

1 Introduction – The Carpathians: a European macroregion

1.1 Physical geographic features

The Carpathian Mountains are the Eastern wing of the Great Central Mountain System of Europe, curving on the territory of eight Central and Eastern European countries (Austria, Czech Republic, Slovakia, Hungary, Poland, Ukraine, Romania and Serbia). The Carpathians begin on the Danube near Bratislava. They surround Transcarpathia and Transylvania in a large semicircle, sweeping towards the south-west, and end on the southern bank of the Danube near the Iron Gate, in Serbia. The total length of the Carpathians is over 1500 km, and the width of the mountain chain varies between 12 km and 500 km. The greatest width of the Carpathian corresponds with its highest altitudes. The system attains its greatest breadth in the Transylvanian plateau and in the meridian of the Tatra group (the highest range with Gerlachovský štít, at 2655 m in Slovak territory near the Polish border). It covers an area of 190,000 km², and, after the Alps, it is the most extensive mountain system in Europe.

Although commonly referred to as a mountain chain, the Carpathians do not actually form an uninterrupted chain of mountains. Rather, they consist of several orographically and geologically distinctive groups, presenting as great a structural variety as the Alps. The Carpathians, which only in a few places attain an altitude of over 2500 m, mostly lack the bold peaks, extensive snow-fields, large glaciers, high waterfalls, and numerous large lakes that are common in the Alps. No area of the Carpathian range is covered with snow year-round, and there are no glaciers. The Carpathian at their highest altitude are only as high as the Middle Region of the Alps, with which they share a common appearance, climate and flora.

The Carpathians are separated from the Alps by the Danube. The two ranges meet only at one point: the Leitha Mountains at Bratislava. The Danube also separates the Carpathians from the Stara Planina, or Balkan Mountains at Orşova, Romania. The valley of the March (Morava) and Oder separates the Carpathians from the Silesian and Moravian chains, which belong to the middle wing of the great Central Mountain System of Europe. Unlike the other wings of the system, the Carpathians, which form watershed between the northern seas and the Black Sea, are surrounded on all side by plains, namely the Pannonian Plane on the southwest, the plane of the Lower Danube on the south, and the Galician Plain on the northeast.

1.2 The analysed area

For the purposes of the analysis and strategy building in the Carpathian region, a wider area have been delineated, as Carpathian programme area. This delineated area comprises much larger area (470 thousand km²) than the area of the Carpathian mountains (190 thousand km²). It covers also the forelands of the mountain chain. Furthermore, it is delineated according the administrative regions of the Carpathian area (NUTS2 regions in Austria, Poland and Ukraine, NUTS3 regions in the Czech Republic, Hungary, Romania and Serbia) in order to have a larger data base for analysis and to enable the participation of regional governments with their whole administrative area in the project. According to this delineation, the whole territory of Slovakia is regarded as part of the Carpathian region (*Figure 1*).

This larger area has a population of nearly 53 million, which is comparable to the population size of Britain, France and Italy in Europe. It is about 7.6% of the European population, and somewhat less than 5% of the European territory (*Table 1*).

The breakdown of the Carpathian region according to countries is the following.

The Carpathian area has a rather stormy history. Hundred years ago, in 1907, 80 percent of the Carpathian region belonged to the Austro-Hungarian Empire. 12.7 percent belonged to Romania, 3.9 percent to Serbia, 2.8 percent to the German Reich, and 0.6 percent to the Russian Empire. After the First World War, the political map of the area changed radically. Romania's share increased to 38 percent, that of Czechoslovakia to 17.9 percent, Poland's share to 19.5 percent, that of Serbia (Yugoslavia) to 7.1 percent. Hungary's share from the Carpathian area delineated above decreased to 12.2 percent, that of Austria to 5.3 percent.

After the Second World War, the Soviet Union became a Carpathian country, with a share of 12.5 percent, which was transferred from Poland, Czechoslovakia and Romania, respectively. After the dissolution of the Soviet Union, this area was "inherited" by the independent Ukraine. Serbia is the heir of the Yugoslav Carpathian territory, while the Czechoslovak area is shared by the Czech Republic and Slovakia, with the dominant part in Slovakia.

1.3 Demography

The average density of population in the Carpathian region is 120/km². Behind this average, however, the differences are very large. In the proper mountains, where the economic carrying capacity is rather low, the density of population is 10–25/km². In the forelands of the mountains, it is rather high, over 150/km².

Figure 1

Map of the Carpathian development region



Legend: AT11 – Burgenland; AT12 – Niederösterreich; AT13 – Wien; CZ062 – Jihomoravský; CZ071 – Olomoucký; CZ072 – Zlínský; CZ080 – Moravskoslezský; HU101 – Budapest; HU102 – Pest; HU212 – Komárom-Esztergom; HU221 – Győr-Moson-Sopron; HU311 – Borsod-Abaúj-Zemplén; HU312 – Heves; HU313 – Nógrád; HU321 – Hajdú-Bihar; HU322 – Jász-Nagykun-Szolnok; HU323 – Szabolcs-Szatmár-Bereg; HU332 – Békés; HU333 – Csongrád; PL21 – Malopolskie; PL22 – Slaskie; PL32 – Podkarpackie; PL33 – Świętokrzyskie; RO111 – Bihor; RO112 – Bistrița-Năsăud; RO113 – Cluj; RO114 – Maramureș; RO115 – Satu Mare; RO116 – Sălaj; RO121 – Alba; RO122 – Brașov; RO123 – Covasna; RO124 – Harghita; RO125 – Mureș; RO126 – Sibiu; RO211 – Bacău; RO214 – Neamț; RO215 – Suceava; RO222 – Buzău; RO226 – Vrancea; RO311 – Argeș; RO313 – Dâmbovița; RO316 – Prahova; RO321 – București; RO322 – Ilfov; RO412 – Gorj; RO413 – Mehedinți; RO415 – Vâlcea; RO421 – Arad; RO422 – Caraș-Severin; RO423 – Hunedoara; RO424 – Timiș; RS03 – North Banat; RS05 – Central Banat; RS07 Grad Beograd; RS08 South Banat; RS11 – Podunavski; RS12 – Branicevski; RS13 – Borski; RS15 – Pomoravski; RS20 – Nisavski; RS21 – Zajecarski; SK010 – Bratislavský kraj; SK021 – Trnavský kraj; SK022 – Trenčianský kraj; SK023 – Nitrianský kraj; SK031 – Zilinský kraj; SK032 – Banskobystrický kraj; SK041 – Presovský kraj; SK042 – Kosický kraj; UA01 – Zakarpattia Oblast; UA02 – Lviv Oblast; UA03 – Ivano-Frankivsk Oblast; UA04 – Chernivtsi Oblast.

Table 1

Main indicators of the Carpathian area (2004)

Country	Carpathian area km ²	Carpathian population thousands	As a percentage of the		As a percentage of the	
			country's area	country's population	Carpathian area	Carpathian population
Austria	23,558	3,373	28.1	41.6	5.3	6.3
Czech Republic	21,723	3,632	27.5	35.6	4.9	6.8
Hungary	54,322	7,286	58.3	72.9	12.2	13.6
Poland	45,514	10,138	14.6	26.3	10.2	18.9
Romania	165,013	13,920	69.5	62.1	36.9	26.0
Serbia	31,567	3,568	35.7	35.2	7.1	6.7
Slovakia	49,034	5,379	100.0	100.0	11.0	10.1
Ukraine	55,895	6,217	9.3	12.8	12.5	11.6
Total	446,626	53,513	28.4	34.9	100.0	100.0

Source: National statistical yearbooks.

It is especially high along the external “market line” (a chain of cities), where it is more than 200/km². But this two areas, showing different densities of population cannot be regarded separately. The economic base for a significant share of the population in the densely populated area are the mountains (and their products). On the other hand, the population in the mountains would be even smaller without the demand of the population in the forelands for their services and products (*Table 2*).

The development of the size of the population is the result of birth and death rates and migratory movement of the population.

During the 20th century, birth rates in the Carpathian area were rather higher, higher than in other areas of Central Europe. The reasons for this were different: rural way of life, deeper religiosity, but also lower educational level. However, in the last decades, birth rates decreased radically, more than the respective national averages. They are still higher, than in the surrounding plain areas, but the difference is much smaller than before.

The highest birth rates can be found in the proper mountainous areas in the Northeast Carpathians (in Romania, Poland, Slovakia and the Ukraine). The lowest birth rates are in Austria, Hungary and – interestingly – also in Poland and Slovakia (*Table 3*).

Table 2

The highest and lowest birth rates in the Carpathian area (2004)

The 10 NUTS3 regions with the highest birth rates in the Carpathian area	Birth rates	The 10 NUTS3 regions with the lowest birth rates in the Carpathian area	Birth rates
Suceava (RO)	12.4	Südburgenland (AT)	7.6
Zakarpattia (UA)	12.4	Mittelburgenland (AT)	7.8
Prešovský kraj (SK)	12.2	Miasto Kraków (PL)	8.1
Košický kraj (SK)	11.8	Békés (HU)	8.1
Covasna (RO)	11.7	Centralny Śląski (PL)	8.2
Nowosądecki (PL)	11.5	Częstochowski (PL)	8.2
Harghita (RO)	11.1	Weinviertel (AT)	8.2
Maramureş (RO)	11.0	Nitrianský (SK)	8.3
Satu Mare (RO)	11.0	Wiener Umland/Nordteil (AT)	8.3
Mureş (RO)	11.0	Nordburgenland (AT)	8.3

Source: Eurostat.

Table 3

The highest and lowest death rates in the Carpathian area (2004)

The 10 NUTS3 regions with the highest death rates in the Carpathian area	Death rates	The 10 NUTS3 regions with the lowest death rates in the Carpathian area	Death rates
Nógrád (HU)	15.0	Prešovský kraj (SK)	8.1
Sălaj (RO)	14.5	Rzeszowsko-Tarnobrzeski (PL)	8.1
Békés (HU)	14.4	Nowosądecki (PL)	8.1
Arad (RO)	14.2	Rybnicko-Jastrzębski (PL)	8.2
Borsod-Abaúj-Zemplén (HU)	13.8	Mostviertel-Eisenwurzen (AT)	8.7
Mehedinţi (RO)	13.8	Bielsko-Bialski (PL)	8.8
Heves (HU)	13.7	Miasto Kraków (PL)	8.9
Jász-Nagykun-Szolnok (HU)	13.7	Krakowsko-Tarnowski (PL)	9.0
Bihar (RO)	13.7	Žilinský kraj (SK)	9.2
Csongrád (HU)	13.6	Krośnieńsko-Przemyski (PL)	9.2

Source: Eurostat.

The regions with the highest death rates are exclusively in Hungary and Romania – mostly in Hungary – and in the southern part of the Carpathian area. The regions with the lowest death rate are exclusively in Poland and Slovakia – mostly in Poland – and in the northern part of the Carpathian area. Low death rates are mostly due to the younger age structure of the population in this regions, due to the former higher birth rates.

Natural increase and decrease is the difference between birth rate and death rate. Considering, that death rates are even more differentiated in the area than birth rates, the ranking according birth rates and natural increase differs substantially.

As it can be seen, natural increase is more in correlation with the death rates than with birth rates. Natural increase is highest in the Polish and Slovak regions, lowest in the southern Hungarian and Romanian regions.

What is interesting, that is the contrast between Vienna and Budapest. While Vienna belongs to the ten regions with the highest natural increase, Budapest belongs to the ten regions with the lowest natural increase in the Carpathian area. Vienna has both higher birth rate and lower death rate than Budapest.

It has to be noted that even the highest natural increase figures shown in *Table 4* are rather low in international comparison. The dominant trend in the Carpathian area is natural decrease. Out of the 88 NUTS3 regions of the Carpathian area, only in 23 was natural increase registered, in the other 65 region natural population movement had a negative balance.

Table 4

The highest natural increase and decrease in the Carpathian area (2004)

The 10 NUTS3 regions with the highest natural <i>increase</i> in the Carpathian area	Natural increase	The 10 NUTS3 regions with the largest natural <i>decrease</i> in the Carpathian area	Natural decrease
Prešovský kraj (SK)	4.1	Békés (HU)	-6.3
Nowosądecki (PL)	3.4	Nógrád (HU)	-5.8
Košický kraj (SK)	2.2	Arad (RO)	-5.0
Mostviertel-Eisenwurzen (AT)	1.9	Csongrád (HU)	-4.8
Rzeszowsko-Tarnobrzeski (PL)	1.7	Mehedinți (RO)	-4.7
Suceava (RO)	1.6	Budapest (HU)	-4.7
Žilinský kraj (SK)	1.2	Heves (HU)	-4.7
Rybnicko-Jastrzębski (PL)	1.1	Jász-Nagykun-Szolnok (HU)	-4.2
Krośnieńsko-Przemyski (PL)	0.6	Sălaj (RO)	-4.1
Wien (AT)	0.6	Borsod-Abaúj-Zemplén (HU)	-3.8

Source: Eurostat.

This natural population movement is modified by the migration. The dimension of migration is substantially larger than that of natural changes, therefore its impact on the number of population in the individual regions is substantially more important:

The largest immigration can be experienced in the surrounding agglomeration of two big cities: Vienna (Wiener Umland/Nordteil, Wiener Umland/Südteil, Sankt Pölten, Nordburgenland) and Budapest (Pest county, Komárom-Esztergom county). Significant is the inflow of migrants in Vienna itself (while in Budapest a substantial out migration can be experienced). Substantial is the immigration in Hungary in Győr-Moson-Sopron and Csongrád counties (to the last one mainly from the neighbouring countries Serbia and Romania), and to Kraków and its surrounding.

Concerning out-migration, the NUTS3 regions of two countries are among the top 10: Romania, and – surprisingly – Austria.

The regions with the highest our-migration figures indicated in *Table 5* are not the less developed agricultural counties, but the industrialised ones (Hunedoara, Sibiu, Braşov, Caraş-Severin and Timiş). It is partly the consequence of the collapse of industrial plants established in the socialist period. On the other hand, skilled, more mobile workers of these counties are those, who can find work in other regions, especially abroad.

Table 5

The largest net migration in the Carpathian area (2000–2004)

The 10 NUTS3 regions with the largest net inflow of migrants in the Carpathian area	Per 1000 inhabitants	The 10 NUTS3 regions with the largest net outflow of migrants in the Carpathian area	Per 1000 inhabitants
Wiener Umland/Nordteil (AT)	28.5	Hunedoara (RO)	-14.1
Pest county (HU)	20.2	Braşov (RO)	-12.9
Nordburgenland (AT)	10.2	Waldviertel (AT)	-12.4
Wien (AT)	9.3	Sibiu (RO)	-11.7
Győr-Moson-Sopron (HU)	9.1	Caras-Severin (RO)	-10.0
Wiener Umland Südteil (AT)	7.7	Satu Mare (RO)	-9.6
Sankt Pölten (AT)	7.4	Bacau (RO)	-9.5
Komárom-Esztergom (HU)	5.6	Harghita (RO)	-9.5
Csongrád (HU)	5.5	Timiş (RO)	-8.3
Krakowsko-Tarnowski (PL)	3.4	Weinviertel (AT)	-8.1

Source: Author's construction.

In Austria, Weinviertel and Waldviertel are the less developed NUTS3 regions of Austria, their GDP per capita is only one third of that of Vienna. They are in peripheral situation and the opening of the borders has not created sufficient opportunities so far. But the main reason for migration should be their relative vicinity to one of Europe's most prosperous regions: Vienna.

In a longer historical perspective: the proper Carpathian area was, since the 19th century, one of the main sources of European emigration. The restricted economic carrying capacity of the mountainous areas and the high population growth resulted in very high emigration figures shown in *Table 5*. The numbers of emigration statistics of Eastern Slovakia, Galicia, Szeklerland at the beginning of the 20th century were comparable with the respective figures of Britain and Ireland. A part of this emigration was of temporary character. Slovak workers, for example, worked for some years in the USA and then returned to their home country with their savings.

But anyway, because of these large emigration flows, the number of population did not increase at a rate, which could have been supposed based on the high birth rates. In contrast: there are regions, where the population is less than a century ago. Besides voluntary migration, war, forced re-settlement and the holocaust also contributed to the slower growth or even decrease of population in some areas (for example in Galicia and in the Banat).

1.4 Ethnic and religious affiliations

There are 8 countries in the Carpathian region, so its population is divided between different nations and ethnic groups. But even within the individual countries, the population is of multiethnic character. There are Hungarians and Ukrainians in Slovakia, Ukrainians and Germans in Poland, Romanians, Slovaks, Hungarians, Poles, Russians and Germans in the Ukraine, Hungarians, Germans, Ukrainians and Serbs in Romania, Romanians, Germans, Slovaks and Serbs in Hungary, Romanians, Hungarians, Slovaks in Serbia, Croatians in Austria and Poles in the Czech Republic in the Carpathian area. Roma population is spread in the whole Carpathian region, their number in the whole Carpathian region is more than 2,5 million.

But even Ukrainian population in the Carpathians is divided into different ethnic groups. There are Rusyns, Lemkos, Bojkos and Hutsuls, all living in the Carpathian Mountains. Mountain chains divided and isolated them from each other, therefore they could develop their own dialects and ethnic identities. In South Poland, in the Carpathians live the Góral, whose language is based on Polish, but contains many words from the Slovak and Vlach languages. The Szeklers in the Eastern Carpathians speak Hungarian, but their origin is different from the other

Hungarians. Another Hungarian group, the “Csángos”, lives in the Eastern side of the Carpathians, in Moldavia. Because of the long time of isolation, a substantial part of Csángos have lost already their Hungarian language and speak Romanian. The “moți” in the Apuseni Mountains speak Romanian, and regard themselves Romanians, but supposedly they have also other origin than the other Romanians. Many Czech citizens in the Czech Carpathian region regard themselves as Moravians or Silesians. Summarising: there is a very colourful ethnic mosaic in the Carpathians.

The composition of the Carpathian population according to religious affiliation is also diversified. The majority of the Polish, Slovak, Czech, Austrian and Hungarian population is Roman Catholic. Nevertheless, among those Hungarians, who live in the Carpathian region, the majority is Protestant (Calvinist). A minority of the Slovaks and Germans in Southern Transylvania are Lutherans. A substantial minority of the Szeklers belongs to the Transylvanian Unitarian Church. The larger part of Romanians and Serbs are Eastern Orthodox Christians.

The Eastern Catholic Church (or the Greek Catholic Church) has a special significance in the Carpathian region, because its adherents in Europe live almost exclusively in the North-Eastern or Eastern Carpathian area. Ethnically, they are mostly Ukrainians and Romanians but there are also Slovaks and Hungarians. Originally, they were Orthodox Christians, but the Polish King in 1595 (Brest), the Habsburg Emperor in 1696 (Uzhgorod) persuaded them to enter into Union with Rome, while retaining their rites and customs (for example married priests). After Russia (and later the Soviet Union) annexed this area, the Greek Catholic Church was eliminated, and its adherents were reorientated to the Orthodox Church. Similar measures were taken in Romania, Czechoslovakia after World War II. After 1990 the Greek Catholic Churches have been revived in these countries and now they are competing with the Orthodox Churches for the faithful people.

Before World War II, the Carpathian area was one of the most important settlement area of Jewish people in Europe. Their number in the Carpathian area was more than 5 million. The Holocaust, emigration and natural decrease have radically reduced their presence in the area. They number hardly 100 thousand in the area.

The intensity of practising the religion – in terms of church-going – is different in the region. Religion is practiced most frequently and intensively in Poland and Slovakia. Orthodox Romanians Ukrainians and Austrian occupy a middle position. Czechs and Hungarians are the relatively less religious people.

In the last decades – in all countries of the region, although to different extent – new Religious Movements and small Churches can attract increasing number of people. The deterioration of living conditions, the collapse of earlier systems and ideals, and sometimes their charitable activities contribute to this growing number

of adherents. Interestingly, their success is larger just in mountainous regions than in other areas.

1.5 Employment

The employment situation in the Carpathian region is difficult. Some of the regions with the highest rate of unemployment are to be found in the Carpathian area. What is even more problematic, it is the very low activity rates. It means that a large part of the working age population is inactive, they do not enter at all the labour market (because they retired early or they are women in the households or they stopped to look for employment). The low GDP/capita figures are – to a substantial extent – due to these low activity rates.

Unemployment is the largest in the Polish and Slovak regions, while in respect to activity rate, the lowest figures in the whole European Union can be found in Hungary, partly in Romania (*Table 6*).

To raise this activity level to 60 percent (the level aimed at in the Lisbon strategy) needs very serious efforts in the respective regions and countries.

Table 6

*The 10 NUTS3 regions with the highest unemployment rates
in the Carpathian area (2004)*

	NUTS3 Region	%
1.	Košický kraj (SK)	24.7
2.	Banskobystrický kraj (SK)	23.9
3.	Częstochowski (PL)	21.5
4.	Prešovský kraj (SK)	21.5
5.	Centralny śląski (PL)	19.5
6.	Nitrianský kraj (SK)	17.8
7.	Krośnieńsko-Przemyski (PL)	17.6
8.	Rybnicko-Jastrzębski (PL)	17.5
9.	Nowosądecki (PL)	16.3
10.	Rzeszowsko-Tarnobrzeski (PL)	15.9

Source: Eurostat.

Employment and activity level depends on the economic structure of the respective regions as well. High share of private small-scale agriculture can serve temporally as a buffer against unemployment. It is the case in Southeast Poland and in some parts of Romania. In the Ukraine, for a long time, unemployed and unpaid people remained on the payroll, otherwise they would have lost those social benefits which were vital for their existence. Therefore, employment statistics are not fully reliable in every country. For the time being, there is no region in the Carpathian area which would fulfil the Lisbon criteria (*Table 7*).

Table 7

The 10 NUTS2 regions with the lowest activity rates of the 15–64 years old population (2004)

	NUTS2 Region	%
1.	Észak-Magyarország (Northern-Hungary) (HU)	45.0
2.	Észak-Alföld (North-Plain) (HU)	45.6
3.	Dél-Alföld (South-Plain) (HU)	47.4
4.	Centru (RO)	50.4
5.	Vest (RO)	51.4
6.	Sud-est (RO)	51.6
7.	Nord-vest (RO)	51.9
8.	Śląskie (PL)	52.2
9.	Közép-Dunántúl (Central-Transdanubia) (HU)	53.3
10.	Nyugat-Dunántúl (West-Transdanubia) (HU)	53.7

Source: Eurostat.

The share of agriculture in employment is still very large in some countries.

There are regions in Romania, where nearly the half of the active population is engaged in agriculture. This high agricultural employment emerged after 1990, when formerly collectivized agricultural areas were privatized and many people, who have lost their jobs in industry and other non-agricultural branches of the economy, hoped to find the source of their existence in privatized agriculture. It is, however, obvious, that a large part of these small farms is not competitive in the globalized economy, so these jobs cannot be regarded as sustainable in the long run.

But too high percentage of work-force in the secondary sector (industry) cannot be either regarded as advantageous. On the one hand, it signalizes an insufficient share of services, on the other hand, in the Carpathian area, it may signalize also a need for industrial restructuring and insufficient productivity of industries.

Regions with overly high agricultural employment can be found mostly in Romania. Out of the two Polish regions (Krakowsko-tarnowski) the reason might be, that the city of Cracow is not included in the region, therefore its character is markedly rural. It is not the case in the Nowosądecki region. Additionally, this region is in the Carpathian Mountains, where conditions for agricultural production are not very favourable (*Table 8*).

Table 8

Regional specialization in the Carpathian area (2004)

	The 10 NUTS3 regions with the highest employment share in <i>agriculture</i> in the Carpathian area	%	The 10 NUTS3 regions with the highest employment share in <i>industry</i> in the Carpathian area	%
1.	Bistrița-Năsăud (RO)	53.5	Trenčianský kraj (SK)	48.4
2.	Dâmbovita (RO)	45.8	Zlínský (CZ)	46.7
3.	Bacău (RO)	44.4	Komárom-Esztergom (HU)	45.4
4.	Suceava (RO)	43.1	Moravskoslezský (CZ)	44.1
5.	Vrancea (RO)	42.9	Hunedoara (RO)	42.0
6.	Neamț (RO)	38.1	Brașov (RO)	41.6
7.	Mehedinți (RO)	37.8	Olomoucký (CZ)	40.8
8.	Nowosądecki (PL)	34.3	Rybnicko-Jastrzębski (PL)	40.6
9.	Krakowsko-Tarnowski (PL)	34.0	Győr-Moson-Sopron (HU)	40.3
10.	Maramureș (RO)	33.4	Heves (HU)	40.0

*Romania 2001.

Source: Eurostat, Romanian Census 2001.