LIVING CONDITIONS, QUALITY OF LIFE

Quality of life has received increasing attention in recent decades, reflecting the realisation that economic development alone does not necessarily improve living conditions. In welfare states, it is increasingly recognised that physical and mental health and the improvement of human living conditions should be at the heart of development.

Quality of life is a complex concept and is closely related to the dimensions of social stratification, economic conditions and a number of geographical and demographic characteristics. Physical and mental health, access to services, safety, consumption opportunities and pleasant surroundings are all key aspects of quality of life. There are two sides to quality of life: the objective and subjective sides. The first entails statistically measurable characteristics, while the second pertains to people's satisfaction with their health status and socio-economic situation.

Quality of life is shaped by several factors: the social, economic and political environment; the institutional system and its functioning; and the knowledge, skills and opportunities of individuals. Satisfaction with life is primarily determined by an individual's personality, goals, values, guiding principles and ability to adapt. Therefore, people may assess differently the same health and living conditions or financial situation.

The various elements of quality of life in Hungary have undergone changes in recent decades. In some cases, the changes have been positive (e.g. life prospects, some characteristics of consumption and environmental quality have improved), while in others they have been negative (e.g. air pollution from transport has increased, some features of the health status have deteriorated).

The initial focus of the chapter is on the human side of living conditions and quality of life. This is followed by an examination of the positive and negative impacts of the environment on people's well-being in Hungary. The analysis is further divided into two parts: housing conditions (the living environment) and the settlements where people live their daily lives.

HUMAN SIDE OF LIVING CONDITIONS AND QUALITY OF LIFE

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Health and quality of life

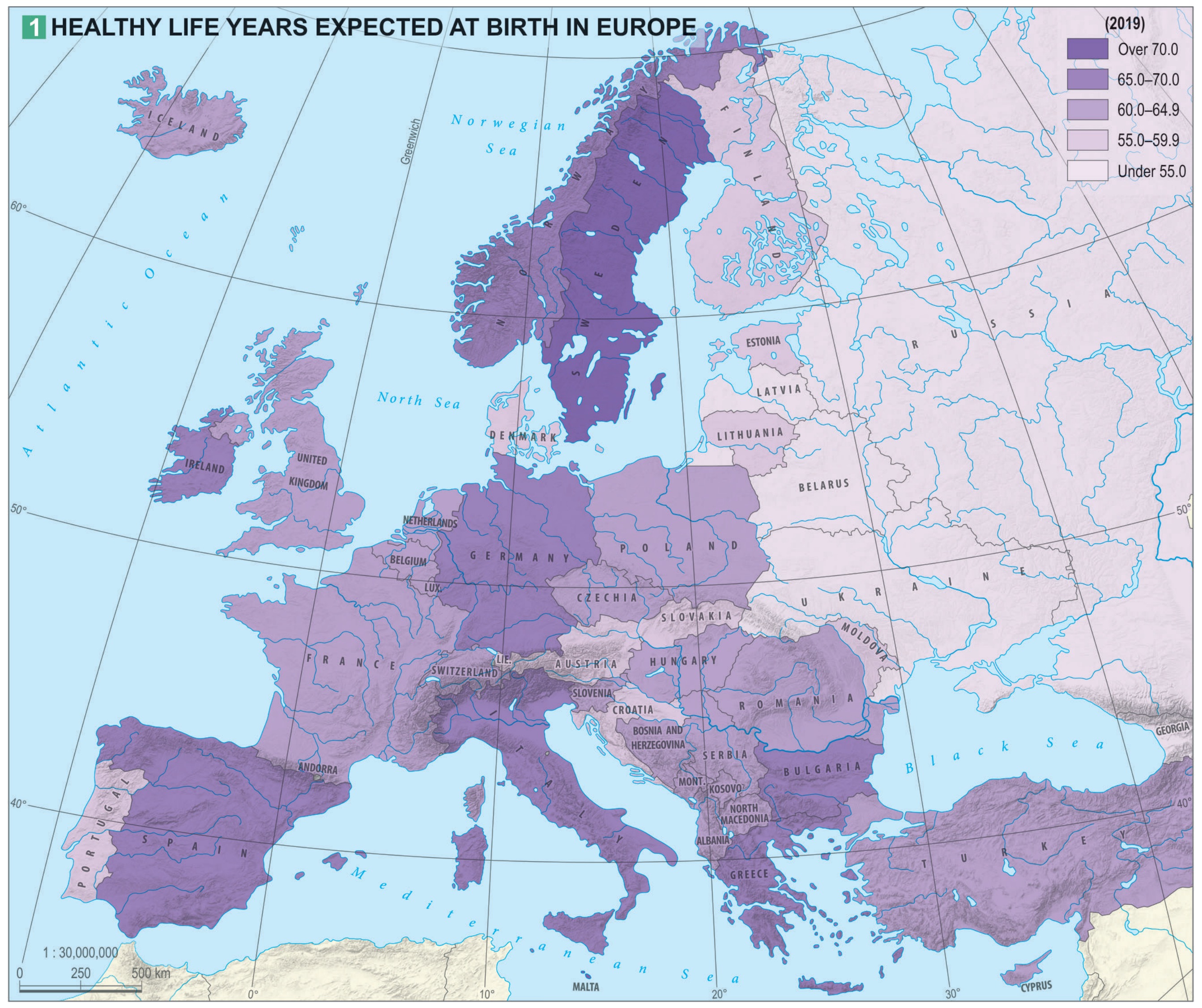
Health conditions of the population

In times past, health was regarded merely as the absence of disease or disability. In 1946, however, the World Health Organisation (WHO) defined health as a state of full physical, psychological and social well-being. The general health of the population has traditionally been measured by looking at deaths (mortality) and illnesses (morbidity). However, according to the WHO, knowledge of such factors as well-being, risks and hazards, health culture and human health-related behaviour (health behaviour) is also required for this task.

Changes in the state of health of the population occurred in various phases throughout history – these are known as the epidemiological eras. In the first of these, pandemic diseases (e.g. plague) caused most deaths. In the second, infectious diseases (e.g. TB) concentrated in smaller areas were the determining causes of death. In the third, infections were suppressed, but mortality from non-infectious diseases (mainly cardiovascular disease and cancer) became significant. Such diseases are associated with lifestyle (e.g. harmful addictions, unhealthy diets, sedentary lifestyles) and with environmental factors: for instance, the negative impacts of industrialisation and modernisation (e.g. air pollution, stress) have intensified. The fourth era is a period of delayed non-communicable diseases, during which the same diseases lead to the most deaths but at a much later age. Today, the population of each country in the world can be placed in one of the epidemiological eras. The most advanced economies and societies are currently in the fourth era.

Hungary – like the rest of East Central Europe – followed the trends of economically developed and moderately developed countries until the 1960s, at which time the country entered the third epidemiological era. During the 1960s, however, the health of the population began to deteriorate. By the 1980s, Hungary was experiencing an epidemiological crisis which reached its lowest point in 1993. By then, the entire adult population had been affected by the deterioration of life prospects, with mortality rates among middle-aged Hungarian men being particularly unfavourable. Subsequently, however, life prospects began to improve, reflecting changes in lifestyle, living conditions and health behaviour, as well as advances in medicine and the use of new types of therapies. Although Hungary and the surrounding countries have now entered the fourth epidemiological era, they are still at the beginning of it. Indeed, the health of the inhabitants of these countries continues to lag behind in relation to their economic development. Despite improvements, the rate of premature death (i.e. before the age of 60) is still high compared to the European level. Thus, the health of the general population is unfavourable in comparison with the European average. Notwithstanding the increase observed in recent decades, average life expectancy at birth remains low 16 and is very unequal both spatially and in terms of gender 18.

1 HEALTHY LIFE YEARS EXPECTED AT BIRTH IN EUROPE



2 HEALTHY LIFE YEARS EXPECTED AT BIRTH (MALES AND FEMALES, 2018)

	Males	Females
Central Hungary	63.0	63.2
Central Transdanubia	60.4	61.3
Western Transdanubia	61.4	67.1
Southern Transdanubia	57.0	58.7
Northern Hungary	56.8	57.4
Northern Alföld	57.8	58.7
Southern Alföld	61.1	61.6
Hungary	*60.1*	*61.4*

Diseases that rarely end in death but impair the quality of life are also relevant to people's health and well-being. Since only a small part of the disease data can be statistically evaluated an indicator of the *number of healthy years* in people's lives (the healthy years of life) is often used. According to calculations by Eurostat, on average the inhabitants of some Northern European countries, as well as Malta, can expect the most disease-free years of life. According to this indicator, conditions in Hungary are slightly more favourable than those in the neighbouring countries XII. 1. 1., which is the opposite of what is observed in the field of life prospects 17 19. In this context, a relevant factor is health culture, because the indicator can only be calculated on the basis of diseases detected, and in Hungary there are quite a few unrecognised diseases. However, regional differences within the country are clearly visible: the inhabitants of the economically dynamic region of Central Hungary can expect the greatest number of healthy years, while those living in Northern Hungary and in Southern Transdanubia, which are economically underdeveloped and have many social problems, have the smallest number of healthy years. For men, the difference between the best and worst values is 6.2 years; the gap is even greater for women: 9.7 years XII. 1. 2..

The *standardised mortality ratio* (SMR, 23 25) is also suitable for measuring regional differences in health status, as it eliminates the distorting effect of different age structures. A more detailed geographical breakdown shows that districts with the worst health conditions have the highest rates. In 126 districts SMR is higher than the national average. Regional differences are considerable: the least favourable rate occurs in the multiply disadvantaged district of Edelény (134.2%), while the most favourable occurs in District II of Budapest (65.7%) XII. 1. 3.. Such differences are indicative of the impact of socio-economic and cultural factors on health.

The two most common causes of death are circulatory diseases and cancer 23 25. Although this is true in all districts, the relative importance of these diseases varies. For example, mortality from circulatory diseases is concentrated in the southern part of Békés County and in the eastern part of Csongrád-Csanád County. In the western areas of the latter, cancer represents a higher proportion. Since the two leading causes of death account for the majority of all deaths, the proportion of people dying from diseases of the digestive and respiratory systems is similar in most districts XII. 1. 3..

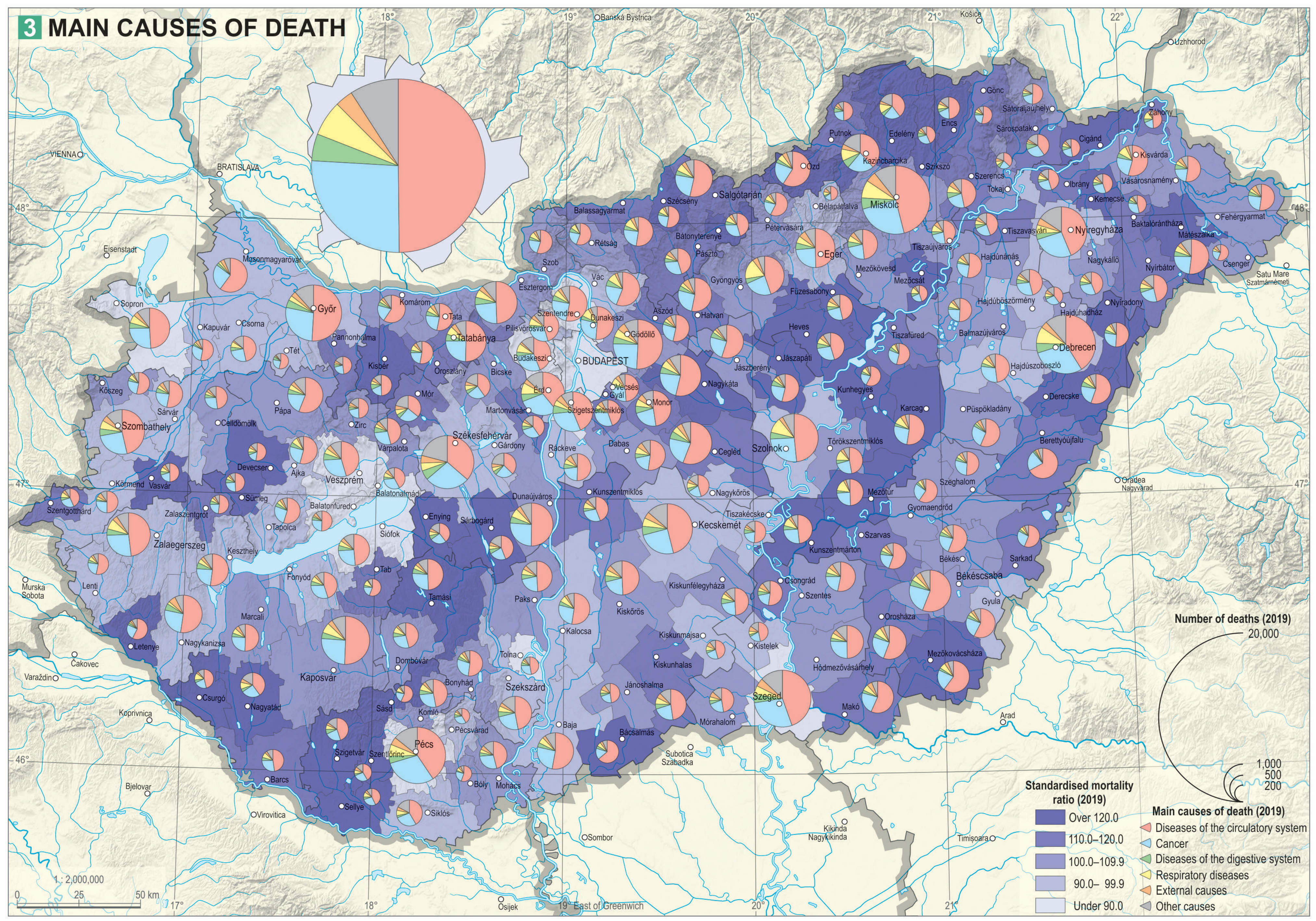
The spatial distribution of known diseases based on the patient's place of residence only partially coincides with the spatial distribution of causes of death. For instance, although fewer people suffer from *diseases of the circulatory system* in and around Budapest and in Western Transdanubia, the data on causes of death do not reflect this XII. 1. 4.. Similarly, the relatively favourable data in this field in the peripheral areas of Hungary can be explained by a more youthful age structure VI. 1. 8., as diseases of the circulatory system occur less frequently at a younger age. A similar effect can be seen in the case of recorded *cancer* cases: they are less common in those areas of northeastern Hungary and Southern Transdanubia that are inhabited by a large proportion of Roma people. In contrast, such diseases are overrepresented in some of the former or current industrial areas (e.g. the Salgótarján and Tatabánya areas) XII. 1. 5.. Since the above observations can be explained only partly by the age structure, it is essential to look at other reasons for the spatial distribution of unfavourable health and to examine the role of the various health risks.

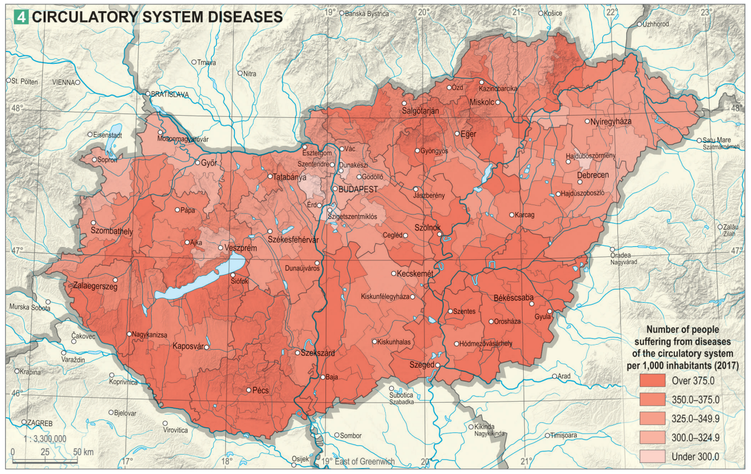
Health risks – lifestyle, health behaviour

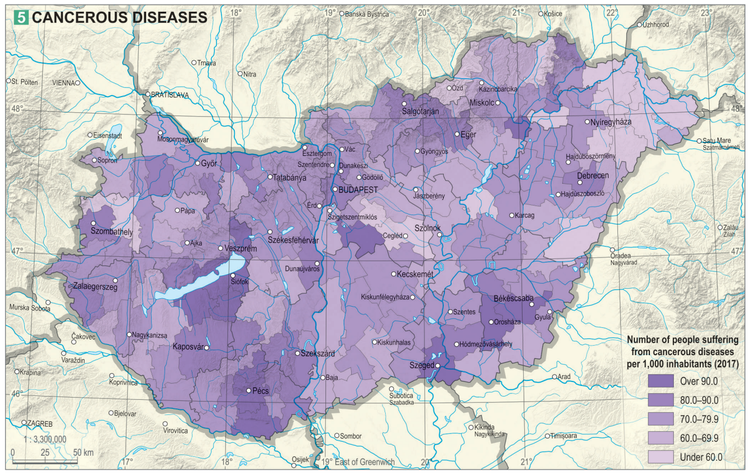
The health of the population is influenced by individual and environmental factors. *Biological characteristics* are important among the individual factors. Elderly people (aged 65+ years) and women in Hungary tend to judge their health less favourably and therefore feel hindered in their daily activities.

Perhaps even more important than the biological characteristics is the second *group of factors related to individual lifestyles*. Alcohol consumption in Hungary is significant but spatially unequal: consumption is highest in Budapest and Pest County and lowest in the Northern Alföld and in Northern Hungary

3 MAIN CAUSES OF DEATH







1 *A renovated local health centre in the Southern Alföld*

of health, and the lag of this social class begins already in the younger age groups (people aged 35-44).

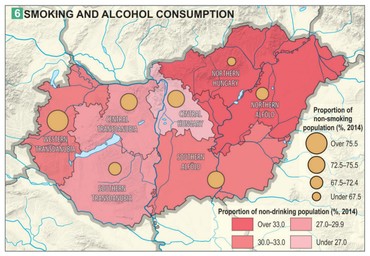
The fourth group of factors, which involves *access to healthcare*, has improved on average in recent years 1, although there has been a deterioration among the poorest people. The main reason for this latter development is that although public health services are free as little as two thirds of all health expenditure comes from state resources. Indeed, public health expenditure per capita is significantly below both the EU average and the average in the neighbouring countries, excluding Romania. For this reason, the proportion of out-of-pocket expenditure (direct payments made by households to providers) is high (twice the EU average). Nevertheless, the majority of the population is satisfied with the quality of healthcare. The proportion of people who report not receiving adequate care is small, despite long waiting lists, a shortage of specialists and many long-term unfilled GP practices XII. 2. 2. 8.

Less data is available regarding the fifth group of factors *(the impact of environmental conditions on health)*. In 2013, air quality was excellent in just one in three settlements but the level of air pollution was high only in Budapest and in some areas of northern Transdanubia. Noteworthily, the proportion of people who heat their homes with solid fuels, thus increasing the risk of indoor air pollution, is higher among those with lower income levels.

In the future, Hungary must reduce spatial health inequalities XII. 1. 9. and strengthen public health awareness 2. In particular, it is desirable to increase health literacy, which includes access to health information and the ability to understand, evaluate and apply knowledge. The aim should be to help individuals to better navigate the domains of healthcare, disease prevention and health promotion, thus contributing to the improvement of objective and subjective health status.

XII. 1. 6. Overweight and obesity – associated with a poor diet and a lack of physical activity – are also major problems (more so than the European average). The frequency of fruit and vegetable consumption is higher among women, people with higher levels of education and income, and people living in urban areas XII. 1. 7. Lifestyle risk factors show a slow improvement at society level, but there remain significant inequalities.

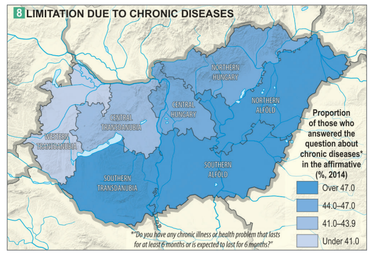
The third group of factors is associated with the *socio-economic situation of the individual (household)*. Groups in a less favourable situation tend to have worse health outcomes VI. 7. 20. For example, mortality figures for people living in the outer and inner peripheral areas (near the northern and eastern border and in rural areas of Southern Transdanubia and the Central Tisza Region) VI. 7. 7. VI. 7. 8. VI. 7. 9. are worse than in the central regions XII. 1. 3. The degree of health-related quality of life impairment is also lower in the economically more developed regions XII. 1. 8. XII. 1. 9. Thus, the polarisation of Hungarian society is also reflected in health risks: the disadvantages of poorer people and those with lower educational attainment are significant in terms



7 HEALTH BEHAVIOUR AND RISK FACTORS (2014)

Region	Consuming vegetables and fruits daily	Appropriate physical activity	Normal weight	Non smokers	Consuming no alcohol
	Proportion (%)				
Central Hungary	68.6	13.3	47.0	73.6	24.5
Central Transdanubia	67.2	13.4	43.2	75.3	28.4
Western Transdanubia	63.2	9.3	43.3	79.2	30.4
Southern Transdanubia	70.6	12.7	42.1	70.7	29.5
Northern Hungary	66.1	12.7	38.8	63.5	33.3
Northern Alföld	63.0	11.6	37.7	70.1	36.3
Southern Alföld	67.9	12.0	41.4	74.6	32.8
Settlement type					
Capital	72.7	15.6	47.1	76.1	23.5
Town with county rights	65.8	14.7	41.2	78.2	27.2
Other town	69.1	12.6	42.1	69.8	31.9
Village	61.4	8.4	41.8	69.4	33.2
Hungary	***66.9***	***12.4***	***42.7***	***72.5***	***29.8***

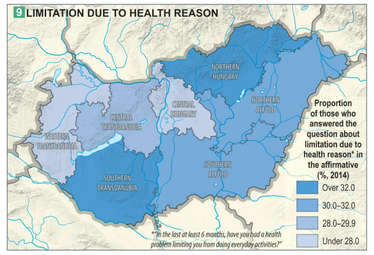
Based on the self-declaration of the surveyed population.



Health culture – subjective well-being and use of the healthcare system

Health culture is a set of community objectives and instruments for the preservation, restoration and development of health, together with the related individual and community health behaviour. It includes the way of life of the population and all activities aimed at acquiring health-related knowledge.

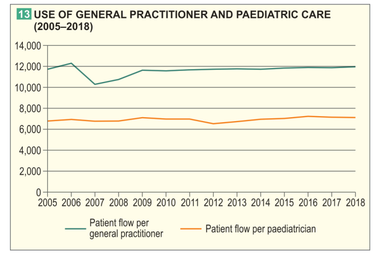
Subjective well-being and the use of the healthcare system are essential elements in the development of health culture, providing a wide range of information on health literacy and ultimately the quality of life of the population. Self-assessment of health status (i.e. how individuals perceive their own health) may not be the same as their actual – objectively measured – health status. Subjective health depends on an individual's educational attainment, occupation, income, and place of residence.

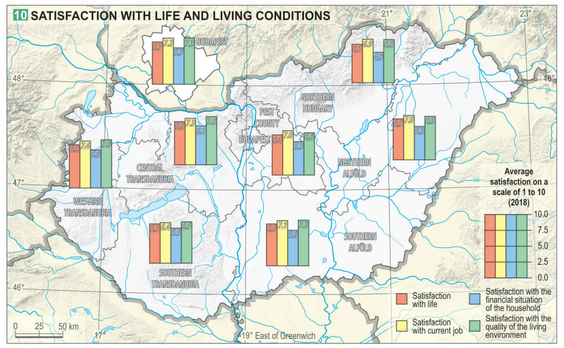


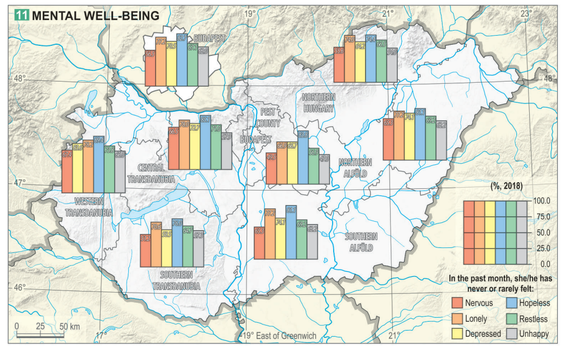
It is generally true that people who are socially and economically disadvantaged or who live in small settlements and peripheral areas judge their own health less favourably than those whose status in these fields is higher XII. 1. 10. The results of the European Health Interview Survey in 2014 indicated that people are more likely to rate their own health as good or very good in areas with higher educational attainment and household incomes and relatively low levels of unemployment, poverty and social exclusion VI. 7. 2. Perceived health has an impact on overall well-being, which is also at the heart of the WHO health definition. Here, one of the key factors *is satisfaction with life and living conditions* XII. 1. 10. The results of a survey conducted by the Hungarian Central Statistical Office (KSH) on the standard of living of Hungarian households show that in regions with better social and economic conditions, the population is more satisfied with life, work, household income and the quality of the residential environment. The situation in Central Hungary is special: in that region, there is a significant difference between the optimism of Budapest residents regarding their situation and the pessimism of the inhabitants of Pest County. Moreover, there are also substantial differences between the various parts of Pest County: the higher income level of people living in settlements within the Budapest agglomeration VI. 7. 16. is matched by a better opinion of their living conditions, while social and economic disadvantages in the southeastern part of the county are combined with a less favourable view of living conditions.

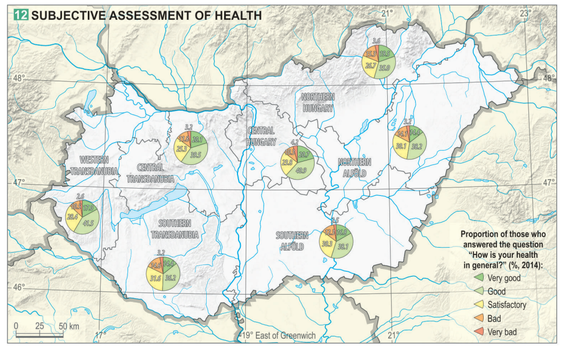
Mental well-being can affect the subjective assessment of health and the perceived satisfaction with life XII. 1. 11. Negative feelings (e.g. anxiety, loneliness and unhappiness) are more likely to be experienced in areas where perceived health is worse and where people are less satisfied with life and their living conditions. In this regard, the north-south division of Transdanubia is striking: there are more people in the tiny villages of Southern Transdanubia (e.g. Ormánság) who consider their mental well-being to be unfavourable. This is also related to the fact that the health and social situation of people living in the peripheral parts of Somogy and Baranya counties is particularly unfavourable. As they age, people experience declining health and become less satisfied with their health. This process is associated with the deterioration of their mental well-being.

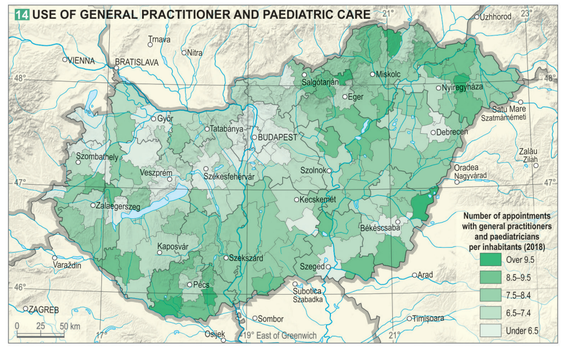
2 *Locals playing sports or relaxing in a refurbished park in Szeged*











The *subjective assessment of health* is an important source of information for the healthcare system. Use of healthcare services is influenced both by individual needs and by the availability and accessibility of health services and the propensity of people to use them XII. 1. 12. XII. 2. 2. 9. XII. 2. 2. 11.. People's willingness to use health services depends on their educational attainment: a higher level of education means less frequent use of primary healthcare and more frequent use of specialist care.

The number of *patient visits* in primary healthcare is high, partly because municipalities are obliged to operate general practitioner and paediatric care. In tiny villages and areas remote from county centres, general practitioner care is often the only local health service available. Patient flow per general practitioner and paediatrician largely stagnated between 2005 and 2017 XII. 1. 13.. (The temporary decrease in patient flow in 2007 was mainly the result of the visit fee that was payable by the public between February 2007 and March 2008.) The number of appointments with general practitioners and paediatricians was highest in Southern Transdanubia and Northern Hungary, where the health status of the population is worse than the national average XII. 1. 14.. In more favourable and economically developed areas, and in major cities and county centres, patients are less likely to see a general practitioner or paediatrician. There is a two-fold difference between the lowest number of appointments and the highest number of appointments (Encs and Sellye) Evidently, the inhabitants of the worst-off areas see their doctors the most often.

Hospital care is the highest level of the healthcare system and its use is particularly affected by the health status of the population. As objective indicators of health decline XII. 1. 4. XII. 1. 5., so the flow of hospital patients increases. However, the use of hospital care depends not only on an individual's state of health but also on the general health culture: for example, where it is common for patients not to seek medical attention on time, it is more likely that their advanced disease must be treated in hospital. The *use of inpatient hospital care* differs within Hungary XII. 1. 15.. In Southern Transdanubia and in the eastern part of Northern Hungary, people living in areas far from hospitals, mainly along the border, are more likely to be hospitalised. In the northeastern and southwestern parts of Hungary and along the eastern border, where health conditions are poorer, people are more likely to turn to their general practitioner or paediatrician, and hospital care is more frequently used.

The rather unfavourable state of people's health in Hungary, which lags behind the European average XII. 1. 1., and the regional differences XII. 1. 4. can be connected with the regional distribution of health risks XII. 1. 9., perceived health XII. 1. 12. and the use of the healthcare system XII. 1. 15.. Due to their spatial coincidence, the unfavourable situation of the counties of Baranya, Borsod-Abaúj-Zemplén, Nógrád, Somogy and Szabolcs-Szatmár-Bereg can be considered a long-term issue on the basis of the state of health of the population.

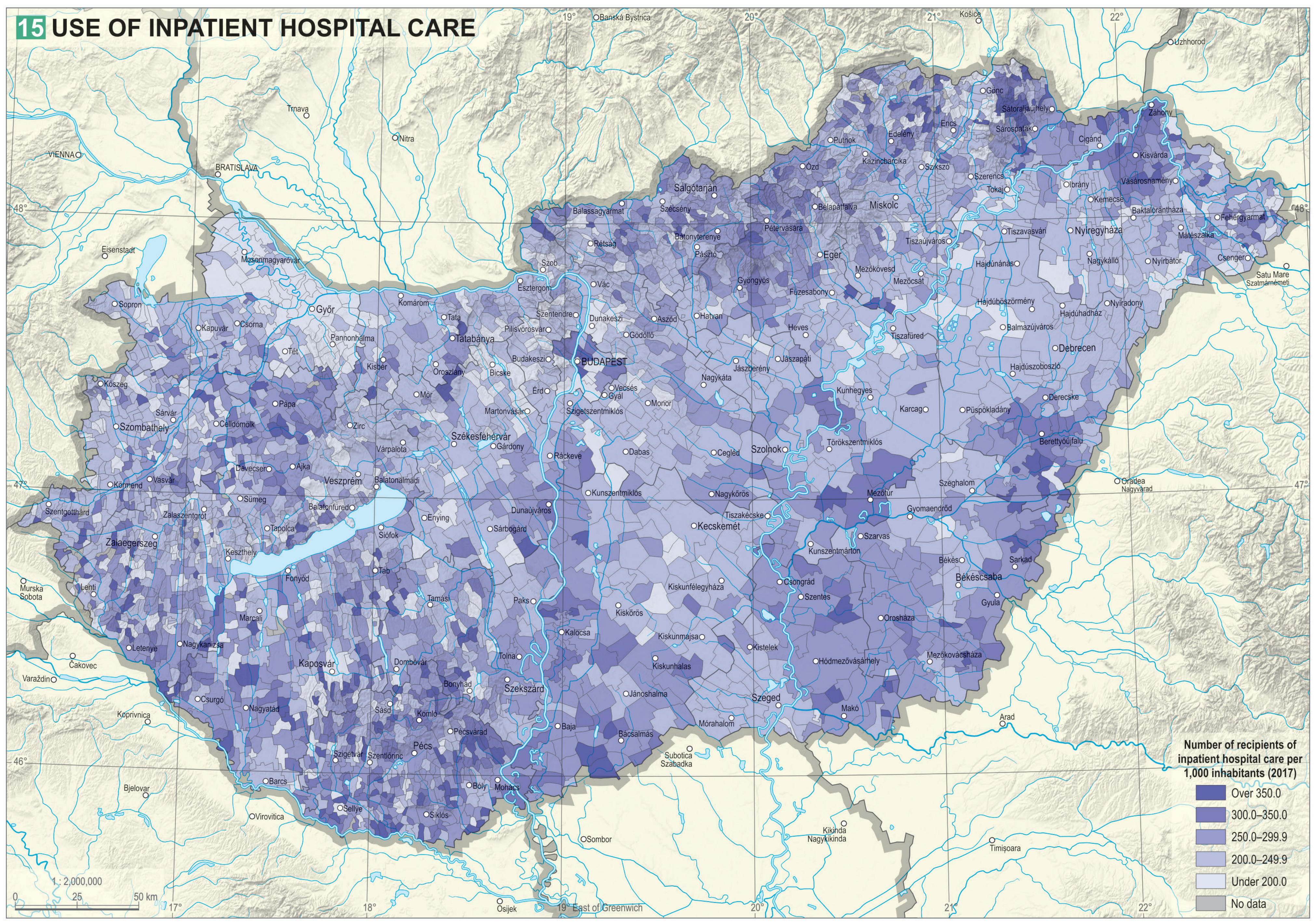
Covid-19 pandemic

As the epidemic caused by the new coronavirus (SARS-CoV-2) emerged in late autumn 2019 and became global in 2020, the importance of infectious diseases for health and quality of life increased.

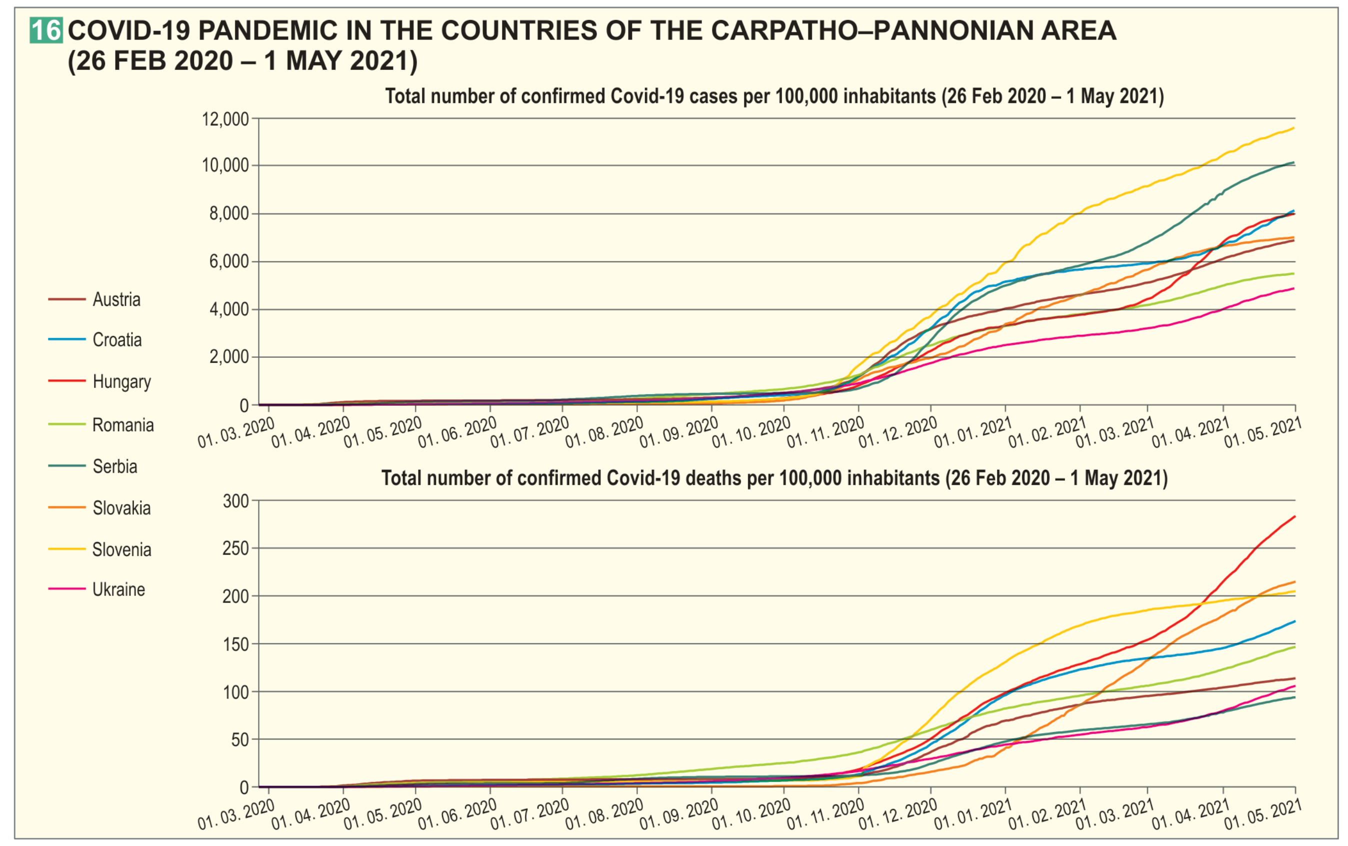
The WHO declared the mass spread of Covid-19 a pandemic on 11 March 2020. The first cases in Hungary were recorded on 4 March. With a view to slowing the spread of the pandemic, the Parliament adopted the Emergency Powers Act in March. Experience has shown that the virus is most dangerous for the elderly and chronically ill, as they are more likely to have a severe course of infection, to be hospitalised due to complications and to die of the disease.

The Covid-19 hit Hungary until the spring of 2021 in three waves. During the first wave (spring 2020), most infections occurred in Budapest and in Pest County, as well as in institutional focal points (hospitals, nursing homes). In late August 2020 (the beginning of the second wave), new cases were more related to community spread, with the development of chains of infection in several counties concurrently. At that time and unlike during the first wave, the pandemic spread primarily among young people and later reached the older age groups. New infections per day, active cases and the number of deceased were higher than they had been in the spring XII. 1. 16.. In the second and third wave the pandemic situation in Hungary resembled that in the surrounding countries, with an increase in the number of cases also leading to an increase in the number of deaths XII. 1. 17. XII. 1. 18.. In November 2020, the Parliament reinstated the Emergency Powers Act.

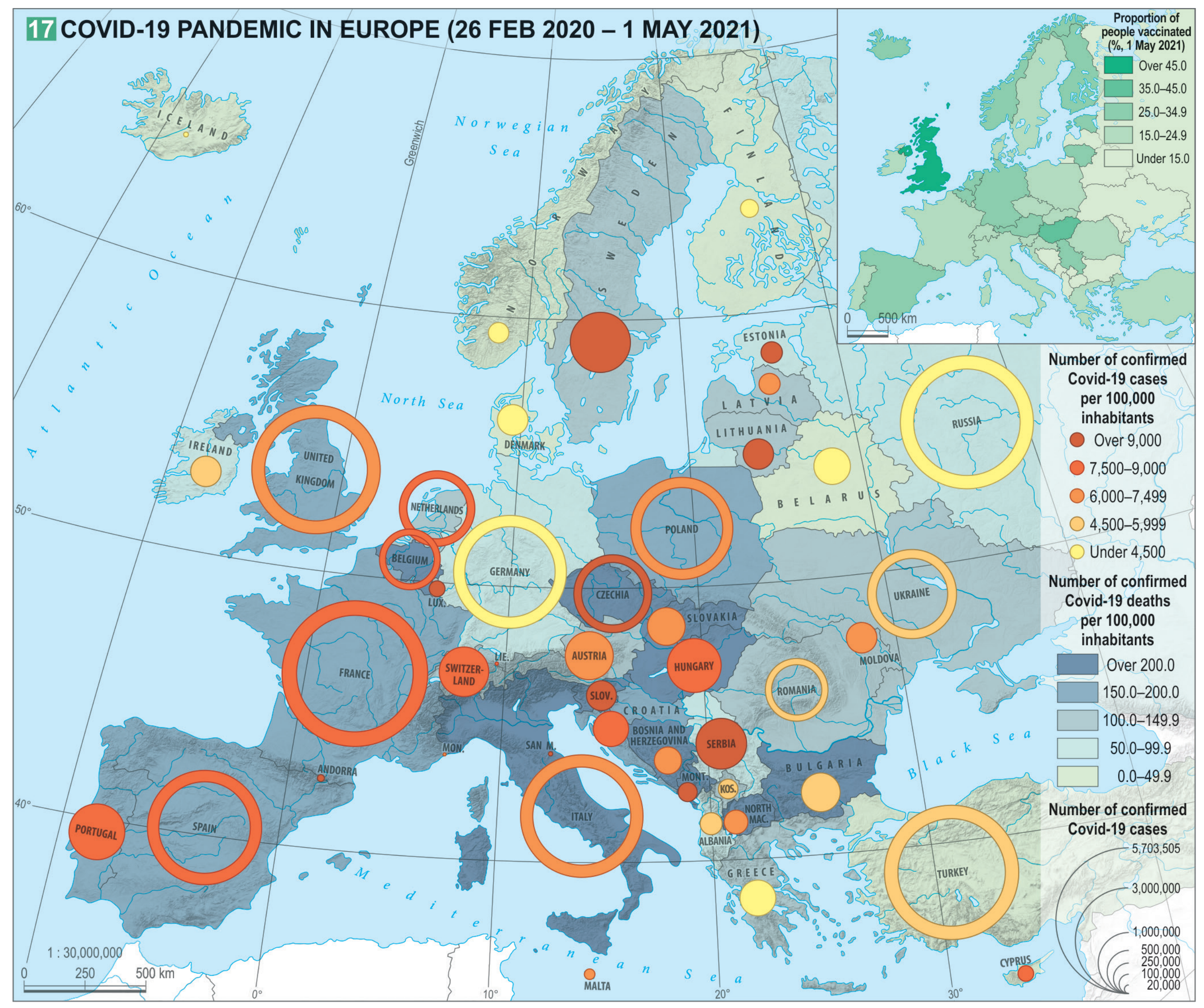
The pandemic has had a significant impact on the economy and on quality of life, and it has transformed daily life to an extraordinary extent. A decline in certain economic sectors and an increase in unemployment have been observed. Innovative community habits (e.g. online shopping) have become more widespread in response to the curfews. At the same time, access to some services has been restricted (e.g. shopping time slots, postponed medical interventions). As the pandemic is ongoing (at the time of compilation of this volume), no final conclusions can be drawn about the long-term effects on human health, the economy and society.



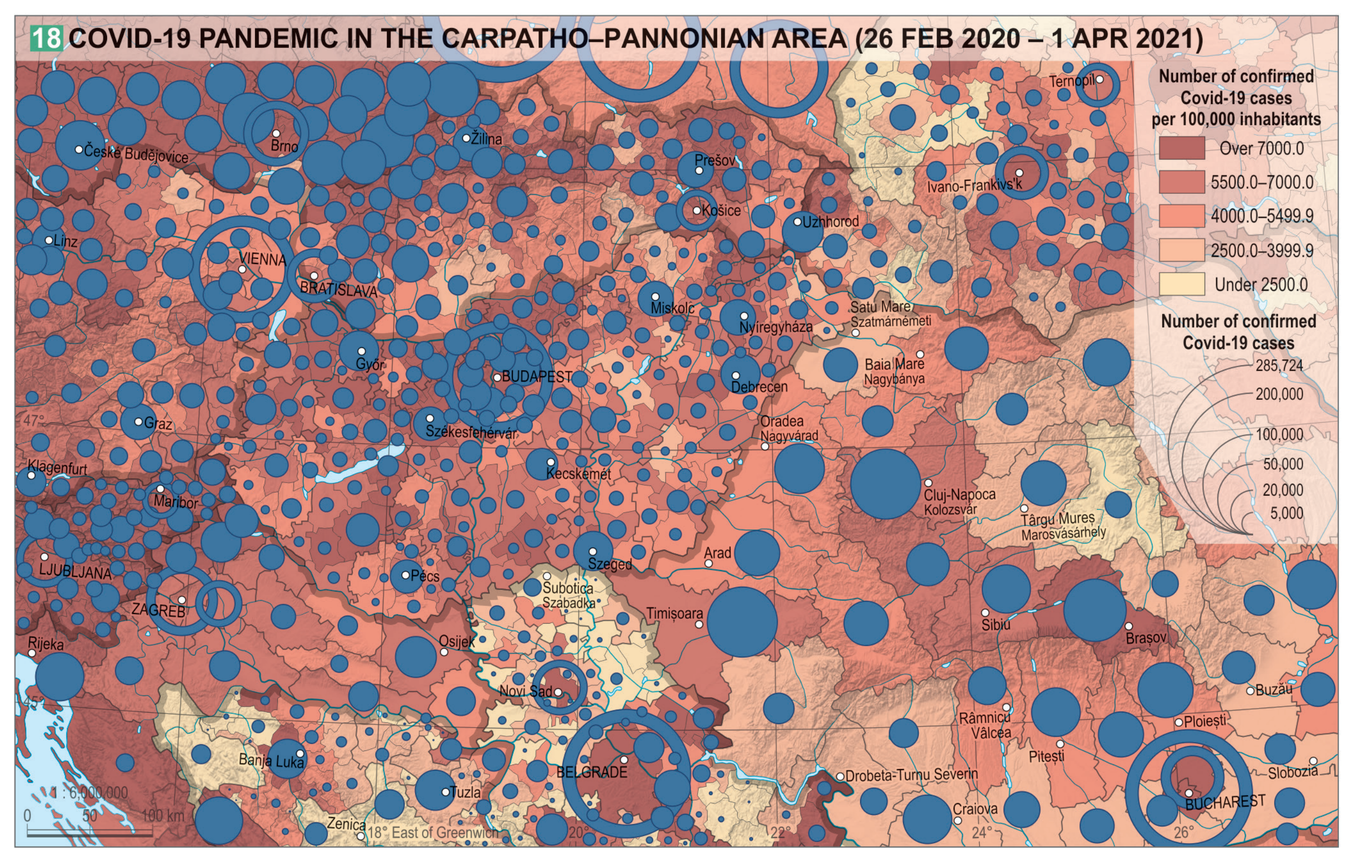
15 USE OF INPATIENT HOSPITAL CARE



16 COVID-19 PANDEMIC IN THE COUNTRIES OF THE CARPATHO–PANNONIAN AREA (26 FEB 2020 – 1 MAY 2021)



17 COVID-19 PANDEMIC IN EUROPE (26 FEB 2020 – 1 MAY 2021)



18 COVID-19 PANDEMIC IN THE CARPATHO–PANNONIAN AREA (26 FEB 2020 – 1 APR 2021)

Income, consumption and quality of life

Sources of spending – income, state benefits

Regional differences in income and the changes over time have been presented in Chapter VI. Here, we focus on the sources of income that are particularly important for people who are in the worst situation: the various *forms of benefits*. In their case, the regulatory background is of prime importance (i.e. who can obtain them, from what source, under what conditions and how much).

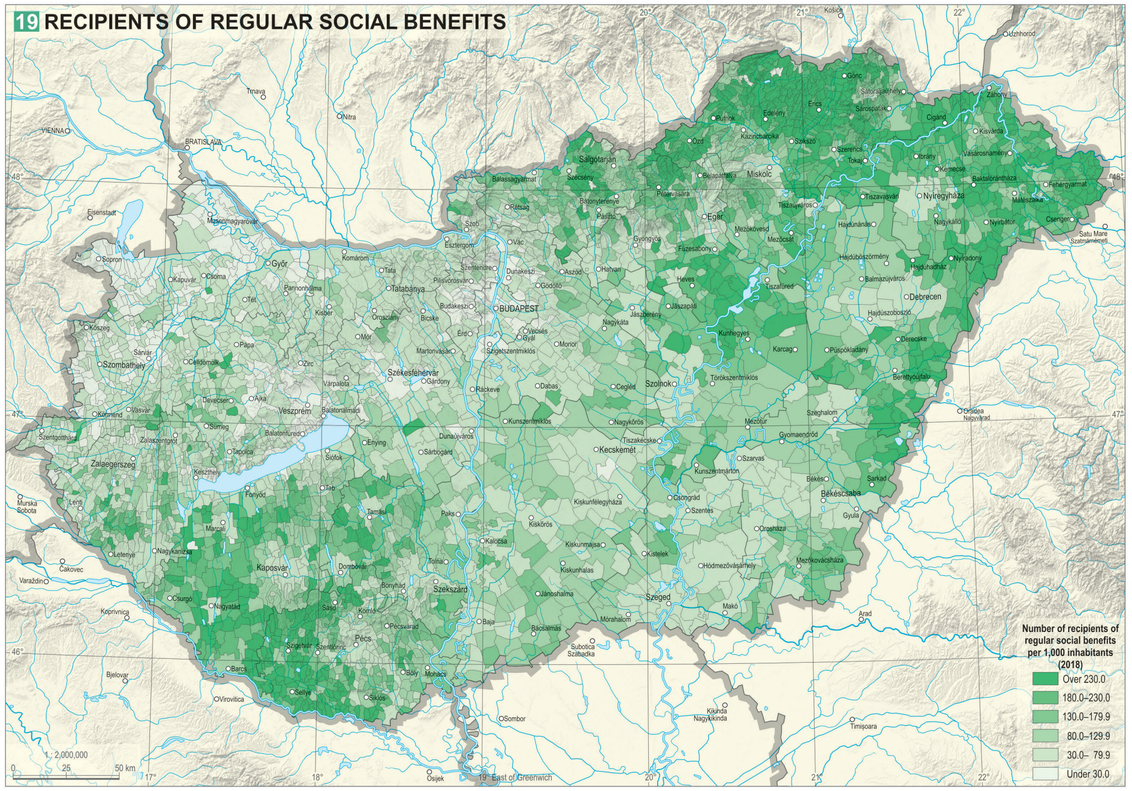
Since 2012, the maximum amount of regular social benefits has been reduced in order to ensure that earnings from jobs or public works schemes are higher than the benefits. The last major change was in 2015, when several forms of benefit ceased to exist and were replaced by the municipal allowance. In this way, the amount of money that each municipality was able to use for this purpose became more valuable (i.e. in settlements with lower tax revenue, the level of benefits per capita decreased) XII. 1. 20.. On the basis of the number of people supported, the spatial structure of benefits is similar to the income conditions presented: in small towns and villages with a lower level of average income and a high proportion of public workers, there is also a high proportion of people receiving benefits VI. 7. 10. VI. 7. 16. XII. 1. 19..

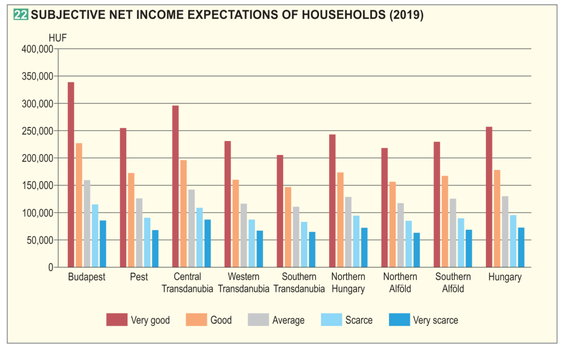
The regional distribution of the *recipients of disability benefits* is also linked to the spatiality of the various indicators relating to development and social care. This shows a strong concentration of financial impoverishment and social problems, which in turn re-create disadvantage. This is substantiated by the fact that the share of social income (pensions, social benefits, sickness benefits, family allowances and unemployment benefits) is higher in the less-favoured regions XII. 1. 21.. The number of people receiving regular childcare benefits, however, has decreased as a result of the increase in average income in recent years. While the eligibility threshold has not changed, the average income of the families concerned has increased slightly, and this has often been enough to raise them above the eligibility threshold. Thus, the financial situation and quality of life of these families have in many cases deteriorated.

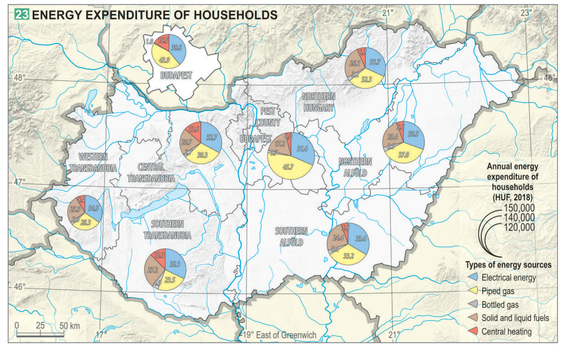
In terms of quality of life, the satisfaction of people and their assessment of their situation are important. The data on *subjective income expectations* (i.e. how much money people think is necessary to make ends meet) show that the expectations of people living in Budapest and in Pest County are higher. There are two main reasons for this: first, incomes and the actual cost of living (e.g. housing); second, the social environment and people's own experiences of life strongly shape expectations. It can be observed that as the situation of a person improves, so an ever greater amount of money is needed to maintain that standard of living XII. 1. 22..

Household expenditure and consumption

The financial conditions of daily life are influenced not only by income but also by expenditure and







3 *A typical urban shopping centre: Corvin Plaza in Budapest*

regions are less behind in the supply of consumer goods that are important in everyday life, but entertainment and computer devices are clearly higher in proportion in households in Pest County, Budapest and Western Transdanubia XII. 1. 24..

As many as 68% of households own a car. The spatiality of this indicator is partly related to economic development, whereby Hungary is one of the European countries with a moderate level of car ownership. The number of cars per thousand inhabitants (the motorisation rate) is higher in the economically more developed countries. The same is true in the more developed regions of the Carpathian Basin (e.g. near the major cities). Regardless of the level of economic development, some areas exhibit a high degree of motorisation due to the specifics of the urban network or the lack of public transport means. Within Europe, for example, the degree of motorisation is higher than average in the agrarian regions of Poland and southern Italy. In Hungary, while the motorisation rate is higher in Budapest and the more developed, western part of the country, the Danube–Tisza Midland also exhibits a relatively high rate XII. 1. 25., owing to the high proportion of people living on the outskirts 9 and to hidden incomes.

Literacy, consumption of culture

A somewhat enigmatic feature of quality of life is literacy, which is usually measured in part by the educational level, which is closely related to such other dimensions as higher education VI. 5. 5.. The shortest path to a higher education degree is still grammar school and vocational grammar school. In addition to higher educational attainment, language skills are becoming increasingly important. Foreign language speakers are more open, their opportunities are multiplied, their cultural needs and opportunities are more diverse, they are more adaptable, and they can attain a higher quality of life. One of the least measurable components of literacy is (the level of) cultural demand, which ranges from literary preferences to musical literacy and theatre visits. The frequency of participation in cultural events is a further element in this component 4.

The number of people choosing grammar school and vocational grammar school in a given age group will also reflect the accessibility of the institution and the need to change social status XII. 1. 26.. In the last two or three decades, there have been increases in the proportions of secondary school graduates and higher education graduates VI. 5. 3.. The steady increase in the average number of school grades completed VI. 5. 6. is evidence of this trend. However, efforts to address regional inequalities have been rather unsuccessful, although polarisation has decreased. Together with shrinking school age groups, competition has appeared on the supply side: many schools seek to specialise and to attract students from further afield. Traditions, economic factors and accessibility influence the formation of the spatial structure XII. 2. 2. 13..

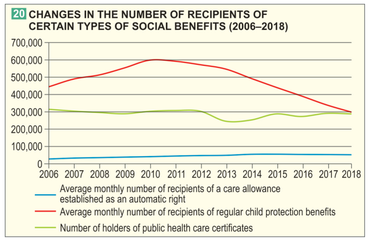
Language skills in Hungary are somewhat weaker in an international comparison. English has become preeminent in Hungary, displacing German, French and Russian, the latter of which had been compulsory in schools for many decades. In 2011, English was spoken by more people in the country than the three other languages combined. Only on the western border and in ethnic German areas has German retained its status. In terms of language skills, Budapest is the clear frontrunner, but its agglomeration

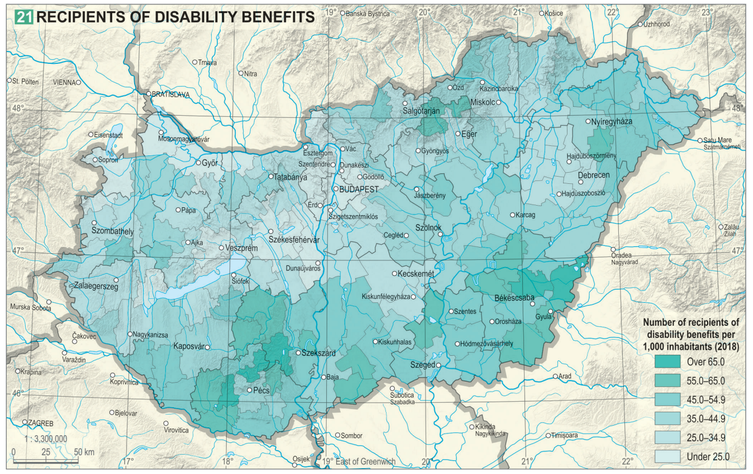
4 *An outdoor classical music concert in Pécs*

the associated consumption. These in turn reflect the stratification of society, since the same income is used differently by people belonging to different social groups.

According to a KSH survey, in 2018 the average household spent nearly a quarter of its income on food and non-alcoholic beverages and nearly 20% on housing and household energy. In contrast, very little (0.9% of household income) was spent on education. Compared to 2010, the proportions changed only slightly. The consumption potential of cities, towns and villages is also influenced by the spatiality of supply: where are the shops, do they exist at all XII. 2. 2. 14.? These inequalities are not reduced substantially by online retail either. Between 2010 and 2018, the largest increase in consumption occurred in Central Transdanubia. Those in the top income quintile spent 3.6 times more than those in the bottom quintile. Poorer members of society can only make limited consumer choices, as they have little money left after basic living expenses have been paid. *Energy expenditure* and its composition are important indicators of well-being but entail complex processes. For instance, where cheaper energy sources are unavailable, people are forced to use more expensive ones. Similarly, those who consume more energy may do so because they are on higher incomes and thus own more electrical equipment or maintain larger properties. In Hungary, the differences between regions are substantial, despite increased access to natural gas following the development of the supply network in recent decades. High expenditure on solid-fuel household energy is typical in Northern Hungary and Southern Transdanubia. Such energy use is associated with the underdeveloped character of these areas XII. 1. 23..

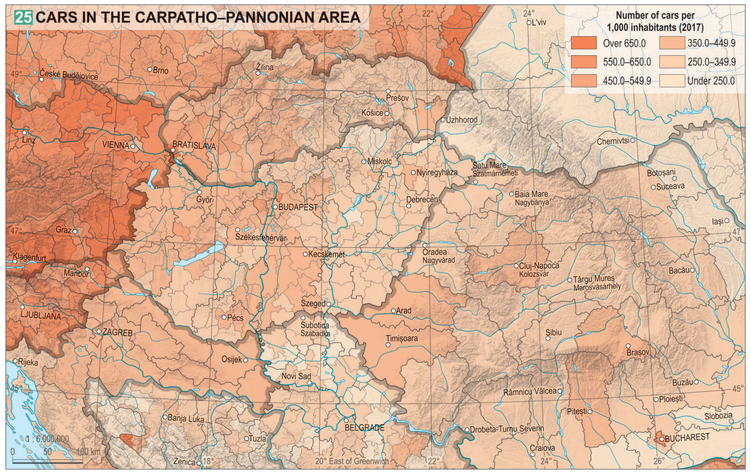
Household expenditure and consumption are also indicated by ownership of consumer durable goods. In the 1990s, the quantity and composition *of consumer goods owned by the population* changed significantly compared to the period before the collapse of communism, when there were shortages of such goods. The changes strengthened consumer society in Hungary 3. According to a KSH survey, communication devices accounted for the highest proportion of consumer durable goods in 2018. For example, on average, there were just under two mobile phones per household, but 91% of households also had smartphones. Economically less developed

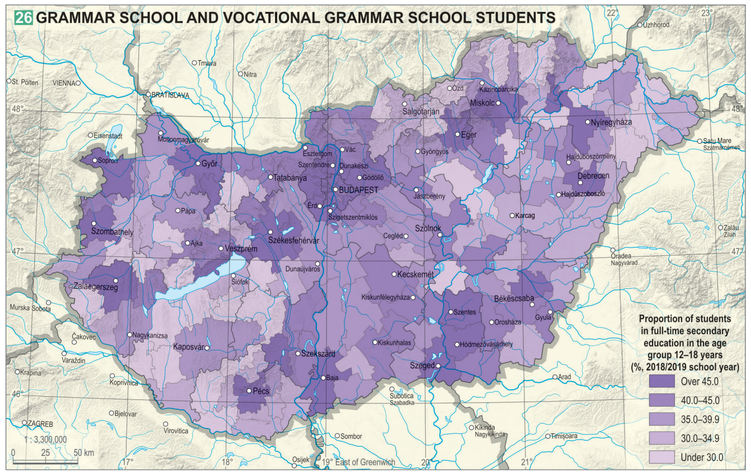


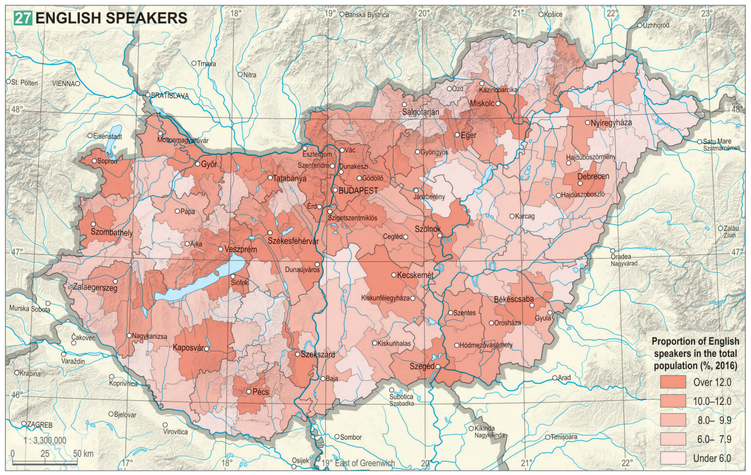


24 SUPPLY OF HOUSEHOLDS WITH CONSUMER DURABLE GOODS (2018)

	Small household appliences					Entertainment electronic devices				Computer appliances		Telephone			Other		
						Colour television						Mobile phone					
	Refrigerator and freezer	Microwave oven	Dishwasher	Automatic and semi-automatic washing machine	Washing machine with tumble dryer	Total	plasma, LCD, LED television	Digital camera	Home movie system	Personal computer	Laptop	Total	Smart-phone	Landline telephone	Air conditioning	Sophisticated alarm system	Own car
	Appliances per 100 households (pieces)																
Budapest	79	89	30	89	2	146	100	36	7	47	81	193	97	66	21	14	57
Pest County	69	96	32	89	4	174	102	38	9	55	68	219	83	48	10	9	79
Central Transdanubia	74	92	21	88	6	161	97	29	7	51	54	203	123	55	7	3	73
Western Transdanubia	70	97	27	87	7	172	102	38	7	43	62	210	86	56	6	5	88
Southern Transdanubia	72	92	20	87	2	167	93	29	7	44	52	197	86	53	10	4	65
Northern Hungary	67	91	15	79	4	174	94	22	6	37	51	189	83	50	4	3	61
Northern Alföld	62	91	18	82	4	163	75	21	6	40	45	200	71	43	9	3	60
Southern Alföld	54	89	19	88	2	158	89	24	6	45	49	191	96	32	11	2	68
Hungary	***68***	***92***	***23***	***86***	***4***	***163***	***94***	***29***	***7***	***45***	***59***	***199***	***91***	***51***	***11***	***6***	***68***







5 *Book launch*

polcs with the Valley of Arts, Tornabarakony with its folk art festival). Here, there is an ambivalent effect on local quality of life: on the one hand, the cultural events have a positive impact on the local economy; on the other hand, increasing attendance rates can have negative social and environmental impacts, which may impair quality of life.

A consistently high level of culture consumption is most evident in Hungary's major cities 5. Here, such consumption may again be associated with the level of education, a higher proportion of people of high social status and a broader range of events. The well-known tourist destinations (e.g. Őriszentpéter, Bük and Hollókő), the centres of wine regions (e.g. Tokaj and Neszmély) and the shores of Lake Balaton likewise have outstanding values. Culture consumption is also a feature of those regions that have sizeable ethnic minority populations. This applies in particular to the ethnic German regions in the counties of Baranya and Tolna (e.g. Pécsvárad, Ófalu and Óbánya).

Our digital world – access, use and well-being

The digital world is of growing importance in the 21st century. Access to ICT networks and to the necessary devices is an increasingly important aspect of an individual's quality of life. Moreover, people need to be equipped to use such devices and pay for them (digital well-being). Many claim that humanity has entered the era of the 'information society', in which the most important resource is the ever broadening range of systematisable and analysable information 6.

Internet access of sufficient quality and the existence of services linked to it are becoming a basic need in the European Union. Nevertheless, service providers are not in a position to provide everyone with high-quality internet access, and this is true both in Hungary and in the rest of the European Union. Network coverage is not yet complete, and replacing older technologies is time consuming and capital intensive. However, a universal aim in the European Union is to ensure that everyone has access to a network connection guaranteeing download speeds of at least 30 megabits per second (Mbps) and to provide a network connection of at least 100 Mbps to at least 50% of subscribers. In Hungary, nearly 75% of subscribers had an internet connection guaranteeing download speeds of at least 30 Mbps in spring 2020. The average speed of the internet in Hungary is also high in a global comparison: this reflects the advantages enjoyed by 'late arrivals', whereby in Hungary modern technology could be used in the first place and there was no need to accommodate or eliminate an outdated network.

The existence of a network, however, does not necessarily mean usage, as this will depend on a number of social factors. According to surveys, people in their late 60s have fewer digital skills in Hungary: still, more than half of them can be considered regular internet users, but in the case of those in their 70s, this is less than 25-30%. Even in the most advanced and active societies, a small percentage of people – the so-called 'digital illiterates' – remain. Such people are unable or unwilling to use any information communication tools or channels. They leave no digital footprint (all the data generated by the online activities of users). Failing to acquire at least basic user skills at the right age VI. 5. 4. VI. 5. 6. is mainly related to the family background VI. 7. 17. and the impact of the school system. Furthermore, financial reasons VI. 7. 14. VI. 7. 16. may also mean that the acquired skills were not practiced because the right tools could not be purchased. Such people can only find employment in an ever-shrinking part of the labour market and get mostly low-prestige, low-paid jobs VI. 7. 10.

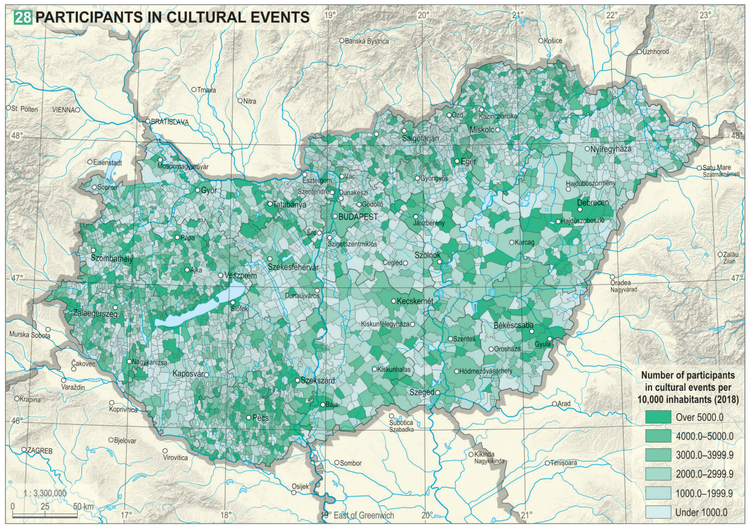
At the beginning of the digital age (1990s), most users in Hungary were men, but by the first decade of the 2000s the differences between the two sexes in this field had disappeared. However, education remains a dividing line: those who are considered functionally illiterate (a fifth to a sixth of each age group) can only use digital tools at a basic level; this group takes advantage of only a few of the services available. The relationship between income level and digital activity is similar VI. 5. 7. XII. 1. 20.: only 70% of the lowest income decile (the poorest one million people) are considered digitally active, compared with at least 90% of the decile above.

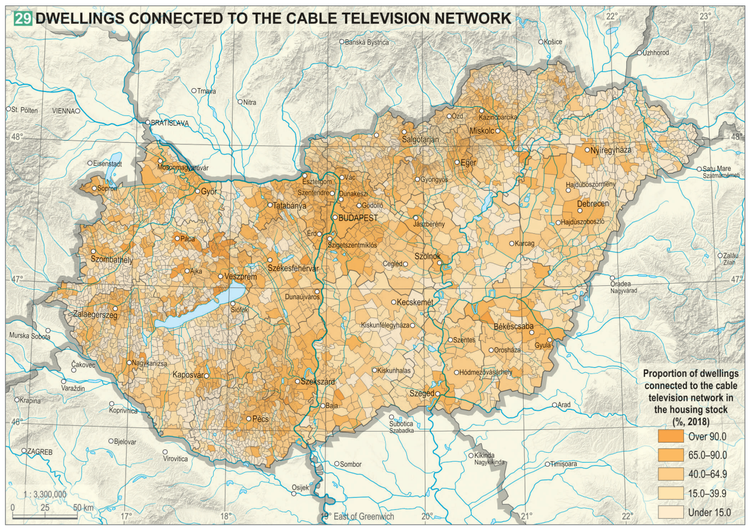
Digital activity and provision in Budapest and its surroundings stands out in most indicators; it is 1.5 times the national average. Outside Budapest, differences between the country's various regions are moderate, especially compared to other social and economic indicators. Differences are greater in the settlement hierarchy, especially when a comparison is made between Budapest and small villages, with the differences being three- to fivefold in some cases. The relationship between knowledge of English and the level of digital activity is clear XII. 1. 27..

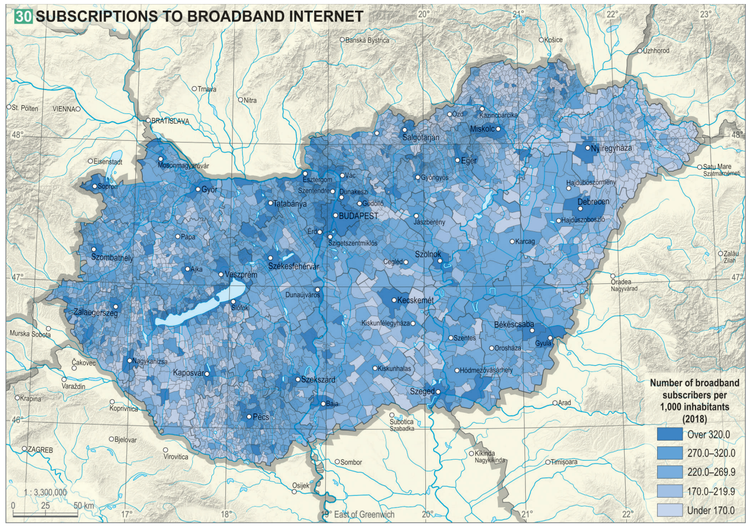
Broadly, the same spatial structure is shown by *the proportion of broadband subscribers* and *dwellings connected to the cable television network* XII. 1. 29. XII. 1. 30.. Regional differences in the development of landline and mobile networks and in the use of devices have decreased considerably. This is important because reliable, fast internet access can make many tasks in life easier (e.g. purchases and the payment of bills and taxes). The Covid-19 pandemic in 2020 and 2021 has brought about significant changes in digital everyday life (e.g. working from home, online education, watching movies, listening to music and ordering food), and most of these changes may become a permanent part of our lives.

also stands out. These areas are closely followed by the regional centres and the language teaching centres XII. 1. 27.. The spatial structure of foreign language knowledge in Hungary is closely related to education, settlement size and access to educational infrastructure XII. 2. 2. 13..

Literacy is also linked to the barely definable concept of culture consumption, which can possibly be measured by examining and quantifying *participation in cultural events* XII. 1. 28.. Settlements with the highest level of culture consumption tend to have small populations and to host major festivals (e.g. Ka-







6 *Online education using mobile devices at a university*

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Cover design
Geographical Institute, RCAES, Ildikó Kuti – Civertan Bt.

Design and typography
Ildikó Kuti – Civertan Bt.

Printing
Pannónia Nyomda Kft. (Budapest)

Publisher: László Kiss (Director general)
Eötvös Loránd Research Network (ELKH), Research Centre for Astronomy and Earth Sciences (CSFK), www.csfk.org

The publication is supported by:
Government of Hungary
Ministry for Innovation and Technology (ITM)
Eötvös Loránd Research Network (ELKH)
Hungarian Academy of Sciences (MTA)

Closing date of editing: 1st May 2021

ISBN 978-963-9545-58-8ö
ISBN 978-963-9545-64-9

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SETTLEMENT SIDE OF LIVING CONDITIONS AND QUALITY OF LIFE

HOUSING CONDITIONS

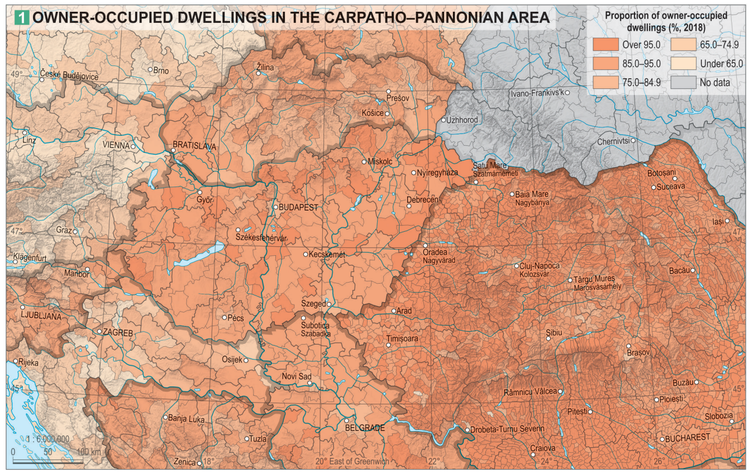
Zoltán Kovács, Judit Székely

A safe, healthy and affordable home is a basic human need in every community. The size, age and facilities of a dwelling have far-reaching effects on physical and mental health, on social relationships, and on the lifestyle and satisfaction of the people living in it. Thus, housing conditions can inform us about living conditions and quality of life in society. Moreover, a change in housing conditions will be indicative of changing lifestyles and social conditions. The purchase of a home is usually the most important decision in any household. As a valued asset, a dwelling serves also to reflect the social situation of its owner. The development of the housing stock in a region or settlement and the number of dwellings built or renovated, reflect not only the needs of the population living there but also their income situation. Therefore, when examining living conditions and quality of life, special attention should be paid to housing conditions 1.

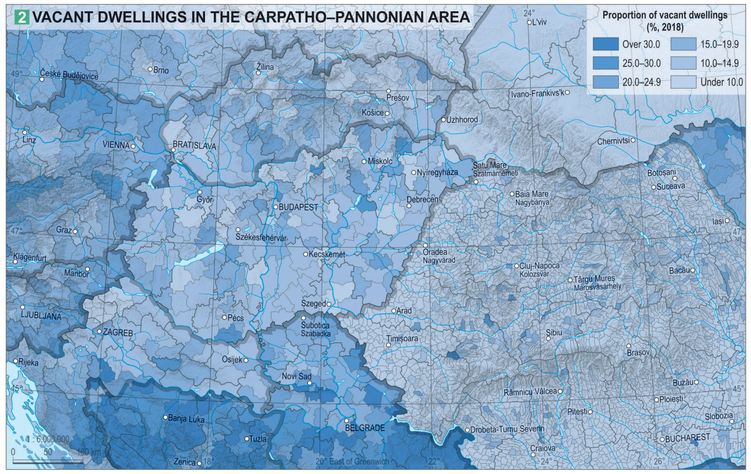
Housing conditions in the Carpathian Basin

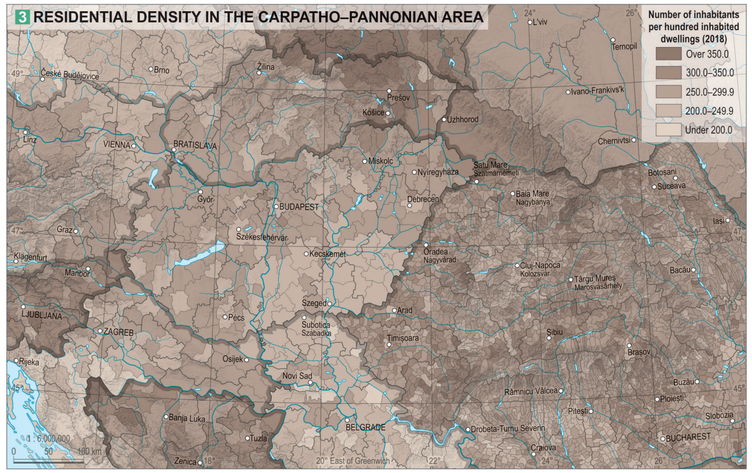
In terms of home ownership, two major models have emerged in Europe and around the world: one is based on rental housing and the other on owner-occupied private housing. A rental housing system (whether public, community or private) in many ways removes the burden of housing from the shoulders of families and promotes their mobility (i.e. residential mobility). Further, households can choose housing according to their size, desires and financial means. However, renting a home can also mean vulnerability when household incomes fall or when, in old age, people become reluctant to change their usual environment. Owning a home makes it difficult to move in space, as the house must be sold and another one bought, which can involve costs and risks. Yet, although home ownership hinders flexible adaptation in the labour market, it can provide security at times of crisis. Moreover, housing is seen by families as a safe and value retaining investment in the long term.

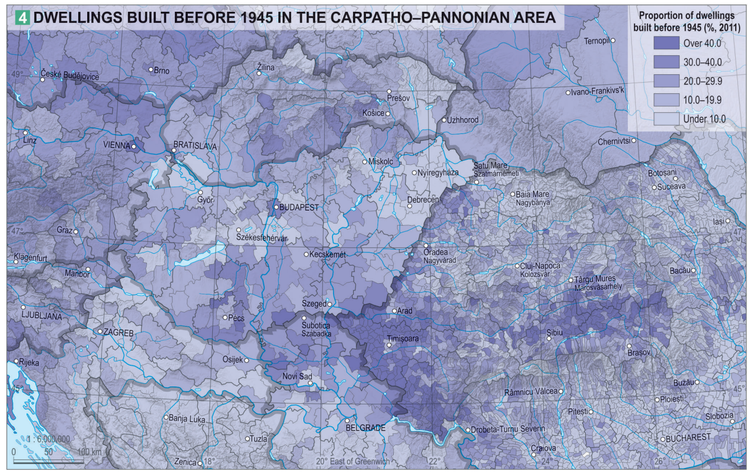
1 *The 'Village House' (Faluház) in Óbuda (District III, Budapest) is the largest residential building in Hungary. Built using prefab technology in 1970, it could have housed the entire population of the spa town of Hévíz (Zala County)*

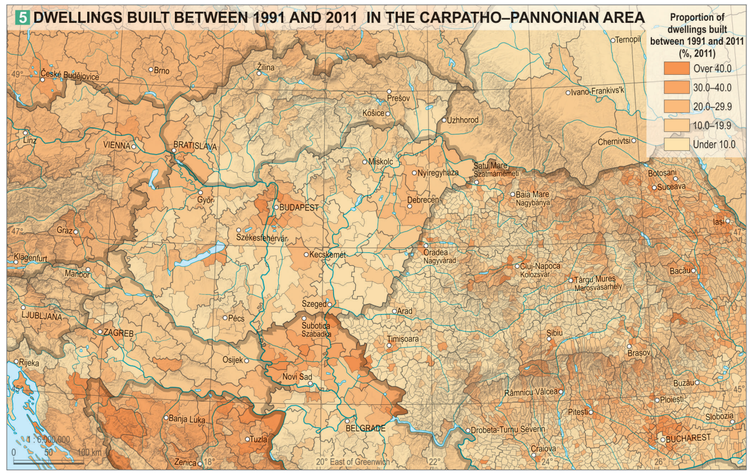


In western and northern parts of Europe, the proportion of rental housing is significant. Indeed, in many areas, less than half the population live in owner-occupied dwellings. For instance, in 2011, as few as 36.3% of dwellings were owner-occupied in Switzerland, and similar proportions were found in Sweden (42.2%) and Germany (45.4%). In contrast, in southern parts of the continent, private housing is predominant (in Italy, Portugal and Greece, the proportion of owner-occupied homes is 72-73%). In the post-communist countries, the public housing sector was dismantled after 1990, thus by 2011 private property had dominated everywhere. Over 80% of the housing was owner-occupied in Bulgaria, Slovakia, Croatia, and several Baltic states. To a certain extent, the duality is also reflected in the map showing the proportion of owner-occupied dwellings in the Carpathian Basin XII. 2. 1. 1.. Whereas in Burgenland (Austria) 74.7% of dwellings are owner-occupied (compared with 51.6% in the whole of Austria and 20.8% in Vienna), the corresponding rates are 84.9% in Slovakia, 86.2% in Vojvodina, 91.6% in Hungary and 92.7% in Transylvania. The map also shows that the share of owner-occupation is the highest in rural areas, while in major cities (even in the post-communist states) rental dwellings are more common. However, many of the rented dwellings recorded in the last census are now privately rather than municipally owned. In Budapest, in 2011, 5.1% of inhabited dwellings were let to tenants by the local governments and 6.0% by private landlords.





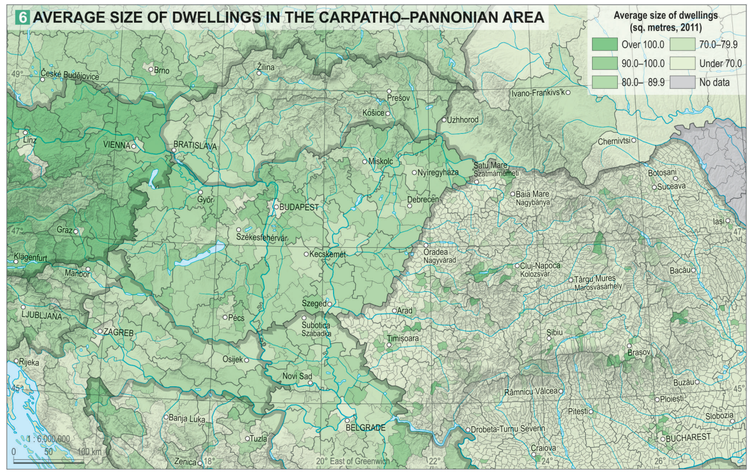


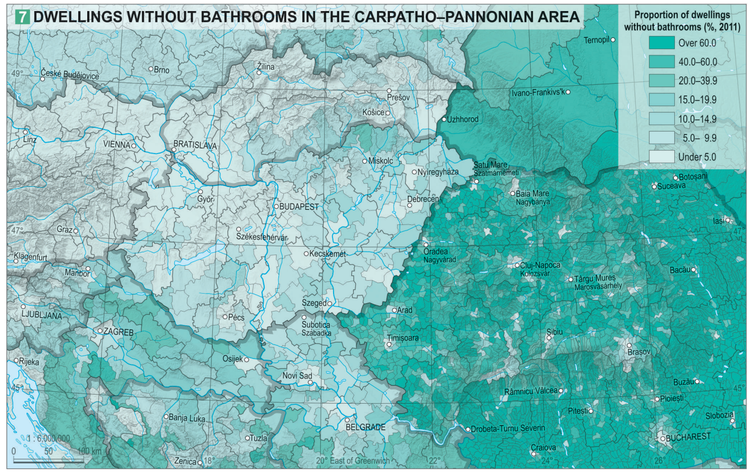


A natural concomitant of the housing market is the presence of vacant housing units. Without this, flexible relocations and a balance between market demand and supply would be inconceivable. However, a *vacancy* rate of 10-15% or more, which is several times higher than the annual rate of house moves, is indicative of a problem in the housing market. This may be an unfavourable regional distribution of the housing stock (i.e. the fact that dwellings are not where the current socio-economic processes would require them). There are, furthermore, risks associated with letting private properties to tenants, and such risks may hamper the use of the existing housing stock. In welfare societies an increasing proportion of families have a second home that they rent out or use as a holiday home. Difficulties in collecting such data should also be taken into account. In many cases, tax evasion related to rental income distorts the statistical data and shows a higher proportion of unoccupied dwellings than is actually the case. A relatively large number of vacant dwellings are found in the Carpathian Basin. A high proportion of vacant rental dwellings is typical in the relatively prosperous western areas (Austria, Czechia and Slovenia), whereas such dwellings are also prevalent in areas affected by the Yugoslav Wars (Krajina in Croatia, Bosnia and Herzegovina) and in the depopulating areas (Central Serbia, Moldova, Central Slovakia and the northeastern part of Hungary). In these latter areas, ongoing out-migration is a major factor XII. 2. 1. 2..

In addition to the proportion of vacant dwellings, another important factor influencing housing conditions is *residential density*, which is expressed by the number of inhabitants per hundred inhabited dwellings XII. 2. 1. 3.. Due to the improving housing conditions and population ageing, the residential density rate is becoming more and more favourable in Hungary and the surrounding countries. While after World War II, there were 372 people per hundred inhabited dwellings in Hungary, in 1990 there were only 280 people, and in 2011 there were 248 people. Based on these figures, Hungary was in a favourable position within the Carpathian Basin. There were 306 people per hundred dwellings in Slovenia, 273 in Romania and 270 in Slovakia. Only Austria (242 people) and Czechia (214 people) had more favourable indicators than Hungary. The data on residential density also reveal marked regional differences within individual countries. High rates can be found in the northeastern part of Hungary more densely populated by Roma families and in the suburban area of major cities. Regarding the size and facilities of dwellings, in the former case high housing density is an obvious concomitant of poverty, but this is not valid for the latter case. It can also be stated that at regional level the lowest housing density can be found in the Southern Alföld in Hungary. Slovakia is characterised by a strong east–west divide: while in the eastern districts – more likely to be populated by Roma people – residential density is over 350 people, in Bratislava it is barely more than 200. In general, major cities are characterised by lower residential densities. There are 214 people per hundred inhabited dwellings in Budapest, 223 in Belgrade, 225 in Vienna and 245 in Bucharest.

The *age of dwellings* affects their state, the level of comfort, the quality of life of the occupants, the maintenance costs and the market value of the dwellings. An old dwelling, however, does not necessarily mean lower quality of life, because if it is built of durable building materials, maintained and renovated to a high standard and continuously, it can provide suitable housing conditions for hundreds of years. Conversely, the high-rise prefab housing estates that are statistically young but which had numerous technical problems even at the time of their construction, do not necessarily offer better housing quality. In practical terms, this is reflected in the regional pattern of *dwellings built before 1945* in the Carpathian Basin XII. 2. 1. 4.. Moving from northwest to southeast in the region, the proportion of old dwellings gradually decreases, except for in some areas in Hungary (Tolna,





Baranya), Central Slovakia, Vojvodina, Banat, Satu Mare (Szatmár) and southern Transylvania where ethnic Germans lived in significant proportions before 1945. Their homes, made of high-quality, durable building materials, still offer satisfactory conditions to those who live in them. The people who replaced the ethnic Germans in several waves during the decades after their deportation or emigration, usually brought with them a lower level of housing culture.

The situation is somewhat complex when it comes to the proportion of dwellings built between 1991 and 2011 XII. 2. 1. 5. On the one hand, the effect of the east–west income gradient can be recognised within the region. Accordingly, whereas in Austria (22.3%) and Czechia (23.7%) the share of such new dwellings is well above 20%, it is much lower in Slovenia (18.2%), Hungary (15.8%), Slovakia (13.4%) and Romania (13.7%). Within the region, there are districts where the proportion of new dwellings is astonishingly high. These can be divided into two major groups. The first comprises the surroundings of major cities (e.g. Budapest, Zagreb, Bratislava), where suburbanisation has brought spectacular changes in recent decades. The second is found in the states affected by the Yugoslav Wars, especially Croatia and Bosnia, where new dwellings had to be built to replace the dwellings destroyed in the warfare. Many dwellings were also built in the Vojvodina region, to which many Serbian refugees fled in 1995, changing also the ethnic composition in some cases (e.g. Subotica/Szabadka and Temerin).

The *average size of dwellings* in the Carpathian Basin reflects income conditions and the partly associated regional characteristics of housing culture XII. 2. 1. 6. In Hungary, the average floor space of inhabited dwellings was 78 sq. m at the time of the census in 2011. This average value was exceeded in Austria (99 sq. m) and in Slovenia (80 sq. m), while in Romania the average was only 56 sq. m per dwelling. In addition to the east–west differences, it can also be observed that the average floor space of dwellings in major cities is smaller due to the denser, multi-storey build-up. The average size of a dwelling in Budapest is 65 sq. m, but average floor space in Belgrade (63 sq. m) and in Bucharest (53 sq. m) is lower, and the value in Vienna (70 sq. m) and in Zagreb (69 sq. m) is not much higher.

Historically, the differences in income conditions and housing culture are even more evident in the spatial distribution of bathrooms XII. 2. 1. 7. The proportion of *dwellings without bathrooms* rises gradually from west to east. While only 1.5% of dwellings in Austria do not have a bathroom, the proportion is 3.1% in Slovakia and 5.0% in Hungary. In Transylvania (27.3%) and Zakarpattia (41.3%), however, the proportions are much higher, especially in those rural areas that were doomed to depopulation at the time of Romanian and Soviet communism.

Housing stock of Hungary in space and time

At the time of the census in 2011, there were 4 million 390 thousand dwellings in Hungary, and their number increased to 4 million 404 thousand by 2016 XII. 2. 1. 8. The change in the number of dwellings is the result of two opposing processes: on the one hand, new dwellings are being built with varying intensity, and on the other hand, they are disappearing in a physical (e.g. demolition) or statistical sense (e.g. amalgamation). Not all dwellings are used as intended. At the time of the census in 2011, 477 thousand dwellings, i.e. 10.9% of the housing stock, were vacant. The process accelerated especially after 1990, when only 6.4% of the housing stock was vacant, but in 2016 the share was already 12.5%, with more than half a million dwellings. Several factors play a role in the increase in the number of vacant dwellings. On the one hand, due to the declining population, some of them are actually uninhabited, which is typical in the depopulating settlements of Hungary especially in the areas with small and tiny villages. At the same time, so-called second dwellings are also numerous: these are dwellings that have been vacated for some reason but whose owners do not wish to sell or let them. Many properties are not used for residential purposes but for holiday or other business purposes (e.g. offices, dental practices, Airbnb rentals). The latter is especially typical of the housing market in major cities, including Budapest.

The number of newly built dwellings fluctuated strongly after World War II, reflecting real needs (e.g. natural increase, creation of new families) and opportunities (e.g. financial and economic situation, land that can be built-up) XII. 2. 1. 9. From the early 1950s, as a result of demographic trends, the number of new dwellings increased rapidly, largely due to increased state investment and the subdivison of larger dwellings (e.g. forced co-tenancy). However, for many years the rate of housing construction lagged far behind demand driven by demographic trends and compounded by urban migration. In the late 1960s, another period of dynamic growth began, with the proliferation of industrial housing technologies (e.g. prefabricated concrete construction). The peak in this era was in 1975, when almost 100 thousand new dwellings were built in Hungary in a single year. It is characteristic of the specific Hungarian conditions that the majority of the dwellings were built based on private resources, with only 38% of them being the result of state investment (almost exclusively in cities) 2.

Due to the structural problems of the command economy of the communist period, which led to growing economic difficulties (indebtedness), the state gradually withdrew from the housing market. As a result, the number of newly built dwellings began to fall sharply from the early 1980s. In view of the economic difficulties and recession that followed the collapse of communism, housing investment continued to decline, and in the early 1990s the number of housing constructions fell to one-fifth of the level seen in the 1970s. From the late 1990s, economic growth, the strengthening of the private sector, and the emergence of mortgage lending after 2001 accelerated the pace of construction again, although the peak of 44 thousand new dwellings in 2004 was barely half the number seen in the 1970s. Of course, these dwellings far exceeded the size and quality of the dwellings that were typical of mass housing construction of the 1970s: the average floor space of dwellings built in 1975 was 62 sq. m, which increased to 93 sq. m by 2004. From 2004 to 2008, the engine of housing market investment became the ever-expanding – initially seemingly advantageous – foreign currency-based bank loans. The financial crisis of 2008 was then exacerbated in Hungary by the prevalence of foreign currency loans in the country's housing sector. After 2008, the number of newly built dwellings began to decline dramatically. The low point was reached in 2013, with 7,293 new dwellings. Based on previous experience, the new housing market recovery that unfolded after the mid-2010s took place within a framework of tighter controls on loans. A typical feature of the period was the appearance of small private investors in the housing market, who, by buying and letting one or more dwellings for a shorter or longer period, caused a significant recovery and price increases in major cities, especially in the favourable city centre areas of Budapest (see the chapter entitled Budapest and its Region).

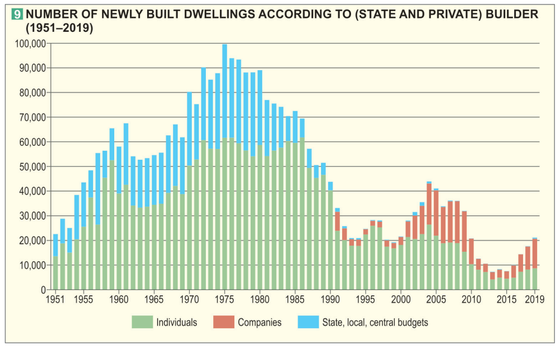
The transformation that followed the collapse of communism was also accompanied by the appearance of foreign buyers in the Hungarian housing market. Many of them came from Germany and the surrounding countries, but some arrived from outside Europe (China, Vietnam, Israel). Those who came for work were primarily looking for housing in the capital, while the retired age group mainly targeted the holiday areas in Transdanubia (e.g. Lake Balaton, Lake Velence, the Orfű area and Őrség) and the thermal spa resorts in the Alföld (e.g. Hajdúszoboszló, Mórahalom and Cserkeszőlő). Dwellings with high values in the inner districts of Budapest were mostly bought by Chinese, Vietnamese, Russian and Ukrainian customers for investment purposes. The purchases of foreigners accounted for 12% of the total turnover in Budapest in 2018, and this proportion was even higher in the inner districts of Pest, 26 out of every 100 HUF spent on real estate purchases.

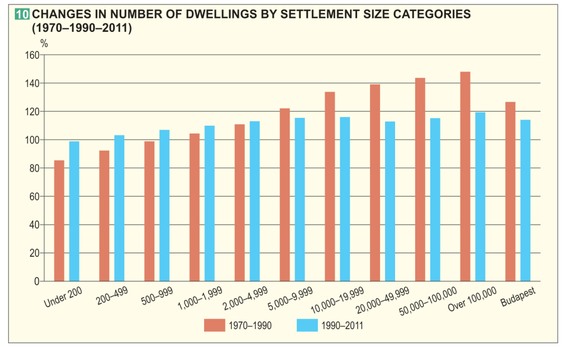
The distribution of dwellings within the settlement hierarchy differs somewhat from the distribution of the population. As much as 32.3% of the housing stock is located in settlements with a population of more than

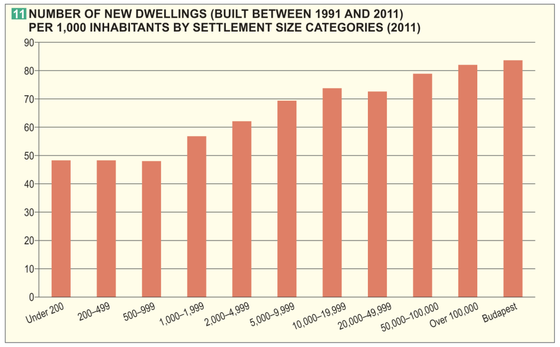
8 INHABITED AND NON-INHABITED DWELLINGS (1920–2016)

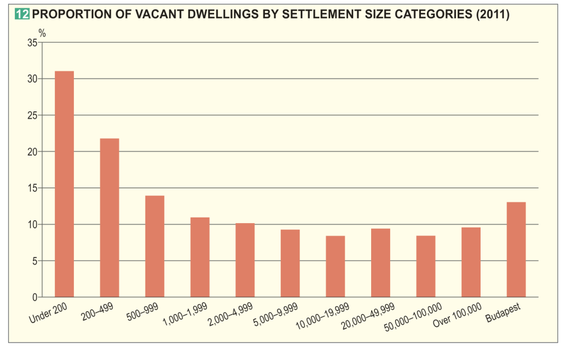
Year	Dwelling				
	Inhabited	Inhabited (%)	Non-inhabited	Non-inhabited (%)	Total
1920	1,791,240	98.1	35,531	1.9	1,826,771
1930	2,101,747	96.3	80,752	3.7	2,182,499
1941	——	——	——	——	2,397,625
1949	2,424,892	98.3	41,622	1.7	2,466,514
1960	2,710,826	98.3	46,799	1.7	2,757,625
1970	3,034,383	97.3	83,713	2.7	3,118,096
1980	3,371,417	95.2	171,001	4.8	3,542,418
1990	3,607,688	93.6	245,600	6.4	3,853,288
2001	3,690,773	90.8	373,880	9.2	4,064,653
2011	3,912,429	89.1	477,873	10.9	4,390,302
2016	3,854,405	87.5	550,113	12.5	4,404,518

Note: Data are calculated to the present territory of Hungary.

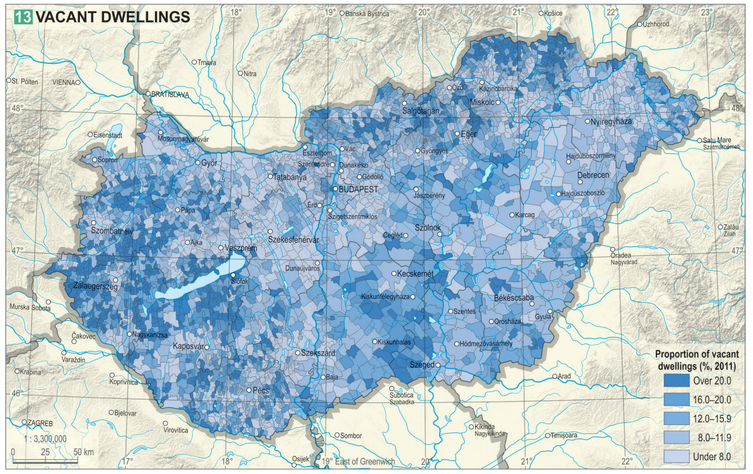








2 *'Kádár Cube': this form of private architecture became popular in Hungarian villages in the 1960s. Egyházaskozár (Baranya County)*



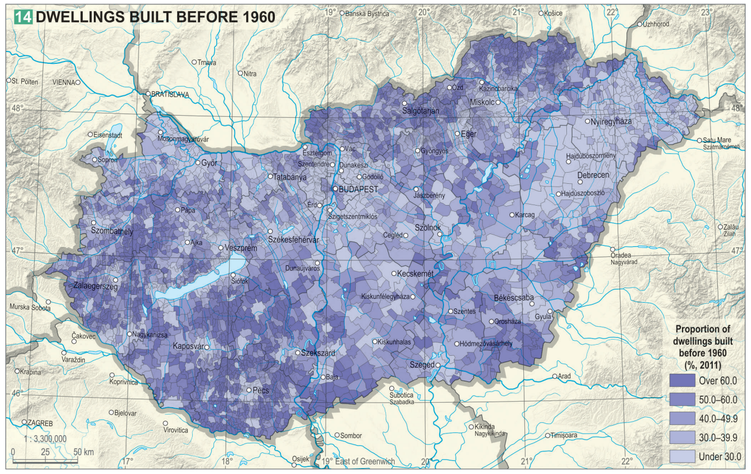
100 thousand people, while these settlements contain 28.4% of the population. This shows that in more populous cities, and especially in Budapest, many dwellings are not intended for those who live there permanently (e.g. foreigners, students) or are not used as dwellings. If we take a look at *the dynamics of the housing market for each settlement size category*, a different picture emerges in the periods before and after 1990 XII. 2. 1. 10.. The housing stock of settlements with less than a thousand inhabitants shrank, while the stock of cities with more than 50 thousand inhabitants grew at a rate of over 40% in the two decades before 1990. This coincided with political intentions at the time: the state favoured major cities, leading to the spatial concentration of central housing construction, while it neglected smaller settlements. After 1990, however, the situation changed, reflecting the elimination of unjust resource allocation and the dynamic growth of smaller settlements around major cities (suburbanisation). Although the housing stock of the tiniest settlements decreased even after 1990, and the housing market of settlements with less than 5,000 people grew at a slower than average rate, the previous extremes within the settlement system disappeared. This is confirmed by a *change in the number of new dwellings* per thousand inhabitants between 1990 and 2011 XII. 2. 1. 11.. While in the case of settlements with less than 5,000 inhabitants, 50-60 dwellings were built per thousand inhabitants during the two decades, in the more populated groups of settlements as many as 70-80. Taking into account demographic conditions as well, these ratios seem justified.

The distribution of *empty dwellings* by settlement size shows that their proportion increases mainly in settlements with fewer than one thousand and more than 100 thousand inhabitants. The reasons for this are to be found in demographic erosion in the case of smaller settlements and in an increasing number of business uses (e.g. offices, clinics, guest accommodation) in the case of major cities XII. 2. 1. 12..

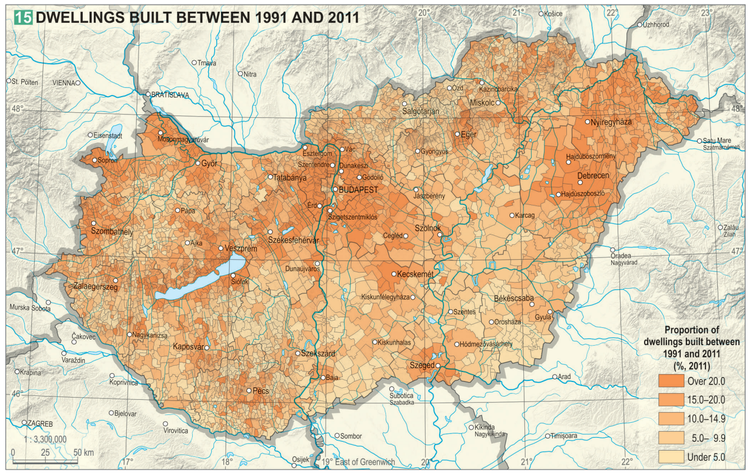
Geographically, most empty dwellings are found in areas of the Southern Alföld with scattered farmsteads (tanyas), in regions of the Alföld with tiny villages (e.g. Bihar, Szatmár), in the peripheral areas of Northern Hungary, partly also with small and tiny villages (e.g. Cserehát, Tokaj Mountains and Nógrád), and in some districts of Transdanubia XII. 2. 1. 13.. In the latter region, in addition to the areas with small and tiny settlements in Vas and Zala counties, a relatively large number of empty dwellings can be found in the vicinity of Lake Balaton, right where the pace of housing construction has been the most dynamic in recent decades. All this indicates that in Hungary, since the turn of the millennium, the difference between first and second dwellings has gradually blurred. Evidently, more and more dwellings have been built for business investment, while others are used by the owners for leisure purposes.

In order to obtain a better resolution in the study of the housing stock of Hungary by age. Dwellings built before 1960 and dwellings built after 1990 were considered old and young respectively. It transpired that 30.4% of the inhabited dwellings in Hungary were built before 1960 and 15.8% after 1990. Areas where the proportion of dwellings built before 1960 is relatively high can be clearly identified on the map showing the old dwellings XII. 2. 1. 14.. These include the southern and western rural areas of Transdanubia, the peripheral parts of Northern Hungary, and some island-like areas in the Alföld. In contrast, the whole Alföld, especially its northeastern part, is in a remarkably favourable situation in terms of the age composition of the housing stock, in which, in addition to the relatively more favourable demographic situation, specific factors such as serial floods also play a role. As a result of several reconstructions, the proportion of dwellings built before 1960 in the stock is the lowest in Szabolcs-Szatmár-Bereg County (only 22%), while in Tolna it is approaching and in Nógrád County it exceeds 40%. Of course, the durability of the buildings also plays a role in the age composition of the dwellings: dwellings made of brick or natural stone masonry in Transdanubia are much more durable than dwellings with adobe walls in the Alföld.

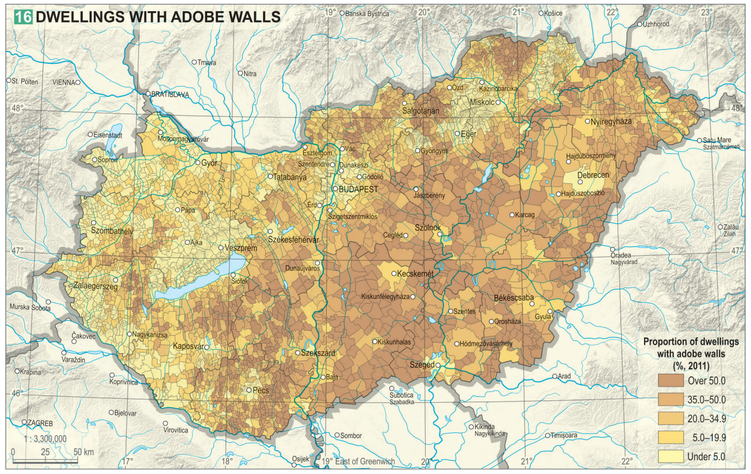
14 DWELLINGS BUILT BEFORE 1960



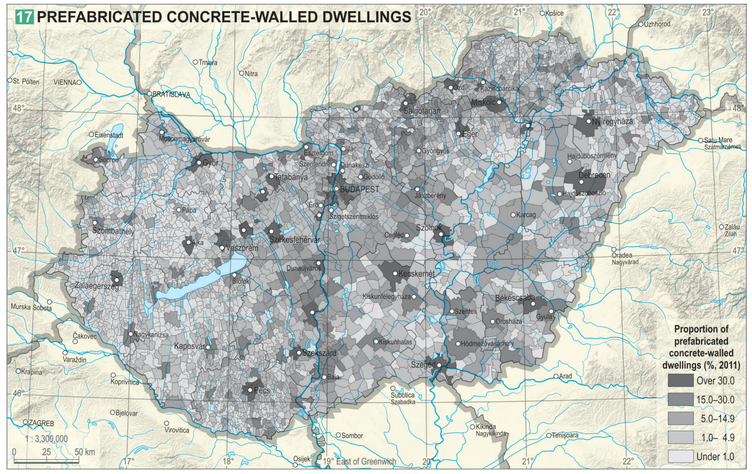
15 DWELLINGS BUILT BETWEEN 1991 AND 2011



16 DWELLINGS WITH ADOBE WALLS



17 PREFABRICATED CONCRETE-WALLED DWELLINGS



In Budapest, 41% of inhabited dwellings were built before 1960. Such a proportion is also typical of settlements with 1-2 thousand inhabitants. An even more unfavourable rate can be found only in small villages with less than 1,000 inhabitants (52%), where out-migration has been the highest in recent decades and where no central housing construction has taken place. The proportion of old dwellings is the lowest (19%) in cities with more than 50 thousand inhabitants, mostly with the function of county seats. Housing construction in the 1970s and 1980s was most dynamic in such towns, in line with the goals of communist housing policy. Data on the *proportion of dwellings built between 1990 and 2011* reveal areas in Hungary where the expansion of the local housing stock was the most dynamic after the collapse of communism XII. 2. 1. 15.. These include the eastern half of Hungary, which is inhabited by a population with relatively high fertility, the main migration destinations (the Budapest agglomeration and the vicinity of Lake Balaton), as well as the economically prosperous areas that turned into immigration destinations (Western Transdanubia). A high proportion of newly built dwellings can be found in the settlements surrounding regional centres, but also in the vicinity of towns at a lower level in the hierarchy, such as Eger, Dunaújváros or Nagykanizsa. Specific developments have taken place in settlements along the Austrian and Slovakian border, where new dwellings have been built specifically to meet demand from across the border, such as Rajka, which is easily accessible from Bratislava, or in the immediate vicinity of the Austrian border, such as Harka, Nagycenk or Zsira.

Different construction technologies and – closely related to this – residential buildings of varying quality can be associated with the main periods of housing construction. Significant regional differences can be observed in the *distribution of dwellings by masonry*, which can be explained primarily by the various construction techniques of different periods, but also by the natural conditions, architectural traditions and, to an extent, the income conditions in Hungary. At the time of the census in 2011, 63.5% of occupied dwellings in Hungary were buildings with brick walls, which is the most common building material in Hungary. The proportion of brick dwellings is the highest in the North Hungarian Range and in the western and northern parts of Transdanubia (above 85%). In these areas, due to petrological conditions, the residents of settlements have long been able to use fired brick and natural building stone in construction. In contrast, in the Alföld and in parts extending into Transdanubia (e.g. Mezőföld) and in the hilly areas of Southern Transdanubia, which are further away from natural building stone quarries and combustible clay deposits, the proportion of *dwellings with adobe walls* is sometimes above 50% XII. 2. 1. 16.. In contrast to fired clay bricks, adobe made without firing, although environmentally friendly, is less durable. In 2011, 14.9% of the dwellings in Hungary were in adobe buildings.

The spatial distribution of *prefabricated concrete-walled dwellings* built with the housing construction technologies typical of the communist period reflects clearly the settlement development principles of the era XII. 2. 1. 17.. At the time of the census in 2011, the number of prefabricated concrete-walled dwellings in Hungary reached 777 thousand, corresponding to 19.8% of the inhabited dwellings. The map shows a very concentrated distribution of prefabricated concrete dwellings; they are essentially present practically only in the housing stock of cities and towns. Their proportion is particularly high (above 50%) in the 'socialist new towns' (e.g. Tiszaújváros: 59.2%, Dunaújváros: 58.5%, Kazincbarcika: 58.2%), as well as in more populous regional centres and county seats. Their proportion is also significant in the capital, with 31% of the occupied dwelling stock.

Dwelling size, residential density, housing quality

The population of Hungary has been declining since 1980, decreasing by 940 thousand people in the last forty years. Meanwhile, the housing stock, although at a slowing rate, has been growing steadily, and in 2019 there were already 900 thousand more dwellings in Hungary than forty years earlier. In the meantime, the structure of Hungarian households has also changed: the number of households has increased, while their

3 *Although adobe buildings are environmentally friendly, they are less durable. Okorág (Baranya County)*

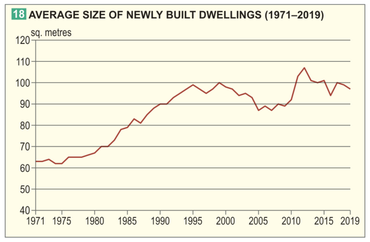
average size has shrunk. The number of people living alone has increased for demographic, social and lifestyle reasons. At the time of the microcensus in 2016, 28 out of 100 dwellings were occupied by one resident only. This value was even higher in Budapest, with 37% of dwellings occupied by a single person. As a result of opposite processes, residential density has been steadily declining since 1990, even while the proportion of vacant dwellings has doubled.

The growing number of dwellings over time was also accompanied by increasing *dwelling size* XII. 2. 1. 18.. Until the end of the 1970s, dwellings built to meet mass housing demand were generally less than 70 sq. m in size. As the demand for housing underwent changes and families desired better and larger homes, the average size of new dwellings also began to increase. At the same time, housing construction by investors after the collapse of communism was still characterised by smaller dwelling units of around 60 sq. m, while single-family homes, usually built for own use, became gradually larger, with an average size exceeding 100 sq. m. This duality is also reflected in the fluctuations in the floor space of new dwellings since 1990. At the peak of the market prosperity (between 2002 and 2009), a significant proportion of dwellings were built for business investment, in the form of buildings with multiple flats, as a result of which the average floor space of dwellings decreased. The crisis in the housing market, and with it the decline in housing construction for investment, as well as the growing dominance of single-family houses resulted in a renewed increase in the size of dwellings after 2010.

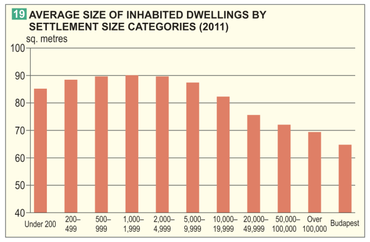
The average *size of dwellings* within the settlement hierarchy shows significant differences: the average size of dwellings decreases from smaller villages to larger settlements. The size of dwellings reaches its peak in settlements with between 500 and 5,000 inhabitants XII. 2. 1. 19.. The average size of apartments (57 sq. m) is significantly smaller than that of single-family houses exceeding 90 sq. m. Accordingly, in villages with less than 5,000 inhabitants, where detached houses are almost the only form of construction, the average size of dwellings is almost 90 sq. m. In contrast, the average floorspace in cities and towns outside Budapest is around 70 sq. m, while in Budapest dwellings are even smaller on average (65 sq. m).

The size of the dwelling is indirectly reflected in the

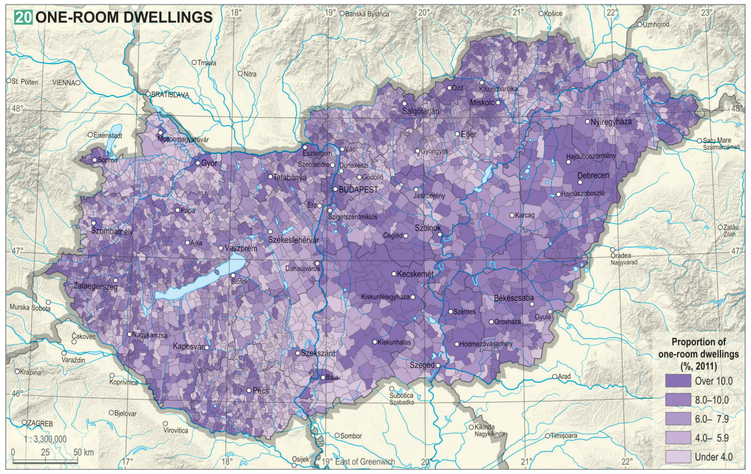
18 AVERAGE SIZE OF NEWLY BUILT DWELLINGS (1971–2019)

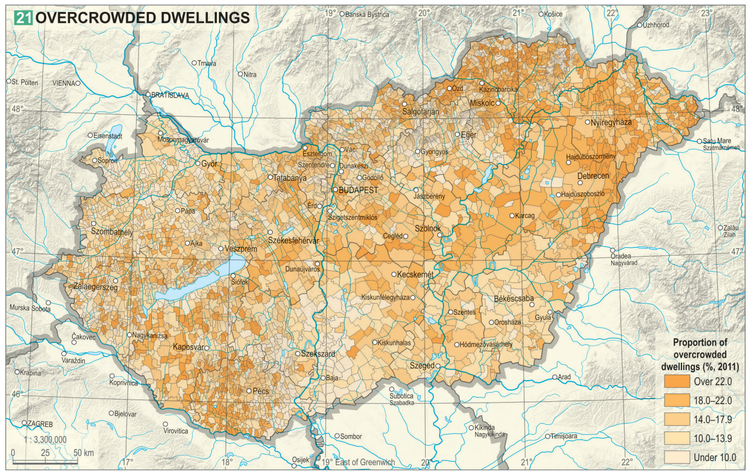


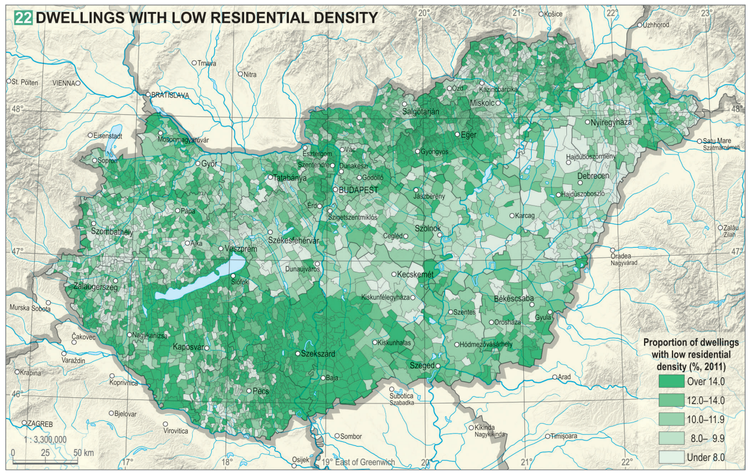
19 AVERAGE SIZE OF INHABITED DWELLINGS BY SETTLEMENT SIZE CATEGORIES (2011)

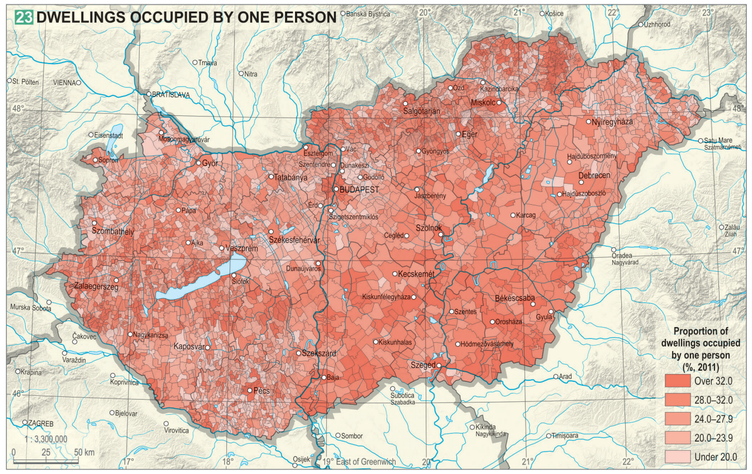


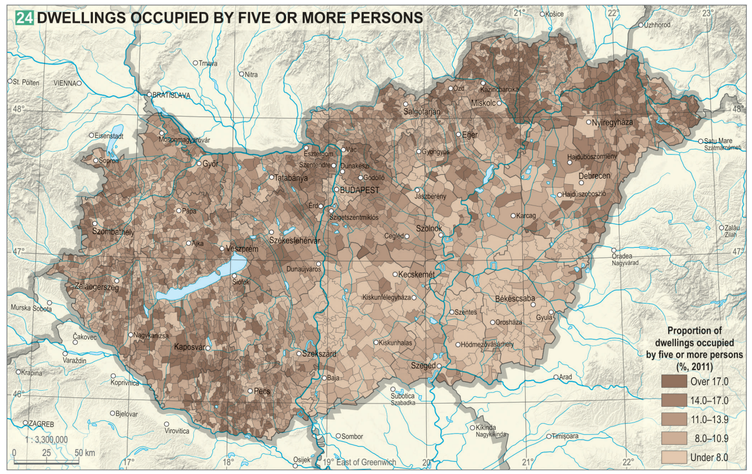
4 *In urban neighbourhoods with ageing populations, residential density is relatively low. Józsefváros, Budapest*











5 *Substandard overcrowded dwellings are typically found in disadvantaged regions*

number of rooms. Most Hungarian dwellings belong to the two-room (37.3%) and three-room (32.6%) groups. The situation of *one-room dwellings* is special. Until the late 1960s, before the start of studio flat construction in housing estates, this dwelling type was considered a measure of poverty. At the time of the census in 2011, 9.1% of dwellings in Hungary, and almost every fifth dwelling in Budapest (17.1%), had only one room. In terms of the proportion of one-room dwellings, the Alföld and Budapest stand out in Hungary XII. 2. 1. 20. . One-room dwellings are also common in the peripheral regions of Northern Hungary and in the areas of Transdanubia with tiny villages. Despite the doubtless differences in development, regarding this indicator, reference should also be made to the building habits arising from the rural, folk way of life. This resulted in mixed-use spaces (e.g. dining kitchen) in the Alföld, where porches taking the role of a living room are also the most common. All this resulted in an increase in the proportion of one-room dwellings in the statistics for this region, without any direct indication of the quality of life.

The data on residential density reflect both demographic and living standard differences measured through the comparison of the population and number of rooms. In defining *overcrowded dwellings*, the European statistical practice was followed, according to which, for example, for a household consisting of two parents and two teenaged children of different sexes, a three-room dwelling with a kitchen is considered to be of sufficient size, while anything smaller than that is considered crowded. In 2011, 15.2% of the dwellings in Hungary were classified as crowded. Their proportion was lower than the national average in Budapest and in towns with more than 50 thousand inhabitants, while in villages, especially in small and tiny villages, it was significantly higher. Considering regional differences, it can be stated that the proportion of crowded dwellings is well above the national average in the eastern and northeastern parts of the Alföld and in Borsod-Abaúj-Zemplén County; in addition, crowded dwellings are abundant in contiguous areas in Southern Transdanubia XII. 2. 1. 21. . The spatial distribution of crowded dwellings is therefore very similar to the regional distribution of the Roma population in Hungary VI. 3. 9. . *Dwellings with low residential density* include those where half the number of rooms exceeds the number of occupants, thus each person has at least two rooms. The proportion of dwellings with low residential density is higher in Budapest and in the lower levels of the settlement hierarchy with ageing populations, while it is lowest in small towns (especially at suburban locations) with 5-20 thousand inhabitants, where population growth and housing construction was particularly dynamic in the decades following the collapse of communism. Considering geographical distribution, the housing market share of dwellings with low residential density is high especially in the Lake Balaton region, in Southern Alföld and in northern parts of the country XII. 2. 1. 22. .

The effects of household structure on the housing market can also be discerned by examining the number of people per inhabited dwelling. *The proportion of dwellings occupied by one person* shows regional dichotomy. On the one hand, the proportion is high in those areas of the eastern part of Hungary where ageing and out-migration have been considerable in recent decades, such as in Bihar and southern Békés in the Alföld or in Nógrád, Abaúj in the North Hungarian Range XII. 2. 1. 23. . On the other hand, this type is also common in Budapest and in major cities, where, in addition to elderly people left on their own, the proportion of people living a single lifestyle is the highest. The spatial distribution of dwellings occupied by five or more people is also characterised by duality XII. 2. 1. 24. . The proportion of such dwellings is high in the areas characterised by large families and households (in many cases Roma), but high values can also be found in the vicinity of major cities, especially Budapest. Obviously, the relatively youthful age structure, the higher number of children, and the large floor space play a role in this. Consequently, a high number of people per dwelling is a sign of poverty in the rural periphery, while in the vicinity of major cities it is rather a sign of prosperity.

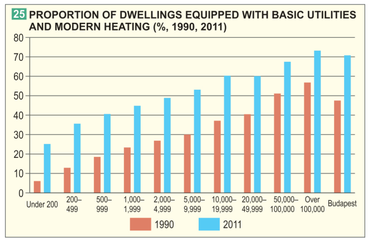
Facilities within the home are an important factor in living conditions and quality of life. The proportion of the housing stock with a bathroom, flush toilet or central heating does not depend solely on the financial situation and preferences of families, as such facilities are difficult to put in place in the absence of suitable utilities (e.g. sewerage, a gas connection). The standard of facilities in Hungarian dwellings has significantly improved since 1990. The improvements are largely the result of public utility development programmes sponsored by local governments and the central government. A large-scale development of the gas supply network took place in the first half of the 1990s, as a result of which the supply of piped gas to residential dwellings increased from 41% to 79% by 2015. Then, in the second half of the 1990s, the rapid development of sewerage was begun, with spectacular results, especially in the middle part of the settlement hierarchy (typically in small towns). Since 1990, the number of dwellings connected to the public sewerage system in Hungary has doubled, and their proportion has approached 80%.

Largely owing to public utility investments, the proportion of dwellings equipped with basic utilities and modern heating (with all conveniences) increased from 40% to 61% between 1990 and 2011. Even though the situation in the smaller settlements has improved since 1990, the 'all conveniences indicator' indicating the standard of facilities in dwellings within the settlement hierarchy still clearly correlates with the size of settlements. Budapest and cities with more than 100 thousand inhabitants are in the most favourable situation, with the proportion of all-convenience dwellings exceeding 70% in 2011. This indicator is below 50% in settlements with fewer than 5,000 inhabitants and barely reaches 25% in villages with less than 200 inhabitants XII. 2. 1. 25. . All this indicates that despite favourable political intentions the principle of economies of scale often precludes costly communal developments in smaller settlements.

Bathrooms can now be considered an elementary requirement in dwellings. As a result of utility developments after 1990, the proportion of dwellings with bathrooms increased even in small settlements. In 1990, 22% of dwellings in Hungary and 35% of dwellings in villages did not have a bathroom. By 2011, the value of the indicator improved everywhere, but the difference remained: 5% of inhabited dwellings and one tenth of village dwellings did not have a bathroom. The proportion of dwellings without bathrooms is high in areas with small and tiny villages (e.g. Southern Transdanubia, Abaúj, Zemplén) and with tanyas (e.g. Danube–Tisza Midland). In such areas, a piped water supply and sewerage are limited due to low population density. In major cities, the situation is more favourable XII. 2. 1. 26. .

The lack of a bathroom coupled with overcrowding indicates an accumulation of problems. Therefore, it serves as a strong indication of deprivation. When it occurs on its own, the former can be explained by the technical and infrastructural disadvantages of small and depopulating settlements and the lack of modernisations. However, the *overcrowding of dwellings without bathrooms* indicates a level of persistent poverty that necessarily affects young people and children in large numbers 4 . Poor housing conditions also affect the school performance of children and thus their chances of social advancement. Although the national value of this indicator is low (1.8%), it shows a high concentration in several disadvantaged regions in eastern parts of Hungary and in Southern Transdanubia, while it rarely occurs in and around Budapest and in Western and Central Transdanubia XII. 2. 1. 27. .

In the microcensus in 2016, major *housing renovations* (e.g. insulation, renovation, heating modernisation, utility development, window replacement) carried out in the previous ten years were also recorded. According to the results of the survey, the majority of dwellings built before 2001 (61%) underwent one or more of the listed renovations, but comprehensive works renovating the dwelling as a whole were rare. The extent and pace of housing renovations are mainly determined by the financial possibilities of the residents and the available housing renovation support. As many as 71% of *high-rise prefab buildings* were renovated, mainly due to the impact of targeted renovation programmes (with significantly support coming



from the European Union sources). The above-average renewal of the housing stock in parts of northern Transdanubia XII. 2. 1. 28. can be attributed to the combined effect of a particularly favourable rate of high-rise renovation and the *renovation of detached family houses* due to the better financial situation. High levels of housing renovation can be observed in several agglomeration areas, driven by demand coming from families who have moved there. At the other end of the spectrum, districts with a housing renovation rate of less than 50% are found mostly in peripheral areas, which lag behind the national average in social and income terms. The disadvantaged status of people living in such areas is also reflected in the pace of housing renewal. This problem was the motivation for the launch of the *Hungarian Village Programme* in 2019. The main goal of the programme, which covers more than 30% of the population and 91% of settlements, is to increase the population retention capacity of settlements with fewer than 5,000 inhabitants, to strengthen the way of life in small settlements and to promote rural housing opportunities. The programme's measures help, among other things, to *create rural family homes* (the measures are known as the rural CSOK). In settlements supported by the rural CSOK, the average price of second-hand dwellings increased by 12% after the programme's introduction, and the number of dwellings sold also increased.

Processes in the housing market

~~The development of a *modern housing market institutional system*~~ in Hungary began with the advent of democracy. The ownership structure changed and there was greater access to new dwellings. At the same time, the old housing distribution channels ceased to exist. The transfer of the state housing sector to municipal ownership, followed by its privatisation, and the consolidation of former OTP (National Savings Bank) housing loans, fundamentally changed the ownership situation of hundreds of thousands of families. The population faced extreme housing market fluctuations during this period. There was an unprecedented decline in housing construction, and housing loans essentially ceased to exist. The housing opportunities available to young people under communism were abandoned. The turning point came in the 2000s, when housing loans resumed with state support. Until 2004, these state-supported housing loans were the engine of the housing market recovery. However, after the reduction of state support, foreign currency-based mortgage loans took over its role. The increasing number of such loans boosted the housing market until 2008. The outcomes were a rapid rise in dwelling prices, an increase in the number of housing constructions, and the advent of a more modern structure of professional housing construction businesses. The backdrop to these developments was the establishment of an institutional system and network of housing loans XII. 2. 1. 9.. The recovery was halted by the financial crisis of 2008, which in Hungary was made worse by the financing crisis surrounding the foreign currency based loans. Only in 2015 were there signs of a recovery palpable, strengthened by a number of government economic stimulus and family support measures.

Housing market transactions also fluctuated widely. The number of second-hand dwellings sold annually fell from 190 thousand in 2007 to less than 90 thousand in the period 2010–2013. In 2014, a slow increase began, thus exceeding 160 thousand again.

The number of *dwellings sold* per hundred dwellings rose from around 2 at the beginning of the decade to 3.5 by 2017. The value of the indicator was typically higher in larger settlements, county and regional centres, Budapest and settlements on the shores of Lake Balaton. It was generally below average in small settlements (e.g. Baranya, Zala and Borsod-Abaúj-Zemplén counties) XII. 2. 1. 29.. There are a number of small settlements in Hungary where no houses have been sold for several years. In Budapest, further away from the city centre, the intensity of housing market transactions also decreased. Values rose significantly in the inner districts of the capital on the Pest side, and the number of transactions also increased during the housing market recovery started in 2015 48. Several factors contributed to this: the emergence of new housing for investment purposes (partly for foreign customers) in the areas affected by urban rehabilitation, and the spread of short-term housing rental (Airbnb) related to tourism. Accordingly, housing transactions surged in districts VI, VII and VIII. In the outer districts of Budapest (particularly in districts XVI, XVII, XXII and XXIII), the number of housing transactions was generally lower than the average. The proportion of detached family houses in these outer districts is high, and as people living in detached houses tend to be less inclined to move, housing transactions increased at a more moderate rate. In the agglomeration of Budapest, market intensity was significantly higher than the average in a number of settlements affected by extensive residential park developments (e.g. Dunakeszi, Szigetszentmiklós, Halásztelek and Érd). Thus, in these areas, the rapid population and housing construction growth seen in the mid-2000s resumed in the second half of the 2010s.

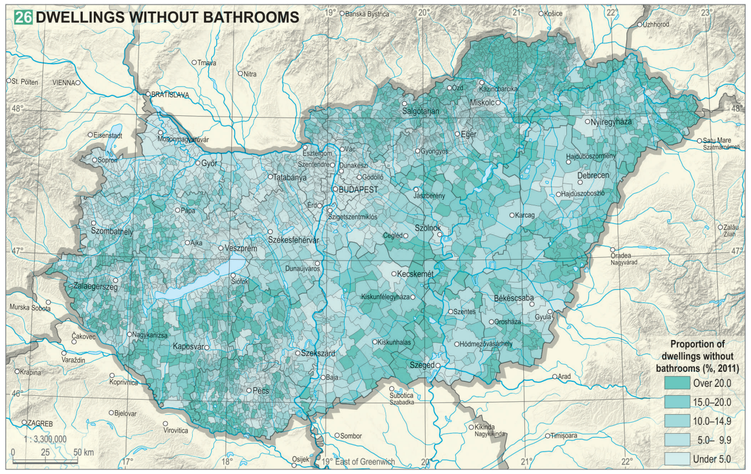
During the housing crisis and the subsequent decline in prices (until 2014), dwelling prices fell by 17% XII. 2. 1. 30.. The inflation-adjusted value of dwellings decreased by 32% in five years. The price trend reversed in 2015, but it took another two years for real dwelling prices to reach the average of 2008.

However, all this took place with a significant spatial realignment. In areas with favourable housing market conditions, the value of dwellings increased to at least double the level seen ten years previously, whereas in other places prices could not reach the 2008 level even until 2019 XII. 2. 1. 31.. In addition to Budapest, the winners of the realignment of market price ratios were some major towns in Western and Central Transdanubia (Győr, Veszprém, Szombathely and Székesfehérvár), some settlements at Lake Balaton, and some smaller settlements where large-scale price increases reflected the low initial values. In the eastern half of the country, prices only rose rapidly in Kecskemét, Szeged and Debrecen, and these cities also stand out from their surroundings in terms of price level.

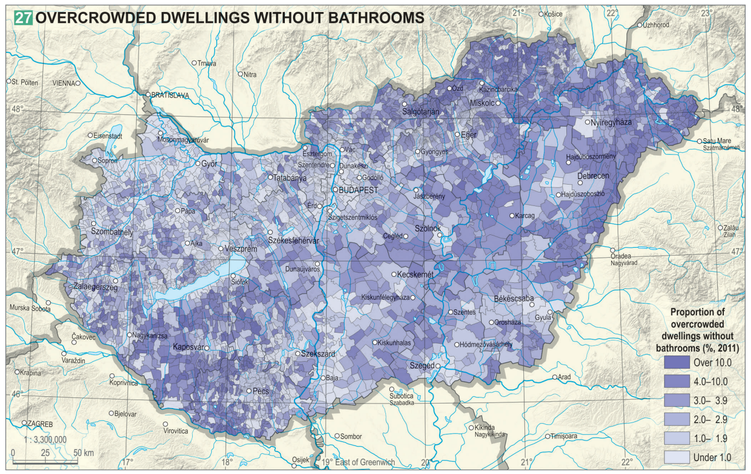
In addition to Budapest and the regional centres, the surroundings of Lake Balaton and suburban settlements were also characterised by high housing market prices in 2019 XII. 2. 1. 32.. In some places, price levels in suburban settlements exceed the price levels in the central settlement (e.g. Pécs, Dunaújváros). Similarly, the average price of dwellings in two settlements in the agglomeration of Budapest (Telki and Üröm) exceeded that of the most expensive districts of Budapest. As housing prices in the city centre increased significantly, the price level in District V on the Pest side approached that of the traditionally most expensive districts in Buda (I, II, XII).

The upswing in the housing market along the northwestern border can be attributed to the effects of cross-border suburbanisation, which was reflected in both the prices of dwellings and the intensity of housing construction (e.g. Rajka). Commuting to Austria has tended to raise house prices in the settlements near Sopron (e.g. Harka), while the attraction of Győr in the labour market has also raised real estate prices in the surrounding settlements. In contrast, in 2018 there were about a thousand small settlements in Hungary where the average price of dwellings was less than 3 million HUF. Most of these villages are located in the areas of Baranya and Borsod-Abaúj-Zemplén with tiny villages, in Bereg, Szatmár, Bihar and in other border areas of the Alföld.

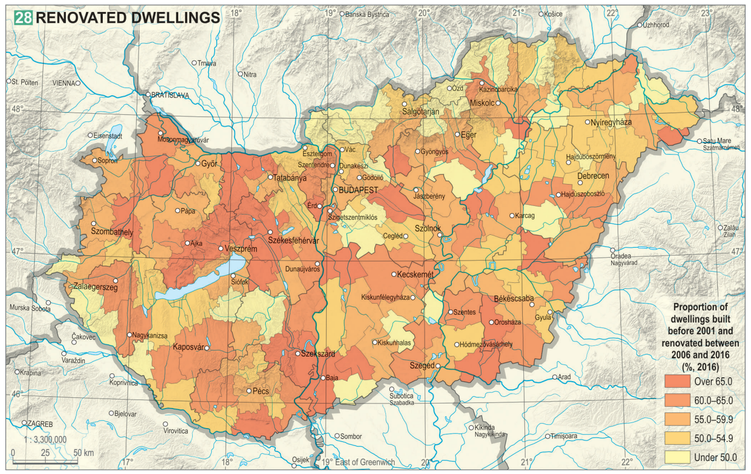
26 DWELLINGS WITHOUT BATHROOMS



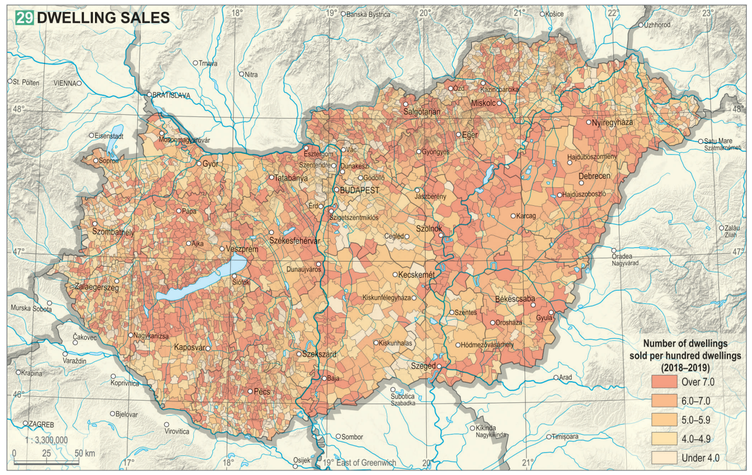
27 OVERCROWDED DWELLINGS WITHOUT BATHROOMS



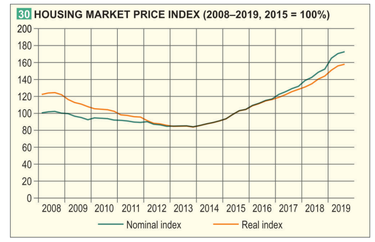
28 RENOVATED DWELLINGS



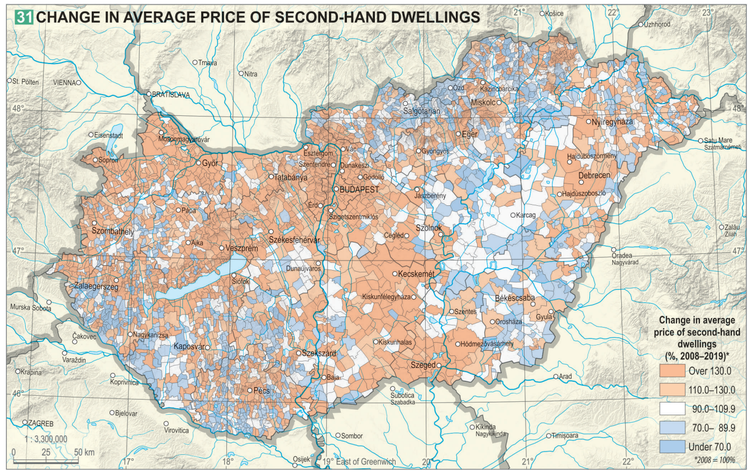
29 DWELLING SALES



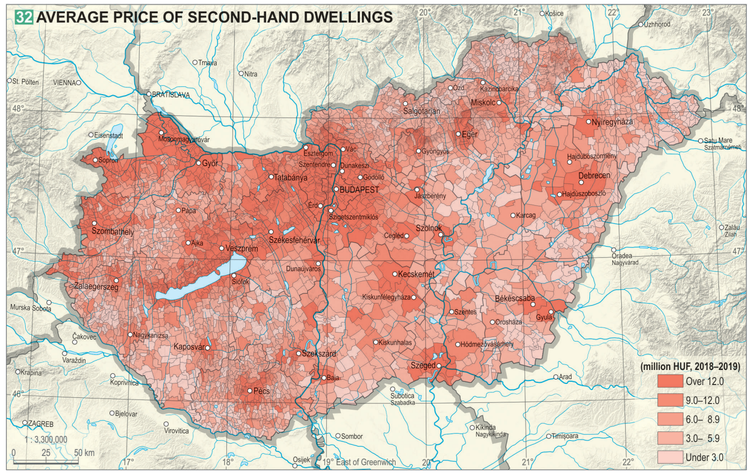
30 HOUSING MARKET PRICE INDEX (2008–2019, 2015 = 100%)



31 CHANGE IN AVERAGE PRICE OF SECOND-HAND DWELLINGS



32 AVERAGE PRICE OF SECOND-HAND DWELLINGS



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Cover design
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Design and typography
Ildikó Kuti – Civertan Bt.

Printing
Pannónia Nyomda Kft. (Budapest)

Publisher: László Kiss (Director general)
Eötvös Loránd Research Network (ELKH), Research Centre for Astronomy and Earth Sciences (CSFK), www.csfk.org

The publication is supported by:
Government of Hungary
Ministry for Innovation and Technology (ITM)
Eötvös Loránd Research Network (ELKH)
Hungarian Academy of Sciences (MTA)

Closing date of editing: 1st May 2021

ISBN 978-963-9545-58-8ö
ISBN 978-963-9545-64-9

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SETTLEMENT SIDE OF LIVING CONDITIONS AND QUALITY OF LIFE

MUNICIPAL ENVIRONMENT

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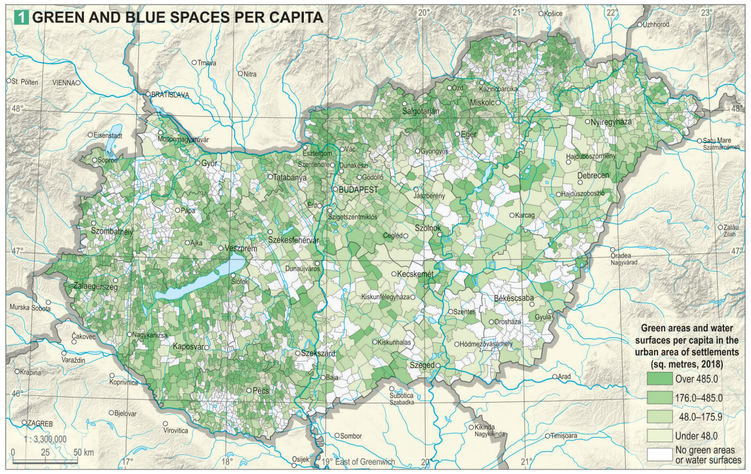
The aspects of quality of life presented in previous chapters are largely related to individuals. Thus, in most cases, people could – at least in theory – change those factors. Living conditions are, however, affected by several external factors that individuals cannot influence or can influence only indirectly. These include the state of the natural environment, exposure to environmental hazards, access to services and safety. Their spatiality reflects local and national political decisions, economic considerations, demographics, settlement structure and even global climate change. Such external factors both create opportunities and set limits for the inhabitants of individual settlements.

Natural elements of a municipal environment

The municipal environment is a complex system consisting of natural factors and influenced by social, economic and political factors, as well as the built environment. The natural factors provide a framework of conditions (e.g. land cover, water and air quality, microclimate, biodiversity) for individual and social life. These conditions determine well-being and health and are a source of hazards and risk factors. Moreover, they can, among many other factors, have a positive or negative effect on, for example, the development of the real estate market XII. 2. 1. 31. or satisfaction with the place of residence. Evidently, the natural environment also provides opportunities for recreation and leisure, and it can have an impact on health 1.

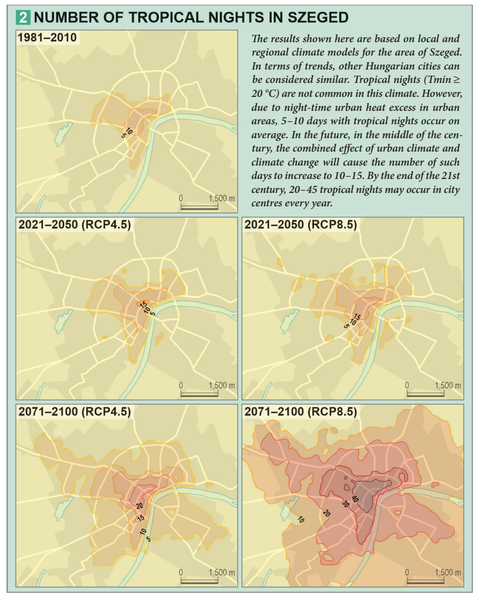
Built-up areas and land cover in a settlement affect many elements of the quality of life and fundamentally influence the well-being of the people living there XII. 1. 10. XII. 1. 11. XII. 1. 12.. The density of built-up areas and the presence of *green areas* (e.g. parks) and *water surfaces* (e.g. lakes and rivers) are particularly important factors, which can also play a significant role in mitigating the local effects of global climate change XII. 2. 2. 1.. Urban green spaces reduce the impact of extreme temperatures (heatwaves) through evaporation and energy conversion and help to lessen the likelihood of flash floods by retaining some of the fallen precipitation. Together with water surfaces (urban blue spaces), they cool the air and increase humidity via transpiration. Vegetation also reduces dust particles and noise pollution stemming from traffic and industry. In settlements, 'green' and 'blue' spaces provide opportunities for recreation and sports, thus contributing to people's health and well-being.

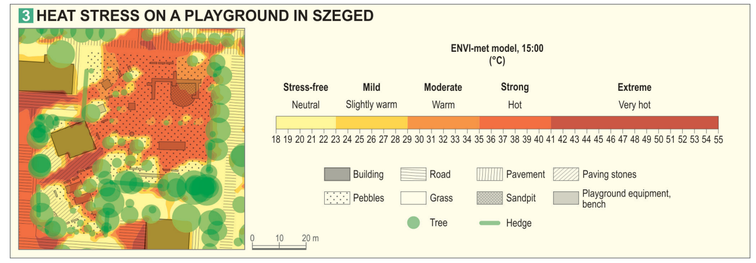
1 *Urban green spaces accommodate human comfort needs at Teleki Square in Budapest*

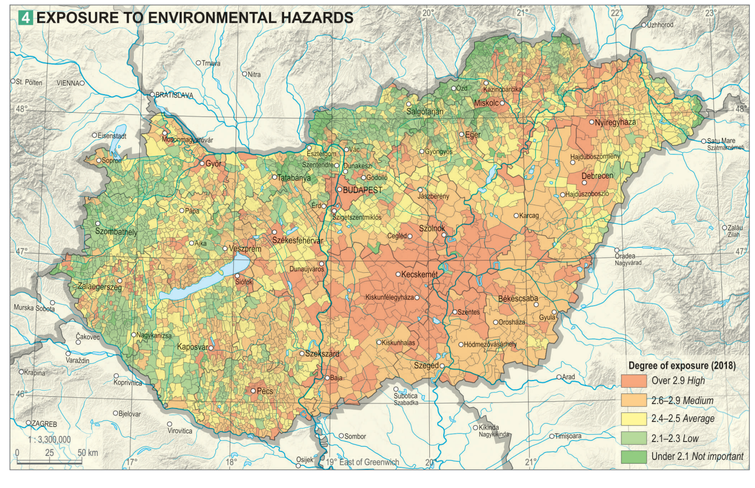


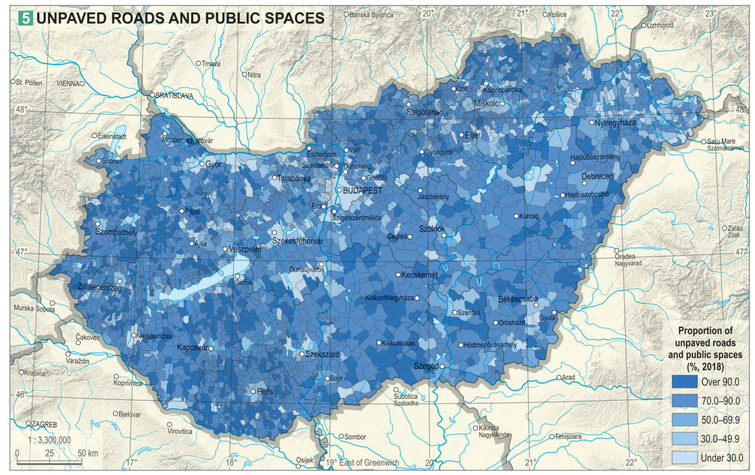
Based on the extent of urban green and blue spaces per capita, the most favourable situation can be found in upland settlements bordered by forests and in the country's recreational areas (e.g. around Lake Balaton) due to their abundance in extensive parks. In cities too, there are usually many parks and other green spaces XII. 2. 2. 1..

Climate and weather affect the health and well-being of the population and due to the climate change, the current impacts will also change significantly. While the expected change in temperature is known on a regional scale in Hungary, on a local scale the picture is more mosaic-like, especially in urban areas. In view of the spatially dissected cityscape, urban air cools much more slowly at night than the air in the surroundings, resulting in urban heat islands. At night, cities are warmer by 1-3 °C on average, but the difference can be as high as 8-9 °C. Due to the heat island effect, the average annual temperature in the inner parts of Hungarian cities and towns is approximately 1 °C higher than on the outskirts. This discrepancy is similar in magnitude to the warming of the last hundred years on a national scale. The *tropical night index* XII. 2. 2. 2. gives the average annual number of nights with a minimum temperature above 20 °C. Such conditions coincide with heat warnings, when even healthy people find it difficult to rest at night. For those struggling with illness the heat stress can even be fatal. Data from Szeged show that the period of heat stress is currently the longest in the city centre, but the problem will soon affect the outskirts, too. By the end of the century, the centre of Szeged may well experience more than 40 such days each year XII. 2. 2. 2.. (The calculations using the results of regional climate models were founded on the MUKLIMO urban climate model.) On a micro-scale (e.g. on the streets or in a public space), the perceived temperature is influenced by factors other than the air temperature, including solar and heat radiation, humidity and wind, all of which are significantly modified by the urban land cover (e.g. densely built-up areas) 2. The most favourable environment for the human body is the one that requires the least adaptation from the heat balance (the so-called neutral thermal comfort range). Creating such an urban environment is a challenge for urban planners. *Human comfort* research has developed modelling methods that can be used to quantify the extent of the heat stress. In this way the comfort conditions can be mapped and the effects of urban development predicted. The research in Szeged identified critical areas where the public is exposed to *heat stress*. Based on the findings of such research, more favourable conditions can be created through the introduction of green surfaces and by planting trees. Such actions can mitigate the effects of global climate change at local level XII. 2. 2. 3..









2 *A renewed public square: King Béla Square in Szekszárd (Tolna County)*

become intolerable when human life is directly threatened. All this reproduces or increases inequalities arising from social status and vulnerability. The number of environmental risks and hazards in settlements is constantly growing, while the perception of risk in society is also changing. The exposure of the population to the various *environmental hazards* depends on, among other things, the geographical location of the place of residence, its position in the settlement hierarchy, income level and lobbying ability. Natural hazards that degrade the quality of life are often associated with geological features or climate change. Instances of the former are earthquakes and landslides, while examples of the latter include increasing frequency of intermittent water shortages (at times of drought), excess water (inundations, waterlogging, flash floods), and extreme weather events (hail and windstorms). These events can lead to physical damage in the settlement (e.g. damage to buildings) or damage to human health (e.g. infections and injuries). Occasionally, large amounts of pollen and spores in the air, as well as airborne dust from transport and heating and other air pollutants, impair the air quality in settlements. Pollution from the disposal of hazardous waste or from agricultural and industrial activities can be reduced or eliminated through appropriate regulation and remediation using up-to-date technologies. Based on the complex exposure index (calculated using data on floods, excess water, damage events, hazardous waste disposal, drinking water quality, air quality, drought and heatwave days over the last decade), the Alföld (drought, floods, excess water) and the metropolitan areas (air pollution and heat stress) are more exposed to natural hazards, as they are cumulatively affected by the factors mentioned above XII. 2. 4..

Municipal infrastructure

Alongside the housing stock, community infrastructure – facilities, utilities and the transport network – constitutes a part of municipal infrastructure. Included in the above are the municipal energy supply (e.g. electricity, gas, district heating, sanitary hot water), the municipal water and sanitation system (e.g. piped drinking water and sewage disposal), waste management, and the paved road network in the settlement. A significant part of community infrastructure is closely related to the housing stock, as the systems and networks are connected to people's homes. As the infrastructure becomes more developed, so it provides a higher standard of living to local people. In this way, the population retention capacity of a settlement grows. In recent decades, much infrastructure has improved significantly, often thanks to European Union regulations and support.

The *paved road network* is not only a prerequisite

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XII. 2. 2.

3 *Road improvements in villages in the Southern Alföld*

for transport but also reduces dust pollution (thereby improving the air quality of settlements). The proportion of paved roads in the inner area of settlements has increased significantly in recent decades 3 and currently exceeds even 90% in 67 towns and villages. Although regional disparities have decreased, there are still many unpaved roads (the proportion is higher than 70% in 2,180 settlements). The spatial distribution of settlements in the unfavourable category is only partially related to economic development. Further, areas with tiny villages do not form a homogeneous group, since in some places (i.e. where adequate resources were obtained) their internal road network is highly developed XII. 2. 2. 5..

Changes in *energy supply* (e.g. the expansion of the natural gas supply network) provide opportunities for more comfortable living in rural areas. Still, this would also require improved income conditions for disadvantaged social groups.

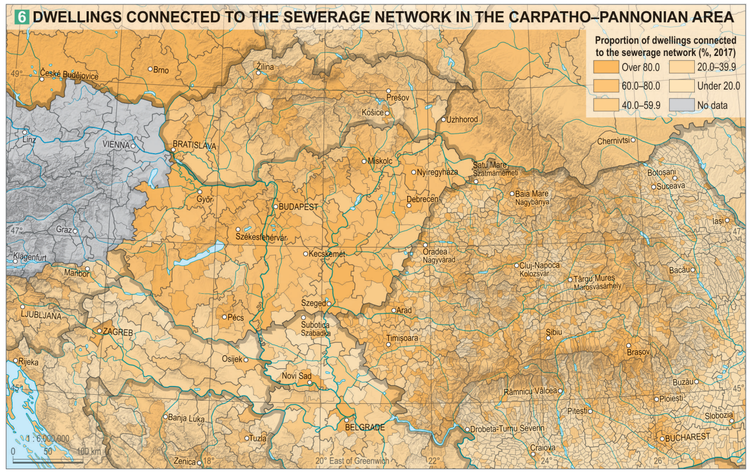
Public drinking water systems in Hungary have improved significantly since the country's accession to the European Union in 2004. More than 94% of dwellings are now connected to the network, which compares favourably internationally. Even so, supplying clean drinking water to people living in tanyas remains a challenge 9. This is a particularly serious problem in the Southern Alföld, where the arsenic content of water from artesian wells should be reduced.

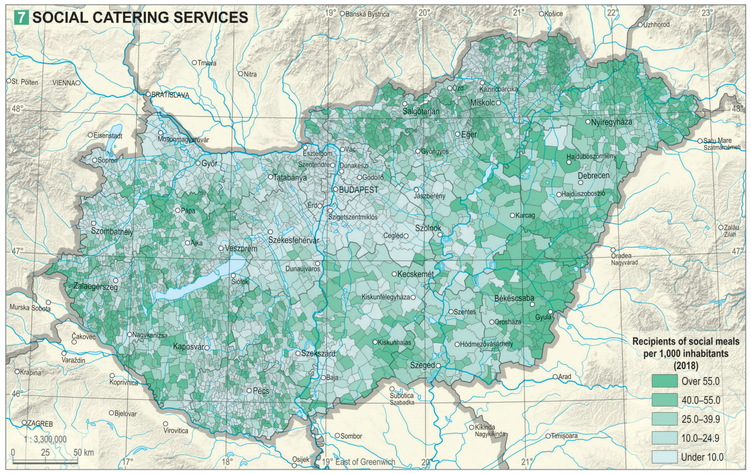
Under EU rules, it is imperative to improve wastewater treatment, to increase the number and proportion of *dwellings connected to the sewerage network*, and to close the utility gap (i.e. where dwellings are connected to the public water supply but not to the sewerage network). Conditions in Hungary in this field are more favourable than those in the neighbourhood, especially in comparison with the fragmented rural areas of the neighbouring Southern Slav regions XII. 2. 2. 6.. As far as wastewater treatment is concerned, the advantages of major cities and heavily urbanised areas are striking throughout the Carpathian Basin.

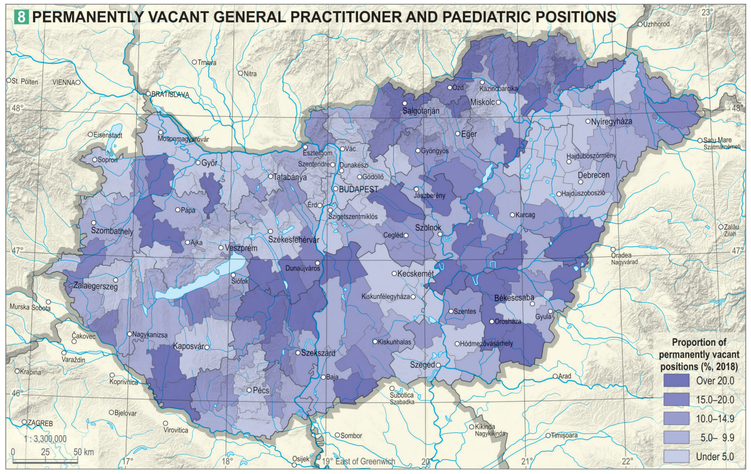
Supply and accessibility to services

The role of effective and accessible services is underscored by several studies on the quality of life: shopping options and the availability of a physician contribute to people's subjective well-being. Such factors can influence people's choice of where to live. Examples are the presence or absence of health services and the proximity to educational institutions and retail outlets. All this will have an impact on everyday life and career opportunities.

Social care is partly a state task and partly a municipal task. Further, non-governmental organisations and churches are also involved in related tasks (e.g. social catering services, day care for the elderly and disabled, homestead and village caretaker services, family and child welfare services, and street social work). Of these, social catering services operate in most places in Hungary. Indeed, the provision of such services is particularly characteristic of peripheral areas and small settlements. Catering is a mandatory task of local governments and is mainly used by the elderly XII. 2. 2. 7..

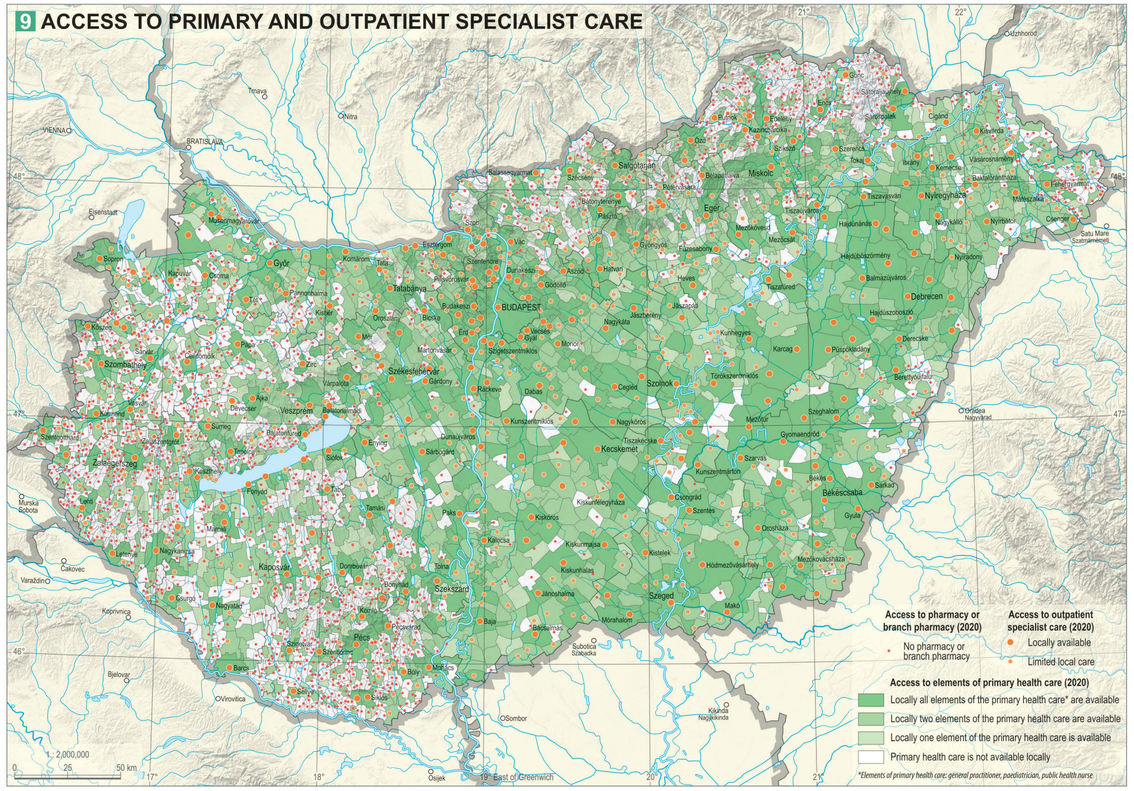


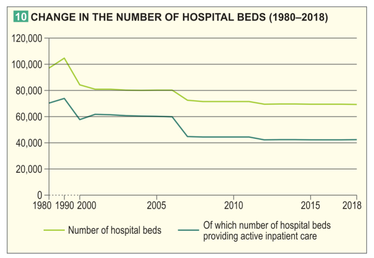


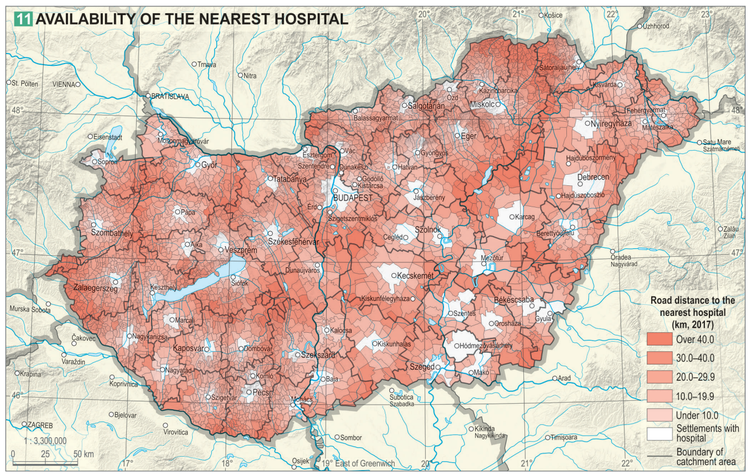


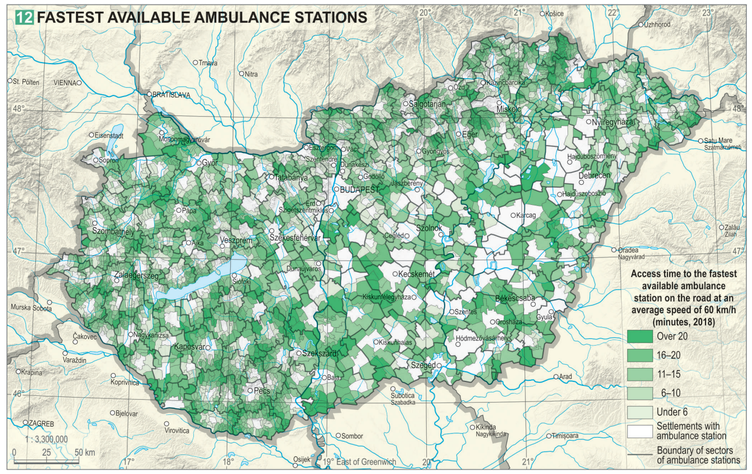
Access to health care will depend on a patient's afflictions, their willingness to seek care, the availability of appropriate health services nearby, and how quickly they can be made available. The 'gatekeeper' role of primary health care aims to relieve the burdens on specialist care (i.e. patients should only be transferred to a higher level within the apparatus if the necessary treatment can only be provided there). In many settlements, the *GP (general practitioner) position is vacant*. The problem is addressed by local governments through substitution XII. 2. 2. 8.. This, however, leads to a reduction in consultation hours and difficulties in terms of access. Smaller settlements in particular are often served by substitute (visiting) general practitioners and public health nurses. Further, it is likely that the general practitioner will also perform the tasks of paediatricians and that there will be *no local pharmacy* XII. 2. 2. 9.. In remote and inaccessible places (e.g. border regions, inner peripheries, outskirts and tanyas) there is a lack of primary care, and it is difficult for local people to access the district health centre in the nearest town, where at least some specialist care is available. People in such areas are usually in poorer health and are more often hospitalised XII. 1. 15., so there is a greater need for health services closer to home and better access.

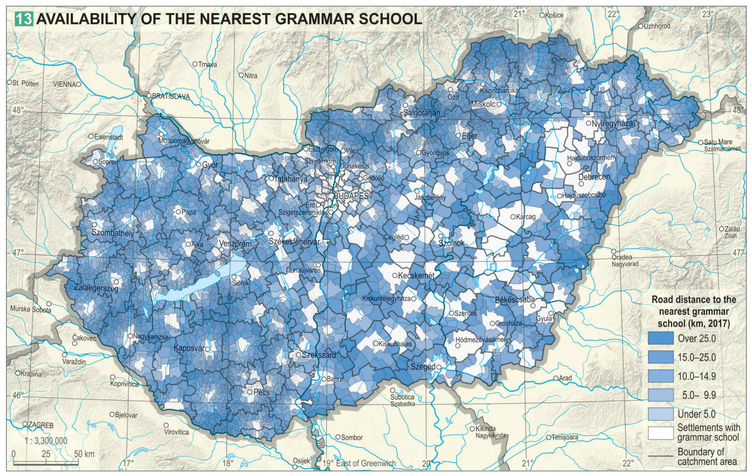
Prior to the collapse of communism, Hungarian health care relied heavily on inpatient care. Consequently, there were many hospital beds and wards; patients often stayed in hospital for longer periods than elsewhere in Europe. Because the maintenance of hospital-based health care is costly, the number of beds and institutions was steadily reduced during the transformation of the health care system, which began in the 1990s and resumed in 2007 and 2012 XII. 2. 2. 10.. Despite the above, the number of beds is still high, although there are not enough 'chronic beds' with long-term patients. Nevertheless, the demand for long-term care is constantly growing, owing partly to the ageing population and partly to their health status. The location and availability of inpatient facilities thus depend both on the structure inherited from the past and on the principle of progressivity applied in health care. This means that the simpler and more frequent cases are treated in primary care or outpatient specialist care near a patient's place of residence, while the more complex and rarer cases are addressed in regionally centralised hospitals. Concerning the latter, the most common interventions are carried out in spatially dispersed hospitals, while the most complex ones require treatment in spatially concentrated institutions (county hospitals, regional care centres and national institutes). It is important for people in their daily lives that hospitals with therapies for the most common diseases are relatively close to where they live XII. 2. 2. 11.. Increasing

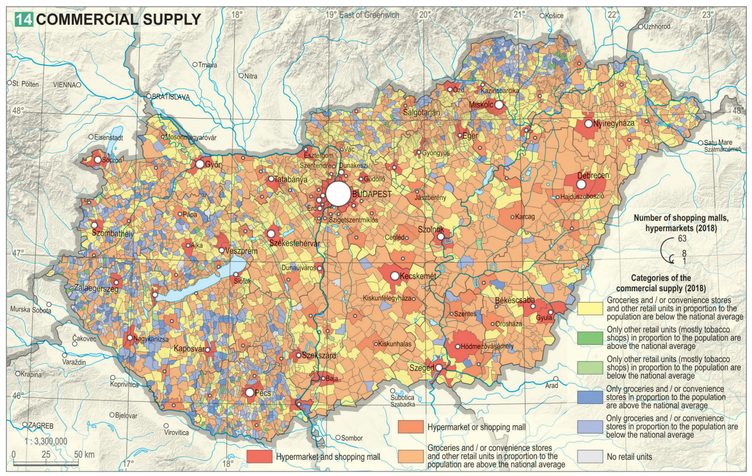












one-day care capacity is important for the efficiency and effectiveness of care and for spatial equality.

Equal *access to* emergency and *ambulance services* can be a matter of life and death. Although in most cases a delay is not decisive, in certain cases (e.g. accident, stroke, heart attack) lives depend on rapid intervention. In the European Union, an ambulance is expected to arrive at the scene of an intervention within 15 minutes of the call-out. The Hungarian population has access to 254 ambulance stations, but in view of the geographical conditions and despite recent developments (the replacement of vehicles, the opening of 22 new ambulance stations and spatial rationalisation), this is still unresolved for 739 settlements with roughly three-quarters of a million people. In this respect, the road network and topography are the most important elements. Still, changing settlement density does not facilitate equal access either. The most disadvantaged villages may be located more than 30 km away, and even the poorly accessible tanyas in the extensive outskirts of major towns may be located up to 20 km from an ambulance station. In major cities and towns, the street network and traffic levels hinder rescue. In spatial terms, the ambulance service exhibits clear differences between the centres and edges of districts. Such differences cannot be reduced without a substantial transformation of the spatial system of ground, air and mobile stations XII. 2. 2. 12..

Access to *education*, including the *availability of grammar schools*, is a prerequisite of entrance to higher education, a key issue in the supply of highly qualified intellectuals. The principle of economies of scale means that grammar schools can only operate in the more populated settlements. In the market town areas of the Alföld, the catchment area often covers only one settlement, the seat of the school. Distances requiring significant commuting (over 25 km) can be found in the northeastern and the western parts of Hungary XII. 2. 2. 13.. This reflects the problems of urbanisation: due to the shortcomings in small towns, poorly supplied areas arose along the national and county borders (e.g. in Ormánság, Őrség, Cserehát and Sárrét). In the eastern part of Hungary, internal peripheries developed in the vicinity of county borders, from where it is difficult to reach grammar schools. These difficulties are reflected in the further education statistics and the occupational structure. The most typical examples are found in the southern margins of Győr-Moson-Sopron County, along the Tisza, along the border of Hajdú-Bihar and Heves counties, and in Outer Somogy. At county level, Nógrád can be highlighted, where the location of (small) towns is peripheral, and there is no easily accessible grammar school in the southern and western part of the county.

Consumption is influenced not only by income conditions VI. 7. 14., but also by the availability of retail outlets and *commercial supply*. After 1990, as commercial developments become profit-oriented, the spatial location and accessibility of commercial units have been determined by business considerations. Thus, the number of retail outlets and the supply of goods grew and became more accessible at the higher levels of the settlement hierarchy, in urban areas and in district centres. On the other hand, centrally located shopping malls can be accessed mostly by car transport, which indirectly leads to the exclusion of several disadvantaged VI. 7. 7. VI. 7. 8. social groups (e.g. the elderly and those on lower incomes). Commercially important areas have arisen (e.g. the Budapest agglomeration, the vicinity of Lake Balaton, regional centres, centres of county relevance, some border areas), but their favourable situation can be explained by different reasons (e.g. economic suburbanisation, open borders) XII. 2. 2. 14.. At the same time, the number of retail outlets has declined and shops have become more difficult to access (or indeed inaccessible) in some rural, peripheral areas VI. 7. 20.. Shops have been closed in response to low effective demand or high operation costs. Mobile general stores are a special solution. In general, the retail supply is particularly poor in areas with tiny villages 4 (e.g. Nógrád, Borsod, Cserehát, Tokaj Mts., Bereg, Ormánság and Zala Hills): people living in such areas suffer from a lack of both quantity and quality in supply. Although the retail supply of towns in the Alföld is more favourable, people living on the outskirts must cover similar distances for shopping as the inhabitants of areas with tiny villages.

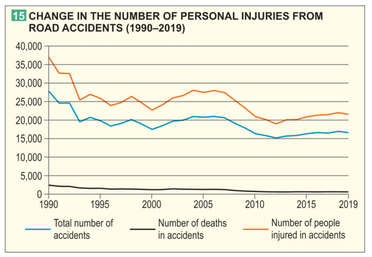
Security

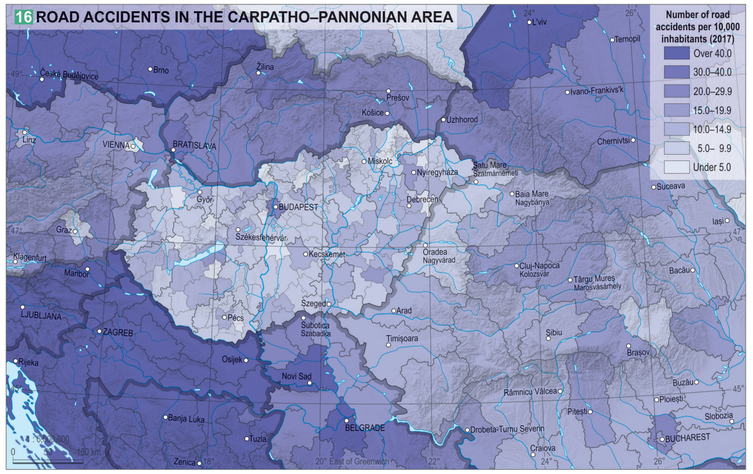
Security is a basic human need and therefore plays a prominent role in both subjective and objective quality of life. Public security and traffic safety are of particular importance. In general, the quality of life is better in settlements with low crime rates and few accidents.

The number of *road accidents* is influenced by several factors: driving habits, the number and technical condition of vehicles, the specifics of the road network and traffic volumes, and the development and use of the public transport network. These factors are also related to economic processes, a fact that is clearly reflected in the accident statistics. A correlation can be discerned between the number of accidents and periods of economic upswing and recession: increasing car use during an upswing leads to an increase in the number of accidents. At the same time, in line with the European trend, the number of fatal accidents in Hungary has decreased in recent years, reflecting improved vehicle safety and road safety XII. 2. 2. 15.. Compared to the surrounding countries, the number of accidents per 10 thousand inhabitants is lower in Hungary. The highest values can be found in Budapest and in other major cities and their surroundings XII. 2. 2. 16.. For many years, the main cause of accidents has been speeding, which played a role in about a third of the cases. Drunk driving accounted for 8.3% of accidents, with the greatest proportions seen in Bács-Kiskun and Szabolcs-Szatmár-Bereg counties.

Although most accidents in Hungary occur within settlements, there is an increased risk of accidents also on the country's motorways and main roads which handle large international transit traffic. Moreover, such accidents are often the more serious ones. However, European experience has shown that the expansion of the motorway network ultimately reduces the number of accidents. As far as accidents within settlements are concerned, vehicle collisions with pedestrians at pedestrian crossings are a major concern, especially in Budapest.

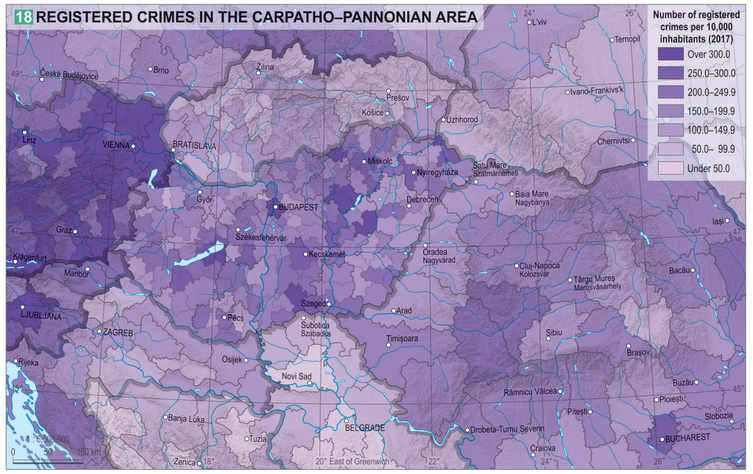
International comparisons of *crime* are only possible to a limited extent, as criminal law varies from country to country, so the same offence may be classified differently. An analysis of the spatiality of crime is made difficult by the fact that not all crimes appear in official statistics (i.e. the proportion of undetected crimes is high because, for instance, victims do not report crimes due to fear or loss of trust). Crime statistics (e. g. on robbery and murder) in the countries of the EU improved in the 2010s. The data have developed favourably also in Hungary since 2013: both the number of registered crimes and that of criminals have decreased. This may be due to a number of reasons: a possible increase in the number of hidden offences, an improving economic situation, and legislation that deters potential criminals by making the work of the investigative authorities more effective. There has been a significant reduction in the number of thefts, which make up the largest share of total crimes and are often committed in Central Hungary (Budapest and Pest County) XII. 2. 2. 17.. The number of crimes remains high in the major cities and towns, in tourist destinations, and in peripheral underdeveloped areas XII. 2. 2. 18.. Each of the three subgroups experiences a different typical set of crimes. In tourist areas, the proportion of offences involving property or public order is high, whereas fraud or economic crimes are more frequent in the major cities and towns. In the underdeveloped areas the proportion of offences against lower value personal property is high. Most crimes, however, are committed not in underdeveloped areas or in poorer settlements but where the chances of material gain are higher. It can also be stated that the more serious crimes tend to occur in the more populous settlements.





17 REGIONAL DISTRIBUTION OF THE FREQUENCY OF CERTAIN CRIME TYPES (2018)

Region	Number of crimes per 10,000 inhabitants: Assault	Homicide	Violence against a public official	Fraud	Theft	Vandalism	Embezzlement	Breach of the peace	Crimes related to drugs	Driving under the influence of alcohol or in a delirious state
Central Hungary	8.34	0.09	0.27	17.31	54.63	4.90	2.39	8.15	5.55	25.36
Central Transdanubia	10.53	0.09	0.19	15.42	61.31	6.54	5.23	8.36	6.02	19.07
Western Transdanubia	10.28	0.06	0.21	12.09	50.06	3.02	1.36	8.92	4.66	12.77
Southern Transdanubia	8.81	0.12	0.30	16.34	80.09	5.49	1.82	13.75	4.83	13.80
North Hungary	7.45	0.06	0.24	16.96	36.96	5.18	1.40	6.44	8.45	20.00
Northern Alföld	8.97	0.09	0.38	27.17	81.82	9.20	2.99	11.33	15.00	16.34
Southern Alföld	6.90	0.09	0.35	19.71	51.09	4.82	3.47	6.86	7.66	13.92
Hungary	***8.83***	***0.09***	***0.30***	***19.50***	***63.63***	***6.19***	***2.61***	***9.60***	***8.82***	***17.06***



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XII. 2. 2.

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Cover design
Geographical Institute, RCAES, Ildikó Kuti – Civertan Bt.

Design and typography
Ildikó Kuti – Civertan Bt.

Printing
Pannónia Nyomda Kft. (Budapest)

Publisher: László Kiss (Director general)
Eötvös Loránd Research Network (ELKH), Research Centre for Astronomy and Earth Sciences (CSFK), www.csfk.org

The publication is supported by:
Government of Hungary
Ministry for Innovation and Technology (ITM)
Eötvös Loránd Research Network (ELKH)
Hungarian Academy of Sciences (MTA)

Closing date of editing: 1st May 2021

ISBN 978-963-9545-58-8ö
ISBN 978-963-9545-64-9

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