessary to take into account not only the objective indicators characterizing the neighborhood, but also other factors, such as the sense of security which Roma people have about the neighborhood they inhabit. Many of the Roma live in constant fear (15.5%) that they will be evicted, but on the other hand, the authorities themselves are afraid to evict them, because there is nowhere to move those people. Residents strongly refuse to leave their homes and move to social housing (86.2%), despite the fact that most of their homes are overcrowded, because they would feel even more insecure if they moved to live in council houses. The feeling of insecurity appears not so much from the fact that they would have to pay a rent, but that they would not live in their current environment, where they feel relaxed and more secure. These processes lead to the ever-greater isolation and to growth of the invisible wall that exists between the quarter and the surrounding urban environment. Thus, a self-contained structure emerges, becoming increasingly remote and less reliant on the state, while at the same time the role of the internal social networks, the loyalty to the place, the long-standing coexistence—for more than a century now, the internal rules and "laws", become increasingly stronger. According to the survey, the residents define their neighborly relations as good (97.4%), while only 22.3% of the respondents declare that they would like to live in another residential area (67% of the respondents, however, mean the adjacent area of their current quarter, the city center, and in particular—Haji Hasan Mahala—29%), being aware that these parts of the city are inaccessible considering their current economic (income) situation. The fact is that most of the residents of the studied quarter know each other (77.5% declare that they know everybody, 5.3% know at least 50% of the residents, etc.) and actually live together with their neighbors (73.8% hang out together on a daily basis) for several reasons, such as sharing food, heating, talk and entertainment, strengthening social networks, etc. The most important topics the respondents discuss with their neighbors and friends are the topic of finding work (47%) and money (42.4%), but also in cases of illness or death (49%) and house repairing (31.1%).

In terms of availability of basic housing infrastructure, however, things are much better—90% of the dwellings have an internal water supply and 94% of the buildings are connected to public sewerage. The housing itself is diverse, represented by different construction approaches which basically reflect the different construction periods, while solid buildings are the predominant type. Nearly 90% of all dwellings are built of bricks and were erected in the period following the political changes in 1989. Only 4% of the houses are built of adobe and represent the housing stock from the earliest construction period of the quarter—the early 1900s.

Given the specific situation which Harman Mahala is in, traditional urban planning tools are in most cases not applicable. The interference of local authorities is hampered by the fact that four to five consecutive generations of Roma have been residing in the neighborhood, which has lead to a strong sense of belonging to the place. This is a factor that appears to be yet another additional obstacle to the implementation of new urban measures. Regardless of the worsened urban development characteristics, Harman Mahala stands out with better overall conditions compared to most other Roma quarters, given its relatively good household provision as it is evident from the Fig. 4.

The housing situation of the ethnic communities can serve as an indicator of the level of integration and as an assessment of the integration processes. As it was mentioned earlier, the housing in the GUS normally does not meet any urban planning standards and regulations. Only three of the houses have a legal ownership document, while 97% of the buildings were built on municipal (council) lots. The above-mentioned increase of emigration flows and the improvement of the economic capacity of the population imply an increase of population dispersion processes, but such processes are not observed in the studied neighborhood. The massive reconstruction of old houses and the construction of new multi-storey houses in the scanty space of the ghettoized structure is a new trend among those who work in Western Europe (mainly in Germany). As a result, the building density has reached over 95%. Dwellings with three (39%) and four (28%) rooms make up two-third of all dwellings in the neighborhood. Sixty-three percent of the houses are three-storey buildings, 30% are two-storey buildings and just 7% are one-storey or ground floor houses, being at the same time the oldest. The increase of the population number is the reason for the extremely high values of the gross habitation density, which in 2018 reached about 370 people/ha. The prevailing dwelling size in the studied neighborhood (51% of all homes) is 60–89 m^2, while for the city of Plovdiv as a

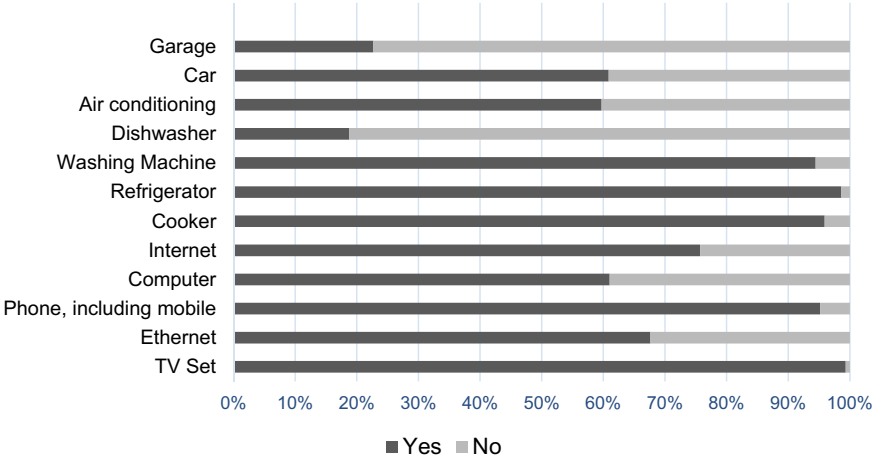

Fig. 4 Household provision in Harman Mahala

whole, the prevailing dwelling size is 30–60 m^2 (62% of all dwellings). However, considering the number of household members and the structure of the households, a significant imbalance is observed: a dwelling in Harman Mahala is inhabited by 5,2 people on the average, as opposed to 2,4 people for the city of Plovdiv. In the case of Harman Mahala there are 12 m^2 of built-up area per inhabitant, while for the city as a whole that area is 24 m^2 or twice higher. Almost half of the population of the studied quarter (47%) gets between 10 and 20 m^2 of built-up area, and if we add the population with less than 10 m^2 of living area, the percentage rises to 77%.

Conclusion

GUSs in Bulgaria usually exhibit existence and development over a long period of time. The degradation of certain urban structure elements, therefore, should not be seen as a static phenomenon, but as a cycle. By defining and analyzing the different steps and stages of the evolution of a GUS such as Harman Mahala, the emergence of new GUSs can be avoided in the future.

Over the last two decades, there has been a significant expansion of the existing GUSs, accompanied by the emergence of new ones. In most cases, the urban problems faced by the GUSs' population in Bulgaria and not just, are absolutely identical to those outlined in the description of other "ghettos" located in various cities throughout the country. A specific social model of the GUSs is observed, which can be conceptualized according to their spatial and social dimensions.

The methodology developed for the purposes of this study can be applied in the study of other ghettoized urban structures, which would not only help reveal the current internal changes in the construction and the infrastructure of the Roma quarters but will also help follow the trends and eventually avoid the emergence of future problems.

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