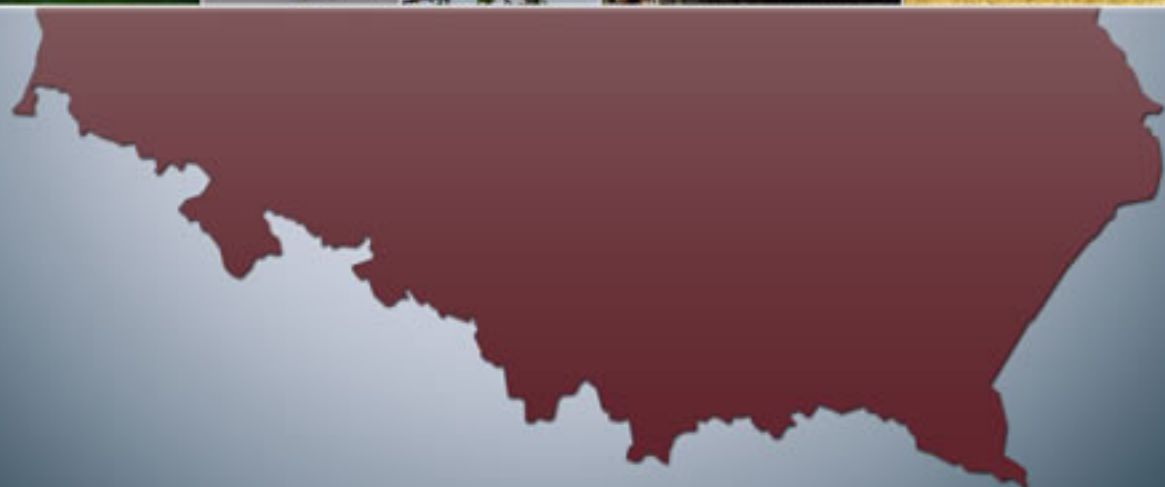


# POTENTIALS OF POLAND

INTRODUCTION TO SOCIO-ECONOMIC GEOGRAPHY  
OF POLAND FOR FOREIGNERS



Edited by  
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**Anna Janiszewska**  
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Introduction to Socio-Economic Geography  
of Poland for Foreigners

Łódź 2012

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## 1. INTRODUCTION

The idea to write this book arose a few years ago during classes with foreign students. Those young people came to Poland not only to study in the areas of their choice but also to get to know people and the country. At that time, we did not have concise, modern monograph on Polish geography in English devised for people for whom geography is not the main study area. This book is exactly that.

We wanted it to fit the tradition of regional geography. It was important for us to deliver as much information about the country as possible in the most accessible way. At the same time, thanks to explanation boxes with basic notions we remind the readers what geography as a science deals with.

We entitled the monograph "Potentials of Poland" believing that foreigners will discover in our country opportunities which they had never expected. We strived to present a constantly changing and advancing country. Even though the subtitle includes the phrase "socio-economic geography", the book includes chapters on physical geography and the political situation in Poland. We believe they are an essential to the whole.

We hope that the "Potentials of Poland. Introduction to Socio-Economic Geography of Poland for foreigners" will help students understand what they see around themselves and will encourage others to visit Poland.

*Editors*

Łódź, July 2009

## 2. POTENTIAL OF THE POLISH ENVIRONMENT

Natural resources constitute a very important element in the economy of all countries. They can be defined as potential which, if used correctly, will be the basis of well-being of the people inhabiting a given area. A country's potential consists of several elements:

- Natural resources hidden inside the Earth's crust the existence of which depends on specific geological events which have been taking place over the past billions of years of our planet's history.
- Diverse land relief is another form of natural resources.
- Moreover, they are influenced by climate and water conditions, types of soil cover or types of plant and animal life.

Natural resources are used to satisfy the needs of the inhabitants of Poland; they are transformed through industrial and agricultural production processes. They constitute the basis of the country's spatial development and they are of vital importance for such industries as recreation and tourism. Finally, they determine the opportunities and the wealth of our country.

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**The natural environment** is the natural place of human life and activity. Throughout several thousands of years of the history of the human species, the relationship between humans and the environment was not that much different from the life of other beings. Even today, humans satisfy their needs thanks to resources provided by the nature. Using Earth's resources should be governed by certain rules, but the most important principle should be the "sustainable development" principle, i.e. using natural resources in such a way that it will not cause destruction and deterioration of the natural environment. Therefore, it is exceptionally important to possess a thorough knowledge of our surroundings. The Polish society, forming a country in central Europe, manages an area of great diversity in terms of natural conditions, which main characteristic is temperateness. Study of resources specific for a given environment should help plan paths for development of our country in all areas of economic and social life.

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### 2.1. Location – area – spatialresources

The name Polska (Poland) established in the early Middle Ages and was related to the tribe of Polanie (Polans) who settled in the basin of lower Warta. During the last millennium, the territory of Poland has changed several times. Borders, especially eastern and western borders, were shifted in different directions as a result of important historical

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events. The current outline of our borders was finally established during post-WWII peace conferences in Yalta and Potsdam in 1945. Consecutive years brought about only slight alterations to our south-eastern border.

A country's area is one of its main riches – it determines to a large extent the country's potential for development. Poland occupies an area of 312,685 sq km (administrative area) located in the middle of Europe, in the basin of the Oder and the Vistula. Therefore, our country is a middle-sized country in European terms. In terms of the area, we are ninth in Europe after Russia, Ukraine, France, Spain, Sweden, Germany, Finland and Norway.

The location of Poland can be defined according to geographical coordinates of its extreme points. The northernmost point of Poland is Przylądek Rozewie (Cape Rozewie) (54°50' N), The southernmost point is Opołonek peak in Bieszczady Mountains (49°00' N). The easternmost point of Poland is the bend of the Bug near Horodła (24°08' E) and the westernmost point is located near Cedynia, less than 60 km south-west of Szczecin (14°07' E).

The location of those points defines the territorial extent of Poland. Longitudinal extent (west - east) measures 689 km while latitudinal extent (north - south) - 649 km. The centre point of the incircle contained within the borders of Poland is located in Piątek, ca. 25 km north of Łódź. The country's tight regular shape is a factor which facilitates communication between the regions. It is also a factor of strategic importance for national defence, though, it must be stated that Poland remains in good and friendly relations with all its neighbours.

As a result of political changes which occurred in Central Europe at the end of the 20th c., our country borders seven countries. Our border with Germany stretching for 467.3 km was established on the Oder and the Nysa Łużycka. In the south, Poland borders the Czech Republic (length: 790 km) and Slovakia (length: 539.2 km). The border with these two countries stretches along the mountain ridges of the Sudetes and the Carpathians. In the south-east and in the east we border Ukraine (length: 528.5 km) and Belarus (length: 416 km). Part of our eastern border is natural in character as its central section stretches along the Bug. In the north-east we border Lithuania and this the shortest section of our borderline (102.8 km). In the north, a 209.8 km section of our land border divides Poland and the Russian Federation. Our coastline constitutes the final 528 km of our borderline.



Figure 1. The location of Poland  
Source: K. Dmochowska-Dudek

## 2.2. Resources of the Polish land – geological composition – minerals

### 2.2.1. Geological structures in Poland – tectonic units

A long chain of geological events which have taken place over the several billions of years of Earth's history, from the Precambrian to the Cenozoic, have led to the formation of the complex geological structure of Poland. Within our borders, there lies the most important European geological borderline separating the old geological formations and structures of eastern and north-eastern Europe from the younger structures of western and southern Europe. This borderline, which is a huge divide in the Earth's crust, is called Tornquist-Teissere Zone (TT) stretching from the Baltic Sea to the Carpathians along the line leading from Koszalin in the north, Toruń, Płock and Warsaw, and until Lublin,

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Zamość and Tomaszów Lubelski in the south-east. The general NW to SE distribution of the zone divides Poland into two parts. East of the TT zone, in the deeper zone of the Earth's crust, there are geological structures of the Eastern European Precambrian Platform. West and south-west of the zone, there are geological units of the eastern section of the Paleozoic platform of eastern Europe and of the Alpide belt of southern Europe. Thus, geologically speaking, Poland is located in the key contact zone of three major geological regions of our continent.

### **Units of the Eastern European Precambrian Platform**

A predominant feature of the Eastern European Precambrian Platform, located in the north-eastern part of Poland, is that, at the depth of several hundred to a few thousand metres below sea level, there are crystalline rock masses (metamorphic and igneous rocks) which are highly orogenic. Those crystalline rock masses are Precambrian in age, as the orogeny which they were subject to. Deformed crystalline rock masses constitute a foundation for the platform, often referred to as the socle of the Precambrian Platform. The socle is covered with Paleozoic, Mesozoic or Cenozoic rocks (mainly of sediment types) of various thickness. They form a younger level called the platform cover. In Poland, an area of the Eastern European Platform characteristic for its shallow distribution of Precambrian socle is called a "wyniesienie" (elevation). An area where Precambrian rocks and structures are hidden several thousand metres below sea level, under a layer of younger sediment, is called an "obniżenie" (depression). According to this division, the following structures have been identified within the Polish section of the Eastern European Platform: obniżenie perybaltyckie (peri-Baltic depression), wyniesienie mazurskie (Mazuria Elevation), obniżenie podlaskie (Podlasie depression), struktura zrębowa podlasko-lubelska (Podlasie and Lublin Fault-Block Structure) and niecka nadbużańska (Bug Basin).

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Among all the tectonic units of the East-European Platform listed above, **the Masurian Elevation** is most interesting for its very shallow distribution of Pre-Cambrian rock formations of the platform's socle. Near Suwałki, Augustów and all the way to Białystok, near the Polish border, crystalline Precambrian rocks (granitoid, gneiss and crystalline slate) occur at depths from 250 to 500 m. At the end of Pre-Cambrian, in basic igneous rocks near Suwałki, there developed valuable magnetite iron ores with a dopant of titanium. However, they will not be exploited because of economic reasons and because of unique natural qualities of the Suwałki Lake District.

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### **Units of the Paleozoic Platform**

Within several hundred million years of the Paleozoic, Mesozoic and Cenozoic eras, on the western side of the tectonic rift or TT zone, in the older strata, geological-tectonic units of the Paleozoic Platform formed. The units located in Poland belong to the eastern fragment of an extensive structure stretching from Portugal and western Spain, through southern England and Wales, Germany, all the way to Poland.

In general, layered geological composition is characteristic for the part of the Paleozoic Platform within Polish borders. Lower level of the Platform (basis or socle) is composed of repeatedly folded and consolidated within Paleozoic orogenies sedimentary, igneous and metamorphic rocks. Usually, those are Paleozoic formations, but e.g. in the Sudetes, Precambrian rocks are inserted in several places in Paleozoic structures. The surface of Paleozoic structures is covered with a layer of younger rocks not that deformed tectonically which were formed during Mesozoic transgressions and in the Cenozoic era. At several locations throughout southern Poland, Paleozoic rocks and formations can be found directly on the surface or underneath a thin layer of very young formations: residual soil, sands and Quaternary clay. Locations which form those Paleozoic units within the Platform are: the Sudetes with the Sudetes Foreground Block, zapadlisko górnośląskie (Upper Silesian Foreland) and the Świętokrzyskie Mountains. Additionally, a small Paleozoic outcrop area can be found near Cracow.

Upper Silesian Foredeep includes the biggest Polish mining and industrial complex called the Upper Silesian Industrial Region or the Upper Silesian Coal Basin. Its location is a result of Paleozoic-Carbon coal-bearing formations and deposits of zinc and lead ores located nearby. 234 bituminous coal deposits have been identified and researched within the Upper Silesian Coal Basin, many of which are currently being exploited by Silesian mines. The thickness of some bituminous coal deposits which are being exploited spans from a few to almost 20 m. Upper Silesian bituminous coal is a valuable energetic material, especially in view of the fact of the low amount of petroleum and natural gas deposits in Poland.



Figure 2. Organy Wielisławskie – paleozoic formation in Kaczawskie Mountains (Western Sudetes)

Source: K. Dmochowska-Dudek

Within the Paleozoic Platform, where the socle of the Platform is covered by younger Permian and Mesozoic rocks, tectonic units were identified on the basis of geological structures which formed at the end of the Mesozoic and the Tertiary eras within those younger rock formations. Tectonic units of the cover layer of the Paleozoic Platform are generally arranged in the north – west, south – east direction. In western Poland, slightly north-eastward tilted Permian, Triassic and Jurassic formations form the Sudetes Foreground Monocline. The south-eastern part of the structure is called Silesia-Cracow Monocline.

In central Poland, between the Świętokrzyskie Mountains and the western part of *pobrzeże Słowińskie* (Słowińskie Coastal Area), there stretches a zone of extensive orogenic structures (synclines and anticlines) composed of Triassic, Jurassic and Early Cretaceous sediments. Anticline cores often contain diapirs composed of Permian halite and sylvinite. This zone constitutes a geological unit known as Mid-Polish Anticline or Mid-Polish Ridge. Extensive geological basins are present on both sides of the ridge. North-east of the unit, parallel to it, there is a border basin which is a borderline basin between the Paleozoic Platform



and the Eastern European Pre-Cambrian Platform. The basin is filled with thick series of Late Cretaceous and Paleogene sediment. On the south-western side of the Mid-Polish Anticline, between Szczecin, Łódź and Miechów, you will find a zone of geological basins known as the Szczecin-Łódź-Miechów basin (syncline). Those basins are filled with thick series of Late Cretaceous marl, limestone and spongiolite formed in a shallow epeiric sea. Geological structures within the cover layer of Mesozoic rocks covering the Paleozoic socle of the platform formed as a result of different stages of the Alpine orogeny which occurred at the end of the Mesozoic Era, at the turn of the Cretaceous (Laramian stage) and in the Early and Late Tertiary.

Permian-Mesozoic rocks of the Paleozoic Platform cover contain many valuable minerals. Copper deposits in Lower Silesia, Permian halite exploited in Kłodawa and its other deposits identified and researched at several locations throughout central and northern Poland. Small deposits of petroleum and natural gas in Pomerania and within the Baltic Shelf. Zinc and lead deposits in Silesia and in the Cracow Region. Large rock deposits of limestone, which is an important building material, identified and researched throughout the entire belt of Southern Poland Uplands are the most important examples of the riches hidden beneath the discussed part of the Polish land.



Figure 3. Kłodawa Salt Mine

Source: S. Kobojek



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**Upper Silesian Foredeep** is an area of significant accumulation of Carboniferous rocks. At the end of the Paleozoic Era, today's area of Upper Silesia was an extensive low tectonic depression between the Świętokrzyskie Mountains and the Sudetes, both of which formed during the Variscan orogeny. In hot and very humid conditions occurring within the depression, there formed fens overgrown with tree ferns, araucaria and the Lycopodiophyta. The area of the depression was subject to constant tectonic depressive movement which caused marine transgressions and depositing sands and gravel on permanently accumulating masses of biogenic material – deadplants. As long-term accumulation of this type of biogenic deposits caused carbonisation of organic masses and the formation of layers of bituminous coal.

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### **Geological units of the Alpide belt**

The Alpide belt of southern and central Europe is represented in Poland by two units: the Carpathians and the Carpathian Foredeep. The Carpathians, reaching furthest south, are a range of young fold mountains which consist of two parts: **Inner Carpathians** which are the southernmost part of the range and **Outer Carpathians**. Within the Polish borders, Inner Carpathians consist of **the Tatras, Podhale Basin and Pieniny Klippen Belt**. The Tatras are a unique orogene in Poland partly composed of Early Paleozoic granite and older metamorphic rocks and partly of highly orogenic Mesozoic sedimentary rocks: limestone, dolomites, sandstone, marl and slate. Orogeny of the Tatras took place mainly at the end of the Cretaceous, during the Mediterranean Alpine orogeny. North of the range, there is a tectonic basin filled with Late Tertiary sediment. The lowest part of the foreland basin shoots up sharp crests and peaks of the **Pieniny Klippen Belt** – northernmost unit of Outer Carpathians. Crests and peaks of Pieniny are mostly composed of Mesozoic limestone.

**Outer Carpathians** stretch over a wide open arch towards the south, from the Polish-Czech border near Cieszyn all the way to the Polish-Ukrainian border in the east. Outer Carpathians are composed of several extensive folds called nappes pushed several kilometres onto their foreground, from the south towards the north. Geological composition of nappes mostly includes formations of alternating layers of slate, sandstone and marl. Such formations, known as flysch, can be found in various mountain ranges formed during the Alpine orogeny. Carpathian flysch formed during the Cretaceous and Paleogene, while its sedimentation finally ceased at the turn of the Paleogene, during the Sava stage of the Alpine orogeny when seven great nappe structures of Outer Carpathians formed out of flysch formations.

In the northern foreground of Outer Carpathians nappes, there stretches the youngest geological unit which belongs to the Alpidic belt is called **the Carpathian Foredeep**. Geologically, this foredeep is an extensive basin formed north of the Carpathians under orogeny in the Neogene. Orogeny of the Carpathian Nappe in the Neogene was subject to a process of wearing away and reduction in elevation called denudation. Resulting rock sediments were deposited at the foreground of the mountains in the tectonic basin called by geologists as the Carpathian Foredeep. The elevation of the bottom of the Foredeep is constantly decreasing which is why the thickness of formations deposited at its centre reaches several thousand metres. Today, the area of the Foredeep is distinctly visible in the landscape of southern Poland thanks to a zone of dales stretching below the Carpathians: Kotlina Sandomierska (Sandomierz Basin) in the east, Brama Krakowska (Cracow Gate) in the centre and Kotlina Oświęcimska (Oświęcim Basin) in the west. In the Neogene, the Foredeep used to be a sea. Sediments which were produced at that time include some which are of high economic value. Gypsum at the northern ridge of the foredeep, exploited at Niecka Nidziańska (Nida Basin), is a valuable building material. Often, gypsum is accompanied by sulphur deposits. At the southern ridge of the Carpathian Foredeep, there are significant deposits of halite near Wieliczka, Bochnia and Rybnik. At the south-eastern ridge, there are significant deposits of natural gas which are accompanied by small deposits of petroleum.

Older geological structures in central and northern Poland are hidden beneath discontinuous layer of Neogene sediments which mostly form in terrigenous (land) conditions. During the Miocene, large deposits of organic sediment formed in lower terrain in different location which then underwent partial carbonisation, thus, turning into lignite deposits. The largest are currently being exploited and they constitute the basis of the development of mining complexes and power plants. The biggest deposits of lignite are located near Bełchatów (central Poland) where it is used in the largest Polish power plant. Other lignite exploitation locations are: Zagłębie Konińskie, Zagłębie Wielkopolskie and Zagłębie Zachodnie.

### **2.2.2. The Quaternary and the Pleistocene – the Polish ice age**

Quaternary, the most recent of the three periods of the Cenozoic era, began nearly 2 million years ago. One of its characteristic features was a gradual cooling of the climate and periodical climate oscillation between cooler and warmer periods. Around one million years ago, in high latitudes of the Northern Hemisphere, periods of extreme climate cooling would be accompanied by the development of ice caps which would span

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over many parts of Europe and North America. Periods of time when large continental ice caps would develop are called glacial periods. Warmer periods, during which ice sheets would melt and shrink to the size of small mountain glaciers, separating glacial periods are called interglacial periods. Geological research indicates that within the last million years, during eight glacial periods, the Scandinavian Glacier would visit the territory of today's Poland. Glacial terminology in Poland is related to river names. Starting from the most remote to the most recent, the territory of Poland was subject to the following glacial periods: the Narew, the Nida, the San I, the San II, the Liwiec, the Oder, the Warta and the Vistulian glacial period. Their reach varied. Several hundred thousand years ago, during the San II glacial period, most of Poland was covered in ice. The glacier foot (terminus) pressed against the mountain ranges of the Carpathians and the Sudetes. Its large snout slipped into the depression of the Moravian Gate, between the Sudetes and the Carpathians, reaching all the way to today's the Czech Republic. The final glacial period, the Vistulian glacial period, covered only the northern part of Poland: the area of today's lake districts: Wielkopolska, Masurian and Pomeranian lake districts.

In Poland, the evidence of glacial periods, resulting from Scandinavian glacier motions, can be found in the form of deposits of loose sediments. Glaciers and waters from melting ice sheets would deposit numerous boulders and huge masses of clay, sandstone, gravel, and mudstone. These sediments would be subject to weathering and then they would be transported by rainwater, rivers and wind, being moved as a result of mass movements. As a result, 3/4 of today's Poland is covered with a coat of Quaternary sediment. It is located in various older structures and rocks. The line between Wrocław, Tomaszów Mazowiecki and Włodawa, which was the borderline of the Oder glacial period (i.e. the third most recent glacial period), divides Poland into two parts with significantly different history of development of Quaternary sediments. North of the borderline, the area is covered with a rather thick and dense coat of Quaternary formations, which are dominated by glacial sediments: till, fluvio-glacial sand and gravel, mudstone and clay. South of the borderline, the coat of Quaternary sediment is thin and discontinuous and it is dominated by wind-accumulated sediment: dune sand and loess sheets. It also includes river sediments. Only to small extent, the coat of Quaternary sediment of southern Poland is composed of clay of older glacial periods. The majority of the older, glacial sediments was removed through denudation.

The most recent glacial period, the Vistulian glacial period, ended ca. 10,000 years ago. **The Vistulian Glacier** only covered the northern regions of Poland. Its terminus reached Lubusz Land, the northern part of Wielkopolska, Kujawy and the Masurian Lake District just 20,000 years ago. Then, 13,000 years ago, the glacier receded from our country. As a result of significant rise in temperatures, ice masses melted very quickly. The warm period, which started 10,000 years ago, known as the Holocene had all the characteristic features of interglacial period. Therefore, quite soon (in geological time scale) another glacial period may begin.

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### **2.3. Diversity of geomorphological landscape – topographic relief of Poland**

#### **2.3.1. Land relief of Poland**

Poland's relief is titled in the north-western direction. The highest mountain areas are located in the south, while the lowest areas are located in the north, near the Baltic Sea. The highest elevation of Poland is a peak in the Tatras called Rysy (2499 m AMSL). The lowest elevation is a small area of depression in the north in the delta of the Vistula, near Raczki Elbląskie (1.8 m BMSL). The area of Poland is of lowland character. Average elevation of Poland is just 174 m AMSL while the average elevation of the entire European continent is 292 m AMSL. In Poland, areas of elevation 300 m or less occupy 91.1% of the entire area, while mountain areas above 1000 m occupy only 0.2%.

However, even though the relief is mostly of lowland character, it is not monotonous. Even though lowlands are predominant, Poland's relief is exceptionally diverse. Extensive river valley formed by glaciers border hills and heights of terminal moraines, kames, and sandur plains. In the south, you will find uplands where directly on the surface or underneath a thin layer of Quaternary sediment you can find Mesozoic and Paleozoic formations. The Carpathians and the Sudetes mountain ranges clasp the territory of Poland.

#### **2.3.2. History of the relief of southern Poland**

Major lines of the land relief of Poland are related to the geological composition of old base. In southern Poland, you will notice how much land relief is related to the basic tectonic units discussed in the previous chapter. Paleozoic and Mesozoic rock formations of the tectonic units located on the surface or underneath a thin layer of young sediment were subject to denudation. Destructive processes took place over several million years in the Cenozoic era: Tertiary and Quaternary periods. As a

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result, a structural relief was formed which was related to the basic distribution of geological units and the diverse resistance of rock formations.

The Sudetes and the Carpathians mountain ranges are located in the south. The relief of those two main series of mountain ranges differs significantly. The Carpathians are young mountains in terms of the age of geological structures, formed during the Alpine orogeny. They display significant diversity of geomorphological landscape. The Beskids ranges, composed of orogenic flysch formations, were modelled by river erosion and denudation. Their relief is characteristic for dominant long mountain ridges and relatively gentle, broad mountain tops. This landscape is contrasted by the landscape of the Pieniny and the Tatras. The Tatra Mountains, the southernmost range in Poland, possesses distinct altitudinal zonation of both, climate and relief. Its highest sections, above 2000 m, include steep rocky peaks (turnie) and sharp aretes, especially within granite formations. Less than 20,000 years ago, the Tatras were still glacial. The longest glacier was nearly 20 km long and it occupied the valley of the Biała Woda in today's Eastern Tatras. Traces of glacial processes are present in the form of deeply cut cirques, bottom sections of which are now occupied by lakes. Many sections of the valleys of the Tatras have been transformed by glacial erosion to typical U-shaped valleys. Their floors and slopes bear evidence of glacial erosion. Additionally, valley floors include wavy surfaces of ground moraines composed of boulders and rocks accumulated by glaciers and lateral and terminal moraines. At the foreground of the Tatras, water from melting glaciers formed extensive fluvio-glacial cones; on one of them (in the Bystra Valley), the town of Zakopane, a well-known resort and winter sports' centre was established.

The Pieniny, also known as the Peininy Klippen Belt, also have a characteristic relief. As a result of intensive tectonic processes, Mesozoic rock formation of which the mountain range is build are distributed vertically. Thus, the landscape is dominated by rocks, vertical walls, sharp spires and steep rocky peaks mostly composed of limestone.



Figure 4. The Tatra Mountains

Source: S. Kobojek

The relief of the Sudetes has balanced ridges and gentle slopes, extended in the borderline section over deep valleys. The relief of the valleys is diverse which is a result of complex geological composition. You will there crystalline mountains (Krkonose, the Śnieżnik Mountains, the Jizera Mountains) as well as orogenic mountains (Bialskie, Bardzkie, Kamienne, and Opawskie Mountains). The Sudetes are commonly referred to as old mountains, however, this applies only to its geological structure which formed during orogeny in the Paleozoic era. The relief of the Sudetes is a result of mostly Paleogenic and Neogenic vertical orogeny during which the Sudetes block was sectioned by tectonic divides and lifted along those lines. Relief-forming factors which occurred in earlier periods of the Cenozoic era influencing the lifting of the Sudetes block, mainly included river erosion and denudation. Higher sections of the Krkonose range, just like the Tatras in the Carpathians, were subject to Quaternary glaciation and, as a result, they include glacial relief.



Figure 5. The Krkonose Mountains

Source: K. Dmochowska-Dudek

Extensive depressions of Samdomierz and Oświęcim Basins formed in front of the Carpathians. The Vistula, so-called “queen of all Polish rivers”, runs along those basins. North of the the horst of the Sudetes and the Sudetes Foreground, there stretches Silesian Lowland. Right through the middle of the lowland runs the Oder. North of the valleys of the Carpathian Foreground, tectonically lifted, highly denuded earlier tectonic structures form the zone of South Polish Uplands. As a result of diverse resistance of the rocks which form the area and complex geological composition, several ranges of heights and small mountains formed within the Świętokrzyskie Mountains, the Cracow-Częstochowa and Silesian Uplands, the Lublin Upland and Rostocze. In many of the areas, within limestone outcrops, there formed karst topography which is a result of limestone erosion caused by water which contains carbon dioxide.

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A characteristic feature of karst relief is the existence of surface formations as well as underground formations. One of the most beautiful manifestations of underground karst in Poland is Jaskinia Niedźwiedzia (Bear Cave) in Kletno in the Sudetes in the Śnieżnik Mountains. The cave, which formed in crystalline white limestone (marble), features great richness of cave formations and numerous bone specimens of cave bears. The surrounding area also features many surface karst formations in the form of sinkholes, ponors and karst springs.

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### 2.3.3. Glacial relief of central and northern Poland

Central and northern Poland lacks distinct relation between geological structure of the bedrock and the land relief. One can only trace intermediate relationships between the relief and the distribution of the main geologically structural units. For example, the relief of the extensive depression of Szczecin Lowlands in north-western Poland overlaps with the the axis of the Mesozoic geological unit: Szczecin Basin.

On the other hand, major features of the relief of central and northern Poland are related to the quite recent, geologically speaking, events, i.e. the last glacial period and the one before that. Relief forms related to those glacial periods formed 180,000 years ago in front of the glacier foot, during the Warta glacial period and 20,000 years BP during the Vistulian glacial period. Glacier feet usually formed along the W-E axis and this also the axis along which groups of glacial forms which formed during those glacial periods are distributed. Characteristic features of the Polish Lowlands are series of terminal moraines which mark the span of consecutive glaciers or stadials of the last and the last but one glacial period.

As a result of accumulative influence of melt-waters, extensive areas of sandurs formed at the foreground of terminal moraine hills and heights. Outer parts of sandurs are limited by wide and deep marginal valleys distributed along the E-W axis. It is roughly parallel to the feet of glaciers of consecutive glacial period and stadials. Melt-waters from glaciers and river water would flow down ice-marginal valleys from the south, from non-glaciated parts of Poland.

At the rear of the series of moraine heights, glaciers left masses of till, sand and boulders, building extensive moraine plateaus of ground moraine. At various locations, the surface of the plateaus is filled with kame hills, eskers and series of drumlin hills. Surfaces of ground moraine plateaus are often carved by long, narrow and deep erosion-formed tunnel valleys. Their deepest sections are now occupied by ribbon lakes. Examples of a lakes which occupy sections of erosion-formed tunnel valleys are: Gopło (Wielkopolska Lowlands), Miedwie near Szczecin and Jeziorak (Iława Lake District). The most important and the most distinct terminal moraine series in the landscape of western Poland are: Wzgórza Dalkowskie (Dalków Hills), Wzgórza Trzebnickie (Trzebnica Hills) and Wzgórza Ostrzeszowskie (Ostrzeszów Hills) which formed as a result of accumulative activity of glacier during the last ice age (ca. 180,000-160,000 years ago). A series of terminal moraine hills stretching along the axis of the ridge of Pomerania Lake District is a very distinct accent in the relief of northern Poland. Pomeranian terminal moraines formed ca. 15,200 years ago during the recession of the most recent glacial period.



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Denudation coupled with tectonic uplift of in the south and accumulative glacial processes in central and northern Poland are the reason why the land relief of our country displays a peculiar symmetry in the form of latitudinal distribution of zones of elevation separated by lower areas. From the north, they include lowland coastal areas, and Garb Pojezierny (Pomeranian Lobe) further south. The Great Lake District, which is located lower than the Lobe, is limited from the south by the hills of South Poland Highlands. In the south, the Highlands border lowland areas of foreground valleys limited from the other side by the Carpathians and the Sudetes mountain ranges.

## **2.4. Climate of Poland**

Climate is a set of atmospheric phenomena characteristic for a given area manifested through variable weather conditions recurring each year in a similar sequence. The set of weather conditions is shaped by the heat balance, water circulation and atmospheric circulation. It also depends on the type of surface, distribution of seas and land, land relief, plant life and human activity. Climate plays a very important role in the functioning of the natural environment. It influences the lives and the economy of people inhabiting a given territory to various extents, depending on the level of social and economic development.

### **2.4.1. Major conditions influencing the climate of Poland**

Poland is located in the temperate climate zone. Because of the general atmospheric circulation and the its location in Central Europe between the large ocean area of the Atlantic and the huge Eurasian continent, Poland is the area where large air masses flow and interact, moving in various direction, mainly from western Europe and the Atlantic Ocean and from the east, from eastern Europe and Asia. Therefore, our climate is extremely dynamic and variable and the whole area is a transitional zone between the dry continental climate of eastern Europe and Asia and the humid gentle ocean climate of western Europe.

Air masses coming from the west from the Atlantic are referred to as polar-ocean air masses. Its arrival brings clouds and often precipitation, especially in the summer. This results in lowering of the temperature. During winter months, the inflow of polar-ocean air masses is the cause of temperatures above freezing, wet snowfall and fogs. If a stable high pressure area develops over eastern Europe, Poland receives an inflow of polar-continental air masses from the east. During the summer, this means dry and hot air masses and their arrival bring sunny weather. During winter time, a huge high pressure area forms over central Asia. If

in January or February air from this region reaches Poland, it brings cloudless, dry and well-below-freezing weather.

Inflow of air masses from other directions such as Arctic air from the north, tropical-oceanic air from south-west and tropical-continental air from south-east, i.e. other than from the west or from the east is much less frequent. The last type of air masses inflow during September and October bringing at the beginning of autumn warm sunny weather which we call "babie lato" (ballooning). The arrival of Arctic air usually takes place in the winter and spring. The final inflow of this type of air occurs in the spring in mid-May, which results in ground-frost so dangerous for orchards - "zimni ogrodnicy" ("cold gardeners"). Tropical oceanic air masses inflow from the Atlantic from the area of the Archipelago of Azores or from the Mediterranean Sea bringing hot weather with torrential rain. The rare inflow of this type of air masses during the winter brings sudden rise in temperatures above freezing, humidity and fogs.

#### **2.4.2. Temperateness of the climate of Poland**

Inflow of variable air masses is the determinant feature of the temperateness of the Polish climate. It is known as a temperate climate between oceanic and continental. In some years, oceanic influences are predominant. Then, our climate becomes milder with smaller annual temperature ranges and higher humidity. Years with bigger inflow of continental air masses have more contrasting seasons, with severe winters and very hot summers. Bigger inflow of one or the other type of air masses causes anomalies in the Polish climate spanning over individual months or even entire seasons. As a result of the temperateness, all seasons except the summer "arrive" from the west (spring) or from the east (autumn and winter). Another specific feature of the our climate is the existence of 6 seasons. Apart from the standard ones: spring, summer, autumn, and winter, there are two transitional seasons. The season between the winter and the spring is called "przedwiośnie" (pre-spring), whereas the season between the autumn and the winter is called "przedzimie" (pre-winter).

#### **2.4.3. Characteristic features of the main elements of Poland's climate**

An important feature of our climate are the changes of temperatures within a year. Air temperatures in Poland vary largely, which is a result of longitudinal and latitudinal extent of the country's territory as well as of the elevation AMSL. The coldest area of Poland is its north-eastern part. The annual distribution and the changes of temperatures are indicated

using isotherms, i.e. lines connecting locations with the same temperatures at the same time. In the most general approach, thermal character of the country's climate is defined by the distribution of isogeotherms, i.e. isotherms of mean annual temperatures. Poland is located between the 6°C isogeotherm in the north-east and the 8.5°C isogeotherm in south-western Poland, in Silesian Lowlands. Some areas of those regions will have higher temperatures. Near Wrocław, the mean annual temperature index reaches 9°C. In central Poland, the basic thermal parameter, which is the mean annual temperature, is 7.5°C. Near Suwałki which are called "the Polish North Pole", mean annual temperature reaches 6°C. Lower temperature indexes occur only in mountain areas of southern Poland where the mountain weather observatory on Śnieżka and on Kasprowy Wierch, both located above 1500 m AMSL, measured mean annual temperatures of 0.1°C and -0.8°C respectively.

The warmest Polish month in the major part of the country is July. During that month, temperatures vary slightly. The warmest areas in Poland in July are southern regions: Silesian Lowlands and the Valleys of the Carpathian Foreground, where temperatures exceed 18.5°C. In northern Poland, especially in the Pomeranian and Masurian Lake Districts, it is a bit cooler and the mean annual temperature in July remains within the 17.0-17.5°C range. In January, which is the coldest month in Poland, the distribution of isotherms is similar to longitudinal. In this case, the coldest areas of Poland are the eastern regions: Lublin Upland, Białystok Plateau and Suwałki Lake District where temperatures remain within the -4.5°C to -5.5°C range. Lower temperatures occur only in mountain areas of southern Poland.

Another important thermal indicator for Poland's climate, apart from mean temperatures, are annual temperature amplitudes, i.e. differences between the temperatures of the warmest and the coolest months. Highest amplitudes in excess of 23°C occur in eastern Poland and they are the continental component of our climate. In the predominant part of Poland, the indicator ranges from 18°C to 22°C.

Apart from temperature, another important element of the climate is precipitation. Its size is largely correlated with the land relief of our country. Higher elevations usually record higher annual precipitation. Mean annual precipitation for Poland is 650 mm. Regional divergence from this value is high. The lowest volume of precipitation occurs in central Poland, between Poznań and the areas east of Warsaw, sometimes even below 500 mm. Both north and south of central Poland, precipitation is higher reaching 700 mm in the lobe of the Pomeranian Lake District. The highest elevations within the Cracow-Częstochowa Upland also record precipitation of 700 mm, while precipitation in the Świętokrzyskie Mountains exceeds 900 mm, which is the highest value

throughout the zone of Southern Polish Uplands. Precipitation in excess of 1,000 mm is recorded in the highest ranges of the Carpathians and the Sudetes. The volume of precipitation is usually sufficient for farming, except in the area of central Poland where during dryer summers a shortage of water is evident. Thus, in some regions of Wielkopolska, e.g. in Kujawy, the process of turning green areas into steppe is intensifying. Distribution of precipitation throughout Poland is non-uniform. There is a considerable dominance of summer-time precipitation. Total precipitation in July exceeds three times the total precipitation in February or March.

The major portion of precipitation in Poland comes in the form of rainfall. Throughout Poland, snowfall occurs just during a few weeks each year. As a result of specific thermal conditions, the south-western part of Poland has 30-40 snowfall days while the eastern and north-eastern part - up to 70 days. Snow caps remain at Uplands up to 100 days (at higher elevations of the Świętokrzyskie Mountains). At higher elevations of the Carpathians and the Sudetes, snow cap may remain for 200 days or even more. In the warmest regions, e.g. in Silesian Lowlands, snow cover lasts only 40 days each year.

As a result of the general atmospheric circulation, Poland receives most winds coming from the west. In the winter, especially in December and January, there is a significant drop in the number of western winds and eastern winds start to be more evident.

Analysis of the features of Poland's climate in relation to farming needs clearly indicates that our climate offers moderately favourable conditions for the development of farming. Growing season of ca. 200 days, precipitation and temperatures offer favourable conditions for growing most plants characteristic for the temperate climate. However, periods of temporary rainwater shortages or excessive rainfall cause problems for plant hydration. Additionally, spring ground-frost, which is not unfamiliar to occur even at the beginning of June, cause significant losses in vegetable farming and orchards.

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Time span of each season varies throughout the regions. In the west, the winter is much shorter than in the eastern part of the country. At higher elevations of the Sudetes, in the Śnieżka range as well as in the Beskid Wysoki and the Tatra Mountains the summer, in the thermal sense, does not exist and the winter is very long. Within the Polish Lowlands, the harshest conditions with the longest winter time occur in north-eastern part of Poland in the Suwałki Region and near Białystok.

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## **2.5. Water a special type of goods – waterresources in Poland**

Water is an exceptionally dynamic element of the natural environment, remaining in constant flux. The existence of water in the natural environment depends on the features of the climate, supply from ground resources, volume of water which is temporarily retained in the air or underground. Water resources are one of the most important elements determining the country's potential for development. Water is used directly by households, agriculture and the industry for manufacturing various goods. Water resources can also be used as a source of electricity and a means of transport. A special type of power resource is high-temperature underground water heated by the warmth of the Earth's core.

### **2.5.1. Underground water in Poland**

Underground water in Poland occurs at various depths and in different types of rock which form the outer layer of the Earth's crust. Main aquifer level is related to Quaternary formations which cover 3/4 of the entire area of Poland. Loose Quaternary sediments include underground water which fills the gaps and free spaces between mineral particles. Highest efficiency Quaternary aquifers exist in water-glacier formations forming sandur areas and in fossil valleys filled with sand-gravel formations. Quaternary level directly connects with aquifers of loose Tertiary formations. In older, solid Mesozoic or Paleozoic rocks, water fills cracks and karst gaps in the case of carbonate rocks.

#### **Mineral waters**

Underground waters are usually very pure. However, some of them are highly mineralised. If the amount of solid elements in the water exceeds 1 g/L, it is referred to as mineral water. Such waters occur at various locations throughout Poland. Since they usually occur in deep aquifers, it is quite rare for them to reach the surface in the form of springs. Thus, they are usually acquired through geological boreholes. In Poland, there are several types of mineral water. Solanki (salts), i.e. chloride-sodium waters is one of them. This type of water occurs in the Carpathian Foreground and in the Carpathians as well as in a wide zone of Lowland Poland, from Łódź to Szczecin and Koszalin. These waters are used in central and northern Poland by such well-known spa towns as Ciechocinek, Inowrocław, Połczyn and Kołobrzeg.



Figure 6. Graduation tower in Ciechocinek

Source: S. Koboжек

One of the most characteristic group of chloride-sodium waters are bicarbonate waters with various additions of positive ions. Their main feature is a high concentration of naturally-occurring carbon dioxide which is formed in the process of cooling of magma which occurs in this regions inside the Earth's crust at significant depths. The biggest spa towns of the Carpathians, e.g. Krynica, Szczawnica, Piwniczna, Muszyzna, and Żegiestów, were established because of the existence of this type mineral waters. Bicarbonate waters also occur in the Sudetes. As a result of complicated geological composition and still ongoing post-volcanic processes, some mineral waters of the Sudetes form hot springs, i.e. thermal waters significant for their raised temperature. Also, there are special waters called natural radon waters because they contain small amounts of radioactive material. Another type of mineral waters specific for Poland are chloride-sulfate and sulphurous mineral waters which occur in the Carpathian Foreground and mainly in the Nida Basin. They are used in spa towns of Solec and Busko.



Figure 7. The kurhaus in Szczawnica

Source: S. Koboжек

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Underground waters occurring at significant depths are warmer which is a result of the rise of temperature with the depth. Such waters are called geothermal waters. They constitute a valuable resource which can be used for residential heating, heated swimming pools, greenhouse farming, *etc.* The last few years have seen a rise in geothermal investments. They operate in Podhale, in central Poland in Uniejów and Mszczonowice and in northern Poland in Pырzyce. In these systems, hot water which temperature exceeds 50°C is excavated using wells reaching 1,500-2,000 m underground. Using special equipment, the water's heat is "captured" and used for heating houses or for other uses. Cooled geothermal water is then pumped through a different well back underground to the aquifer from which it was pumped out.

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### 2.5.2. Surface water

#### River network of Poland

Almost the entire area of Poland (99.7%) belongs to the Baltic Sea drainage basin. 54% of the territory belongs to the drainage basin of the Vistula while 33.9% - to the Oder. The drainage divide of the Baltic Sea, the Black Sea and the North Sea runs through Poland. An important place is the Trójmorski Wierch peak in the Śnieżnik Mountains (part of the Sudetes) where all three drainage divides intersect.



Rivers are the most important element of surface waters in Poland. The river network formed as a result of relief processes in Paleogene, Neogene and Quaternary Periods. It was shaped by tectonic uplift which formed the Carpathians, the Sudetes and uplands. Rivers flowing from highly uplifted southern areas of Poland form many picturesque canyons. One of the most interesting canyons of the Vistula is a strip of Uplands near Kazimierz Dolny and Puławy. In central and northern Poland, the main factor responsible for shaping the network of river valleys were ice sheets of the previous glacial periods which would temporarily block the outflow of river waters from the south (the so-called extra-glacial waters) towards the basin of the Baltic Sea and the North Sea. Along consecutive stopover lines of the ice sheets of the Warta and the Vistulian glacial period formed today's latitudinally developed huge valleys down which fluvio-glacial waters (waters from melting ice sheets) and extra-glacial waters would flow west or east along ice sheets terminus. Those valley give the landscape of central and northern Poland its characteristic form. They are disproportional in terms of size to today's small rivers that flow through them. That is why geographers refer to them as "ice-marginal valleys". The lowland area of Poland where such valley are found is called "Kraina Wielkich Dolin" (The Land of Great Valleys). The biggest and the most distinct ice-marginal valleys are: Warsaw-Berlin, Baruth-Głogów, Toruń-Eberswalde, Pomeranian, Reda-Łeba.



Figure 8. Ice-marginal valley of Bzura

Source: S. Koboжек

The Polish river network has high density with local exceptions. The highest density occurs in the Carpathians and the Sudetes, while the lowest number of rivers can be found in areas composed of carbonate



rocks. For example, the density of the river network of the Cracow-Częstochowa Upland is four times lower. This is a result of karst processes within limestone series which is accompanied by intensive water infiltration deep underneath the surface. The density in areas composed of sand sediments within the Polish Lowlands is also low. On the other hand, the density of the river network in lowland areas which surface formations contain mostly clay is high.

The main rivers of Poland are the Vistula (length: 1,047 km) and the Oder (length: 854 km, 742 km within the Polish territory). Other important rivers are: the Warta, the Bug and the Narew.



Figure 9. The Vistula in Toruń

Source: S. Kobojek

Polish rivers are mainly supplied by snow and rainfall, with two peak water levels: in the spring during thaw (February - April) and in the summer (June - July) - the peak overlaps with large volumes of rainfall. Low water levels occur in the winter (December - January) which is a result of water-retention in the snow cap. This hydrological regime of Polish rivers is the cause of high variability of river flow, additionally determined by specific geological composition, land relief and climate. Generally, high flux variability occurs in Carpathian rivers, which is a

result of non-permeable flysch rocks dominating the composition. Non-permeable bedrock is the reason why the rivers are supplied mainly by precipitation and thawing ice and snow and why rivers react quickly and rapidly to changing supply volumes, e.g. torrential rain, long-term expansive rains, quickly melting snow cap or long-term rainless periods. Also rivers of lowland areas in central Poland feature high flux variability, while the most stable flux is a characteristic feature of the rivers of the Pomeranian and Masurian Lake Districts. Rivers flowing through numerous lakes balance their own flux rates.

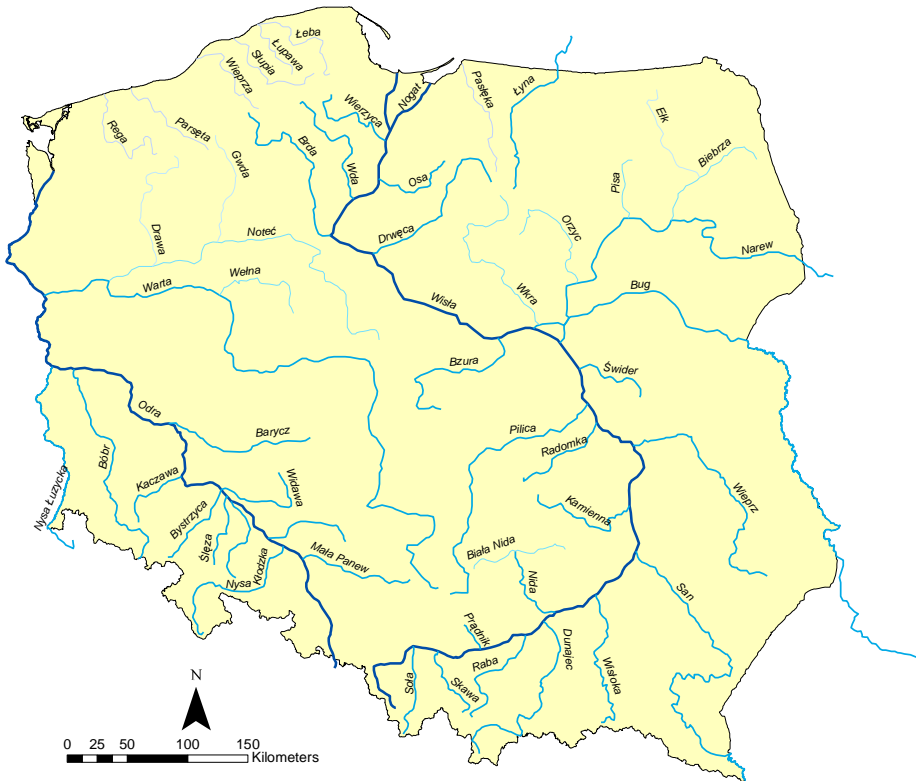


Figure 10. Rivers of Poland

Source: K. Dmochowska-Dudek

Variability of river flow rates is a cause of flooding. Floods, which are a result of rapid increase of river levels, are a dangerous phenomenon which threatens many areas throughout Poland. There are too few reservoirs which would help neutralise the effects of rapid increases of river levels and stop floods. Floods in Poland are generated by thawing snow/ice or heavy rainfall. In the former case, progress of the flood is a result of rapid spring thawing of snow in February, March and April. This

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type of flooding can be observed on Upland rivers and on lowlands. In the latter case, floods are caused by torrential summer rainfall or long-term extensive rainfall. Such floods occur in mountain areas of the Carpathians and the Sudetes in July and August.

Polish river networks constitute a good basis for the development of water transportation. The basins of the Vistula and the Oder are connected via the Bydgoszcz Canal. However, the main Polish river route is the Oder which, together with the Gliwice Canal, links Upper Silesia and Szczecin. The Vistula is navigable from the mouth of the Przemsza all the way till Gdańsk. Unfortunately, the quality of this waterway is low because of high variability of water level and the configuration of its channel. On top of that, navigating through the section of the Vistula below the dam in Włocławek is troublesome because of violent erosion which occurs past the barrage as well as the less dangerous accumulation of sediments in the Vistula's channel near Toruń.

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The sources of the Vistula can be found in the Beskids in the slopes of Barania Góra at 1,100 m AMSL. At its upper section in the Carpathians, the Vistula runs as a mountain stream with a significant gradient, from a few to below 20 per mill. Just as it exist the Carpathians and enters the Oświęcim Basin, the gradient of its valley drops dramatically and the Vistula becomes a lowland river. The river also loses gradually characteristic features of a natural stream because four barrages are located south of Cracow, where the Vistula valleys through limestone uplands. In Cracow, mean flow of the Vistula measures 90 cu m/s. It need be emphasised that during exceptionally high flood overflows, flow rate may increase twenty times. The gradient of the central section of the Vistula, from the mouth of the San to the mouth of the Bug, is uniform remaining in the range of 0.2-0.3 per mill. Below the San, the Vistula valleys through the Lublin and the Małopolska Uplands. This is where its course is the most natural, with numerous point bars and oxbow lakes. This is why the Vistula can be called the last untamed large river of Europe. The lower section of the Vistula is disturbed by the reservoir in Włocławek. Other investments of this type are in the planning phase. At its estuary to the Baltic Sea, the Vistula forms a delta. It reaches the sea via an artificial canal near Świbna which was created at the end of the 19th c. At its delta, mean flow of the Vistula reaches 1,100 cu m/s.

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### **Lakes in Poland**

In Poland, there are 9296 lakes which area exceeds 1 ha. Their total area measures 3,169.27 sq km which constitutes 1% of the total area of Poland. Lakes are grouped within several regions. The highest density of

lakes occurs in northern Poland, in the Pomeranian and Masurian Lake Districts and in the Coastal Area of the Baltic Sea. Lakes are also located in Lublin Polesia and in the Tatra Mountains.

Polish lakes are of different origin. The largest group of Polish lakes are glacial lakes which were created as a result of accumulation and glacial erosion processes and melting of ice blocks during ice sheet recession. The majority of those lakes were formed 10,000-13,000 years ago. The biggest lakes of the Masurian Lake District: Śniardwy (113.8 sq km) and Mamry (104.4 sq km) are glacial lakes. These lakes occupy extensive but relatively shallow hollows of ground moraine. Deeper glacial lakes of the more elongated shape are known as ribbon lakes. Wigry and Hańcza lakes in the Suwałki Lake District are a good example of this group of lakes. The depth of the latter measures an impressive, at least in Poland, 108.5 m. A special group of lakes constitute the Tatra Mountains lakes which formed as a result of erosion and accumulation of mountain glaciers. Many of them formed in the place of former cirques where snow and glacier masses would accumulate. The biggest Tatra Mountains lake is Morskie Oko in Dolina Rybiego Potoku (the Valley of the Fish Stream) while the deepest lake is Wielki Staw in Dolina Pięciu Stawów Polskich (Valley of Five Polish Mountain Lakes) measuring 79.3 m in depth. Apart from glacial lakes, Poland possesses bodies of water which formed as a result of erosion and accumulation processes within the coastal zone. This was the origin of shallow coastal lakes. The biggest lake of this type is Łebski (area: 71.4 sq km). Other large lakes include Gardno and Jamno.

An interesting group of Polish water bodies are bodies of water which basins formed as a result of karst processes. They can be found in Lublin Polesia, Nida Basin or in the Cracow-Częstochowa Upland. Nearly the delta of the Vistula in Żuławy, there are delta lakes which origins are connected with irregular accumulation of river sediments forming the delta and cutting off by them a fragment of a former bay. Drużno, a shallow lake near Elbląg, belongs to this lake type. Finally, one must not forget artificial lakes which are built mainly in river valleys by the construction of various types of dams. The biggest Polish artificial lake is the Włocławek Reservoir built on the Vistula which measures 70.4 sq km.



Figure 11. Lake Gardno

Source: S. Koboжек

### **2.5.3. Water resources management**

Natural and artificial lakes, swamps and bogs, rivers, and finally underground waters play a vital role in Poland's geography. Their huge significance is a result of low availability of fresh water. Lakes, as well as wetlands and natural aquifers, are water bodies which to a large extent determine a country's potential for economic growth. It is so because water is a very mobile element of the natural environment. Precipitation evaporates, it penetrates Earth's crust, it flows down its surface, it supplies rivers and it flows into seas and oceans. Only accumulated resources, i.e. those which movement has been stopped, can be managed. The level of Poland's water resources is only slightly higher than that of Egypt which conventionally considered as a desert land. In terms of the volume of water resources, Poland is 22nd in Europe. The major volumes of accumulated surface water is located in natural and artificial lakes. It is necessary to pursue further accumulation of surface water by investing in new hydraulic structures. We cannot forget about the problem of water pollution. All elements of the hydrosphere must remain free of pollution as only clear water is potable and can be used in farming and other industries.

## 2.6. Soil – specific potential of the Polish land

The surface layer of lithosphere transformed by weathering processes and the activity of the biosphere is called soil. Thus, it is a mineral-organic mixture, which forms through long-term physical-chemical-biological process called pedogenesis. It plays a vital role in the life of biosphere. For humans, the quality of soil, i.e. fertility and productivity, is an exceptionally important issue, from the economic point of view, as its quality determines the capacity for producing plant and animal food products. A country's ability to sustain its own food demand is a vital sociological, political and strategic issue.

Poland's soils formed on diverse geological basis, as a result of spatially and temporarily changing climate and biological conditions. In Poland, within the last 10,000 years, there has developed a mosaic of soils of different properties and usability.

Poland's soil-cover is dominated by lessive and brown soils which occupy ca. 52% of the total area of Poland. Brown soils are characteristic for well-advanced chemical weathering of aluminosilicate minerals. As a result, upper parts of soil profiles of this type of soil are brown in colour. Such soils develop best in moraine clays and in weathered and clay sands, under the influence of the plant life of deciduous or mixed forests. Lessive soils are similar to brown soils in terms of natural fertility. They formed on sand-dust and dust as well as clay basis. Brown and lessive soils exist throughout Poland as sand-clay-dust basis is common for the entire territory. From the agricultural point of view, brown soils which properly developed in moraine and weathered clays are most valuable. They are highly fertile and efficient thanks to the high content of nutritious elements and the soil pH, from acidic to neutral (pH in the range of 5-7.5). Slightly less agriculturally usable are lessive and acidic brown soils.

Podzols, mainly podzol and rusty soils, occupy ca. 26% of the total area of Poland. They formed on loose eolithic and fluvial sands with few mineral components. This type of soils exist in various regions. They occupy extensive areas of sandurs of northern Poland (the Tuchola Forest, Kurpie Plain), in the Sandomierz and Toruń Basins and in the area between the Warta and the Noteć. Podzol and rusty podzol soils possess low nutritive value which is why they are suitable for agriculture. They mostly overgrown with forests, mainly pine forests.

Relatively small area of the country is occupied by various hydrogenic soils, i.e. gley, bogged and peat soils. They occupy less than 8% of the total area of Poland. Water plays the main role in the formation of these soils. They occur in area with constant high levels of ground water. Boggy depressions, wetlands and bogs, some sections of fluvial valley floors are places where they are formed. They often occur in Lake

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Districts which offer favourable water conditions and many endorheic depressions.

Free-flowing water environment is also a place of formation of fluvisols which form on alluvial river bases. Existence of these soils is connected with the floors of existing fluvial valleys. Fluvisols occupy 5% of the total area of Poland. They most occur in the delta of the Vistula which is commonly known as Żuławy. From the economic point of view, fluvisols in Żuławy are the best soils in Poland. However, they are difficult to harvest because of high concentration of clay particles which is why they are called heavy soils. On top of that, they require constant regulation of water conditions, i.e. proper water management. Through good agricultural management one might achieve great crops reaching 100 quintals of wheat per ha.

Apart from these basic types of soils, Poland has small stretches of black earths, chernozems and rendzina. These three types of soils together occupy 3% of the total area of Poland. Black earths are mainly located in two areas: generally in low sections of Warsaw-Berlin ice marginal valley, between Łęczycza, Łowicz and Sochaczew and in Kujawy and in Wielkopolska near Inowrocław, Włocławek and Poznań. The other area is the north-western part of Poland, near Pyrzyce in Szczecin Lowlands. The one on which this type of soil developed are clay sands and clay in high humidity conditions. Chernozems, on the other hand, belong to intrazonal soils. This means that the proper area of their occurrence is located outside of Poland, in Ukraine. In Poland, their location is spotty, e.g. in the Lublin Upland near Hrubieszów and in south-eastern Kielce-Sandomierz Upland. Additionally, some locations of chernozems have been reported in southern Miechanów Upland and in Głubczyce Plateau in Lower Silesia. In all those locations, chernozems developed in loess. A characteristic feature of chernozems is the existence of thick humus layer (over 0.4 m in thickness) almost black in colour. Rendzina is another type of soils specific for carbonate bedrock. They contain a significant amount of rock material in the humus layer. They occur in areas which surfaces contain outcrops of limestone, highly calcareous marl, chalk or gypsum. Rendzina soils mainly occur in the upland belt of southern Poland, especially in Roztocze, eastern part of Lublin Upland and in southern Lublin Polesia. They also occur in some regions of the Świętokrzyskie Mountains, Nida Basin and the Cracow-Częstochowa Upland. Black earths, chernozems and rendzina are characteristic of high fertility and efficiency which is why they are mostly used by the farming industry.

In the mountains, initial soils known as lithosols or regosols developed on rock or weathered rock base. Their occurrence is limited to the higher parts of the Carpathians and the Sudetes and to the highest ranges of the Świętokrzyskie Mountains. Their profile is shallow, they are rocky and

have little humus. A specific type of initial soils in the mountains are mountain rendzina soils which occurrence is related to limestone areas of the Tatra Mountains and the Sudetes. Initial soils are overgrown with mostly natural and semi-natural plant and forest groups. Their significance for agriculture is limited. In lower sections of mountains, haymeadows and vegetable fields are established on them, where, because of short growing season, they are used for growing the least demanding types of plants: potatoes and oats.

When assessing Polish soils from the agricultural point of view, one concludes that medium or low quality soils are the most common in Poland, occupying more than 50% of the total territory of our country. Good and very good quality soils constitute only 30% of the total area. Of course, by using proper growing methods and sufficient fertilisation and water management, the quality can be improved.

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Soils constitute a very important element of the natural environment. They are susceptible to deterioration. An important problem throughout Poland is soil erosion. This process consists of reduction of the humus level in soil caused by rain water or wind. Areas which suffer most because of this problem are upland areas with very good soils which formed on loess. Loess is the basis of fertile and efficient soils: chernozems and brown soils. Therefore, areas which contain loess layers have been subject to intensive agricultural use for the past several thousand years. Unfortunately, loess, being a loose and dusty rock formation, is extremely susceptible to erosion. As a result, a thick network of deep gullies very often develop in inclined areas. The Lublin Upland and the area of Kazimierz Dolny and Nałęczów feature the highest concentration of gully formations in Poland and in Europe.

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## **2.7. Plant life and animal life**

### **2.7.1. Polish flora**

Poland's location in Central Europe, mainly in lowlands between the Baltic Sea and the Carpathians and the Sudetes determines to a significant extent our territory's openness from the west and the east. This was an important factor during the last 10,000 years of the formation of our specific flora which is mixture of elements migrating from western and eastern Europe. Migration of various species of plants was significantly facilitated by latitudinal distribution of ice-marginal valleys linking the territory of Poland with the territories of our neighbours. Therefore, it is no surprise that our flora is relatively common as ca. 60% of its components



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is also common for our neighbours, while ca. 40% is species for which Poland is the borderline zone of their scope.

Our flora is of average diversity. It is mostly composed of vascular plants; out of ca. 2300 species only 9% constitute shrubs and trees. Poland, for its temperate warm climate, is located in temperate deciduous forest zone. Initially, nearly the entire area of our country (ca. 90%) was covered by deciduous and mixed forests. There existed diverse forest groups: broadleaf forests, oak forests and beech forests. Fluvial valleys were dominated by alder forests and thickets as well as riparian forests. Only in very poor conditions, e.g. dunes, high peatlands and mountain slopes there would exist coniferous forests - montane forests. The plant life of today is, of course, much different. Based on the analysis of biotopes researchers concluded that without human involvement, the dominant forest forms in Poland would be deciduous forests: broadleaf (41.5%), beech (13.5%), oak (8%). Large areas would be occupied by marshy valley forests. Alder and riparian forests could occupy 11.5% of the total area of Poland. Mixed forests and coniferous forests would occupy 25% of the total area. Other forest and non-forest formations would occupy a limited area. The above is just a prediction of the potential plant life composition of Poland. The current composition of Polish plant life is very much different. Today, only 28.8% of the total area of Poland is occupied by forests. Farm fields occupy nearly 40%, meadows and pastures another 10%, and the remaining 20% are wastelands. Wastelands are mainly human development areas. Forest density of some areas of our country is disturbingly low. Central Poland has the lowest forest density. For example, in Łódzkie Voivodeship, forests constitute only 20.7% of the total area, while in Mazowieckie Voivodeship - 22.1%. The largest forest areas can be found in Lubuskie Voivodeship (48.7%) and in Podkarpackie Voivodeship (36.6%). Another alarming issue is that, at several locations, the composition of soils and the age structure of the forests is wrong. Tree stands are dominated by pine monocultures and those are usually relatively young forests. Partly, this is related to the fact that forests remained only in the poorest biotopes. Better quality soils have been adopted for agriculture and the forests which once grew there were cut down. Relatively large areas at the lowlands and in the mountains are occupied by semi-natural and artificial non-forest formations.

Even though this presents a rather bleak image of the condition of Poland's plant life, still there are very environmentally interesting areas, includes areas with exceptionally original plant life composition. In the Carpathians, there is a phenomenon of altitudinal zonation of plant life and many parts of the mountains managed to retain groups of plants in their natural form. In the Tatra Mountains, there are all the zones of

temperate plant life, from mixed forests of the lower subalpine zone, spruce forests of the montane zone, mountain pine zone, alpine tundra and the subnivale zone. Primordial groups of deciduous and coniferous forests survived in the Białowieża Forest in Polish Lowlands. This is where natural characteristics of central and eastern Europe blend. Part of the Forest has been turned into the Białowieża National Park which is listed as a Natural Biosphere Reserve and as UNESCO World Heritage Site.

### **2.7.2. Polish fauna**

Poland's location in the temperate climate zone does not favour diverse animal life. In the animal world, just like in the plant world, climate fluctuations are a stimulus for species to migrate. Since the topographic relief of Poland forms no barriers for migrations, Polish lowlands, in terms of animal life, are temperate in character and facilitate blending of species in the west-east direction. Series of large ice-marginal valleys, mostly Warsaw-Berlin and Noteć ice-marginal valleys serve as migration routes. The belt of Baltic lowlands serve the same function. Large migration routes also lead through Poland southward, via the Silesian Lowland and Carpathian valleys. Some species migrate to Poland from the south of Europe via the Moravian Gate, between the Carpathians and the Sudetes. Polish uplands and mountains are located slightly outside these main migration routes, however, they help preserve specific individual characteristics of the Polish animal world. A good example are the areas of the Cracow-Częstochowa Upland and the Sudetes and the Carpathians.

Researchers estimate that Poland has somewhere between 20,000 and 100,000 species. This data is far from being precise as a large number of those species are invertebrates. We do not possess a full list of insect, arthropod and other lower-level species and researchers discover new ones each year. The world of higher-level animals, i.e. mammals, birds, reptiles, amphibians, and fish, consists of significantly fewer species. Additionally, some species became extinct long ago and many other are in danger of extinction. The main reason for this is a rapid shrinking of their natural habitats. Polish forests are home not only to "the king of the wilderness" - the wisent (European bison), but also to other large mammals, e.g. the Eurasian elk, the red deer and the European roe deer and the common throughout the country wild boar. Eastern and north-eastern parts of Poland are home to the gray wolf. Foxes and raccoon dogs are common throughout Poland. The latter came to Poland in the 1950s from north-eastern Europe. Other common forest mammals include the red squirrel, the European pine marten and the bank vole.

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Poland's avian fauna includes 227 species of mainly forest birds. The most interesting are the species found in still present bogs and marshes and in the rushes near lake shores. Biebrza Marshes, lake districts and the Polesia are the nesting areas of rare birds of prey, e.g. the white-tailed eagle, the osprey and the golden eagle. The areas are also home to other species of waterfowl, e.g. the goosander, the whooper swan and the mute swan, the grey heron, the cormorant, the common crane and several species of ducks.

In Poland, reptiles are represented by just 8 species. One of the most interesting species is the European pond turtle, which is an endangered species. Out of all 17 species of Polish amphibians only 3 are not lowland species. Frogs and toads are most common; other interesting species include the European fire-bellied toad, the smooth newt and the common spadefoot. Polish aquatic vertebrates mostly live in lowland water bodies. 55 species of freshwater fish live in our rivers, lakes and ponds. They include the common in the Northern Hemisphere species, e.g.: the northern pike, the European perch, the common bream, the vendace. Interesting species of Polish fish are the Atlantic salmon and the European eel. These catadromous species a part of their lives in the sea and a part in fresh water.

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An example of mammals which have been completely wiped out from our forests are the once numerous aurochs. The last specimen died in 1627 in the Jaktorów Forest in Mazovia. The wisent could had faced the same fate, but the attempt to reinstate the species in Poland was a success. In 1929, three specimens were brought to the Białowieża Forest from zoos and closed natural reserves. Proper breeding procedures helped to recreate a stock in the Białowieża Forest where today they roam free.

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## **2.8. Natural diversity of Poland – geographic landscape**

The area of Poland constitutes just 3% of the total area of Europe. This small fragment of the European mainland possesses high natural diversity. High variability of landscape: geographic composition, topographic relief, surface waters, soils, and specific flora and fauna determined Poland's division into geographic lands. Each region has a distinct character. Main geographic lands are distributed in latitudinal belts. The entire area between the Baltic Sea in the north and the peaks of the Carpathians in the south is divided into 6 main latitudinally distributed units corresponding to the main elements of the topographic relief of Poland. In the south, young Alpine orogeny mountains are being formed, and their northern foreground there are foreland basins, also related to

the Alpine orogeny. North of the young foreland valleys, there is a belt of uplands and old mountains accompanied by foreland basins. The next zone is a belt of lowlands which belong to the North European Plain. From the north, the zone borders a belt of lake districts which are spread along the southern coast of the Baltic Sea. The last zone is a belt of coastal lowlands along the coast of the Baltic Sea.

### 2.8.1. Coastal lowlands

Coastal lowlands form the South-Baltic Coastal region of variable width, from a few to less than 100 km. This area border the Baltic Sea in the north, stretching from the By of Kiel (Germany) to the Vistula Lagoon. The eastern part of this land is located in Poland. Apart from coastal landscapes, Coastal Areas include also moraine plains with a carved in network of ice-marginal valleys. Elevation rarely exceeds 100 m AMSL. In the immediate neighbourhood of the Baltic Sea, the coastal landscape includes coastal dunes, spits, partly-bogged basins of coastal lakes and deltas of rivers and sections of coastal cliffs.



Figure 12. Dunes in Łeba (Słowiński National Park)

Source: S. Kobojek

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The most interesting delta area of the southern coast of the Baltic Sea are Żuławy. The area of the delta of the Vistula has been formed by fluvial accumulation since the beginning of the Holocene. Żuławy area a nearly completely flat plain located slightly above sea level with several depression points. It is enclosed from all sides: from the north by a narrow dune area of the Vistula Spit and by moraine plateaus from the east, west and south. Żuławy have a triangular shape and their area totals 2,400 sq km. Fertile alluvial deposits from the Vistula of which the surface of the region is composed determine its strictly agricultural landscape.

Further from the coast of the Baltic Sea, in the Coastal Areas, there are relief forms which are a result of the activity of ice sheet during the Vistulian glacial period, e.g. moraine knolls rising above the flat area of ground moraine. An example of terminal moraine formation is the Rowokół hill measuring 115 m AMSL, which is located in the centre of the Polish section of the Coastal Area, north of Słupsk. The climate of the South Baltic Coastal Areas remains under the direct influence of the Baltic Sea. In the summer, parts of the Coastal Areas nearest to the Baltic Sea receive a significant amount of sea breeze. Winters are usually mild here and summers are not too hot. Precipitation exceeds 600 mm. South Baltic Coastal Area within the Polish borders is divided into three regions: Szczecin Coastal Area, Koszalin Coastal Area and Gdańsk Coastal Area.

### **2.8.2. Lake Districts**

Lake Districts of northern Poland form an extensive latitudinally distributed lobe reaching the elevation of 200 m above the Coastal Areas. Polish Lake Districts constitute a part of the landscape zone surrounding the southern coast of the Baltic Sea. Late-glacial landscape of the Lake Districts was formed by the ice sheet of the most recent glacial period, ca. 17,000-13,000 years ago (the Vistulian glacial period). These regions possess an exceptional richness and diversity of glacial relief forms. During ice sheet recession, series of terminal moraines were formed. The highest moraine hills form the culmination of the Lake District Lobe reaching more than 300 m AMSL (Wierzyca – 329 m AMSL, Dylewska Góra 312 m AMSL). Apart from terminal moraines, these regions possess various other types of glacial forms, e.g. moraine plateaus, drumlin fields, sandurs, groups of kame hills, series of ice-marginal valleys and tunnel valleys with lakes.

Thanks to latitudinal distribution of the Lake Districts we can observe here a distinct rise of the continental type of climate, in the west-east succession. Relatively high mean elevations are the reason why the Lake

Districts receive significant precipitation, at locations in excess of 800 mm, and slightly lower temperatures, both during summer time (July temperature: 17°C) and during winter time (from -1.5°C in the western part to -5.5°C in the eastern part).

The most characteristic element of the regions' landscape are numerous lakes. This where the biggest Polish lakes are located. Among all types of lakes present here, large tunnel valleys lakes are the most characteristic. Rivers of the Lake Districts are relatively short. They sources can be found in terminal moraine ridges at 200 m AMSL. The main rivers which flow north towards the Baltic Sea are: Rega, Parsęta, Wieprza, Słupia, Łupawa, Łeba. These rivers have a relatively high gradient and, as a result, they may be used for producing electricity.

The natural environment of the Lake Districts has not been significantly transformed by humans. The area includes many natural reserves, landscape parks and three National Parks: the Tuchola Forest NP, Drawa NP and Wigry NP. They preserve forest, marsh and lake biocoenoses. Outstanding natural environment together with various important cultural monuments are the reason why the Lake Districts possess exceptional tourist and recreational qualities.

Considerable latitudinal extent divides them into two separate parts. The western part, between the Oder and the Vistula, is known as the Pomeranian Lake District. The eastern part, i.e. east of the Vistula, is known as the Masurian Lake District. The southern border of the western part of the region is a series of ice-marginal valleys of the Toruń-Eberswalde ice-marginal valley, while in the eastern part - the northern end of moraine lakeless plains which belong to the Central-Polish Lowlands.

### **2.8.3. Central Polish Lowlands – The Land of Great Valleys**

The landscape south of the Lake Districts also bears many marks of glacial periods. The geographic region between the Lake Districts in the north and the Uplands in the south is called as Central Polish Lowlands or the Land of Great Valleys. Its landscape mostly consists of wide and very long valleys distributed latitudinally, from the east towards the west. These forms are ice-marginal valleys which have been described in previous chapters. The most important are: the Warsaw-Berlin ice-marginal valley, Baruth-Głogów ice-marginal valley and Toruń-Eberswalde ice-marginal valley. The areas between them include wide and relatively flat higher elevations of ground moraine plains which relief matches the relief of glacial hills (mainly kames and terminal moraine knolls) the shapes of which have been largely softened by denudation processes during cold periglacial conditions. The extensive area of the

Land is highly diverse, which is why researchers divided it into smaller regions. The main ones include: Wielkopolska Lowland and Wielkopolska Lake District in the west, Mazovia Lowland in the central part and Podlasie Lowland and Lublin Polesia in the east. This specifically shaped and divided region stretches latitudinally in central Poland over a belt measuring 100-250 km, linking the belt of lowlands of western Europe and the East European Plain. The southern border of the region is marked by the edges of South Polish Uplands. It must be emphasised that this borderline is not precise and the landscape of Central Polish Lowlands gradually transforms into upland landscape.

This region is the real “heartland of Poland”. It is located in the basins of the main Polish rivers: the Oder and the Vistula. It includes two of the three most important historically regions of Poland, i.e. Wielkopolska, the birthplace of the Polish state, with its main cities of Poznań and Gniezno, and Mazovia, where the current capital, Warsaw, is located as well as the third most populated city in Poland - Łódź.



Figure 13. Gniezno  
Source: S. Kobojek



The monotonous landscape of plains of the Land of Great Valleys is spattered with interesting moraine hills of the earlier glacial period - the Warta glacial period. Dalków Hills, Trzebnica Hills, Ostrzeszów Hills and Łódź Hills in the south-eastern part of the Mazovia Lowland, formed during the recession of the ice sheet, measure 100 m (relative values) reaching almost 300 m AMSL (Łódź Hills: 284 m AMSL).



Figure 14. Łódź Hills

Source: S. Kobojek

#### **2.8.4. Old mountains, uplands and related foreland basins**

The area south of Central Polish Lowlands rises significantly. Apart from the increased elevation and the appearance on the surface extensive outcrops of older rock formations: Mesozoic, Paleozoic, only sometimes covered by a thin layer of Quaternary formations, the landscape changes as well. The area of old mountains, uplands and related foreland basins includes the Sudetes together the Foredeep, the Silesian Lowland and the Silesian-Małopolska Upland. This diverse area forms a mosaic of mountain and upland landscapes. In terms of elevation, the Sudetes belong to medium mountains. Their characteristic feature is the existence of fault-block mountain ridges and series mainly in the border-



line zone and extensive structural basins in the central part. The entire mountain ridge of the Sudetes stretches over 350 km, with a mean width of 50 km. It rises above uplands, the Foredeep and the Silesian Lowland located north of it. The Silesian Lowland is a rather homogeneous area of plains through the centre of which the Oder flows.

The Silesian-Małopolska Upland forms an extensive latitudinally distributed lobe between the lowlands of central Poland in the north and structural basins of the Carpathian Foredeep in the south. The latitudinal extent of the area measures ca. 400 km. The canyon section of the fluvial valley of the Vistula, between Annapol and Puławy, divides the Polish Uplands into two parts. The landscape of the area between the Oder and the Vistula is highly diversified. The variety of geological composition and topographic relief offers basis for dividing the area into small regions: the Silesian Upland, Jura Krakowsko-Wieluńska (Cracow-Wieluń Upland) and the Małopolska Upland. The landscape of the area east of the Vistula, which includes the Lublin Upland and Roztocze, is less diversified.



Figure 15. The ruins of a 14th-century castle, which was located on a hill above the village Olsztyn (Częstochowa County)

Source: S. Kobojeck

### 2.8.5. Young mountains and foreland lowlands

This region includes the mountain ridges of the Carpathians and the Carpathian Foredeep. In southern Poland, The Carpathians form an arch opened towards the south, consisting of the mountain ridges of the Moravian Gate in the west all the way to the south-eastern edges of Poland in the Bieszczady. The Carpathians are young fault-block mountains formed during the Alpine orogeny at the end of the Mesozoic Era and during the Tertiary. The most external part of the Carpathian arch is composed of young flysch rock which form a ridge of medium mountains: the Beskidy. Inside the Carpathians, there stretches an eastern zone of resistant limestone of the Pieniny, while south of the Pieniny, above the Orava-Nowy Targ structural basin, there rise granite and limestone peaks of the Tatra Mountains. This is the only mountain ridge of Alpine relief within the Polish part of the Carpathians.

The Carpathians possess a well-defined plant and animal life altitudinal zonation. They are also carved by a thick network of fluvial valleys. This is where various rivers have their sources, e.g.: the Olza, the Vistula, the Soła, the Raba, the Dunajec, the Wisłoka, the San, the Dniester. Mountain ridges and slopes retained large forest groups.

During the final stage of Alpine orogeny in the Tertiary, a belt of foreland developed in the northern foreground of the Carpathian arch. These lower areas are distinctly visible in the contemporary landscape of Poland in the form of extensive structural basins. The largest area is occupied in their south-eastern part of Poland by the Sandomierz Basin. The lowland floor of the basin in the shape a large triangle cut through the Carpathian tributaries of the Vistula. The are of Carpathian Foredeep east of the Sandomierz Basin is much narrower. This section is called the Cracow Gate. West of the Gate, there is the Oświęcim Basin drained by the Vistula. Generally, Carpathian Foredeep Basins have flat deep floors. They seldom exceed elevation of 200 m AMSL. They are often filled with Quaternary sands formed into huge landlocked dune fields. Because of low-quality soils, large areas of the Sandomierz Basin are occupied by forests.

#### **Summary**

The feature of Poland's natural environment is temperateness. It means that the area of our country is where elements of natural environment specific for the western and the eastern Europe meet and blend. The most important manifestations of this phenomenon are: the climate, the flora and the fauna and the soil cover.

Another important feature of Poland's nature is its diversity. It is best seen in geological composition. Poland is located at the borderline on

three main large European geological-structural units. Diversity of geological composition is a result of the activity of Pleistocene glaciers which formed the deposits found today in central and northern Poland. Geological diversity entails diversity of mineral richness which constitute the basis for the development of various branches of the industry. Another result of geological diversity is the variability of geomorphological landscape and hydrologic features of our country.

Diverse natural environment offers good basis for economic development, including the development of tourism.

The role of the natural environment and its influence on the development of Polish economy and society is an issue which has long spurred fierce debate. The significance of natural elements for the society should not be questioned. On the other hand, one must remember that nature is not the only determinant of the development of the country and the people.

### 3. THE POLITICAL POTENTIAL OF POLAND

#### 3.1. Introduction

The subject of our discussion is Poland – as a country, a society and a economical and cultural structure. Poland is a **republic**. After the major political changes of 1989, Poland is a **democratic** country. As a political entity it is defined by the variety of parties and its specific regional and country management system. Poland is an integral cog of middle-eastern society – with all its advantages and a rich historical background. Its current shape is a mix of a traditional, independent country and a society that is becoming more and more integrated with the European Union.

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**Republic** – is a state form in which power come from elections, the nation is the origin of power, the Head of State and others organs are chosen for a them.

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The political system of Poland is described by **the Constitution** – the latest version of which was established on **2. April 1997**. It marks the end of political changes leading to the establishment of the new democratic order. To better understand the specific way Poland, as a country, works it is important to explain the political regime that has emerged in the present.

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**Political system** – is the whole of organs of the state, political parties and social organizations – in formal and informal character – which participate in political actions as part of state, and the whole of general norms and rules, which regulate relations between them.

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To formally describe the type of democracy in Poland it is vital to form executives, which describe how borders and government responsibilities are established. In Poland the prime minister is usually a member of the party holding the majority of votes in the parliament. The government is also politically responsible in front of the parliament. The rights of the president, the head of the country, are also narrowed by the will of the parliament, which I will discuss later. This leads us to an opinion that we have a parliament regime here in Poland.

According to the constitution organs are:

- in terms of legislative power: the parliament (the Sejm and the Senate)
- in terms of executive power: the President and the Government (the Cabinet)

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The third element of the democratic division of power – the courts, have independence, as guaranteed by the constitution.

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**Citizenship** – is the right to full participation in the decision-making process in the state, the right to personal and political freedom.

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### 3.2. The Legislative Power

Because in Poland's political system the main power is **the legislative power**, I will present the structure and the rights of this power at the beginning.

The main central organ of the legislative power is **the Sejm**. It has the right to decide about war and peace – matters of utmost importance for the functioning of the country. It consists of **460 members**. They are chosen in elections:

- public,
- equal,
- direct,
- proportional,
- anonymous.

**The right to vote** is acquired upon reaching 18 years of age.

Once elected, the Sejm and the Senate rule for 4 years. There is a prerequisite that the vote has to be organized at least 90 days before the ruling parliament steps down. The vote itself has to be undertaken on a day free of work and at least 30 days before the ruling parliament steps down.

According to the constitution it is possible to organize the vote earlier in certain circumstances – only if 2/3 of the members of the parliament agree to it or if the president decrees it so. This can happen in two cases: When a government isn't successfully formed by the ruling prime minister three times in a row or when the Sejm doesn't establish a budget after 4 months after they received it from the government. This shortening of the ruling time is to prevent political stagnation, not to enable a political battle.

A member of the parliament is a representative of the people, chosen in a free voting process. He is therefore protected by **a political immunity**. A member can't also:

- be a member of the Senate
- work in local administrations
- be employed in a government administration

Most of the main central administrative positions don't allow being a member of the parliament. This is precisely mentioned in the constitution

and in corresponding amendments. Only members of the board of ministers and state secretaries don't have to resign their political mandate. This shows how closely connected are the legislative and executive powers.

Lawmaking as an independent element is secluded from the parliament – a judge or a coroner can't be a member of the parliament. To prevent corruption law enforcers can't also be politically involved.

**Members of Parliament and Senators** taking part in government affairs in the Sejm and the Senate or being a part of a special **National Assembly**<sup>1</sup>:

- make the national law
- oversee the functioning of the central organs of the country
- take part in the shaping of the country's politics and actions

Deputies and senators have to work for the greater good of Poland. They have the right to intervene in administrative affairs and gather information needed for political actions. They can also take part in meetings of local administrations by which they have been chosen.

There also exists a so called **free mandate**. This means that a member of the parliament doesn't receive any political instructions as to his actions, he can vote differently than he has proclaimed, he can vote differently than his party. The consequence of such an action can only be the dismissal from the party. The voters can evaluate such behavior during the next election.

For the better functioning of the Sejm it creates the following organs:

- the Speaker of the Sejm (the Marshal of the Sejm),
- the Presidium of the Sejm,
- the Council of Senior Members,
- Committees of the Sejm.

It is worth mentioning that the Presidium of the Sejm and the Council of Senior Members are not organs described by the constitution. Their existence is described in the Sejm statute.

**The Speaker of the Sejm** is its highest organ. He is to represent Sejm and protect the laws of the Sejm. He calls the meeting of the Sejm and leads it. The essence of his functions are formalizing the legislative process and leading. He also represents the Presidium of the Sejm in front of the senate and before the legislative representatives of other countries.

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<sup>1</sup> The National Assembly takes place when the Sejm and the Senate debate together.

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The Speaker is helped in his work by the Presidium of the Sejm . It consists of the Speaker himself and vice- Speaker. It's job is to schedule the Sejm work, administer over its work and start the legislative process.

**The Council of Senior Members** is a means of cooperation between political parties in matters of organizing the Sejm work. Other than of its normal members, **the Presidium of the Sejm** consists of party leaders.

**Sejm committees** are Sejm organs of control over the public administration and the countries functionality. They deal in matters of the Sejm and state their opinion about matters forwarded by the Sejm organs. A legate may only participate in two comities. Other than regular comities, investigative committees can exist to cope with certain matters. The number of committees depends on the decisions of the Sejm.

One way of the Sejm influence in how the country functions is their prerogative to dismiss and establish certain central organs: the judges of the Constitutional Tribunal, members of the Council of the Money Politic, the chairman of the Institute of National Memory. The Sejm decides on who gets to lead the Government Inspectorate, the Spokesman of Civil Rights, the Spokesman of Rights of Children and the General Inspector of the Protection of Personal Information. These decisions need to be accepted by the Senate. Along with the President the Sejm decides about the choosing of the chairman of the National Bank of Poland (*Narodowy Bank Polski*).

**The Senate** is a higher chamber of the Polish Parliament and has noticeably smaller powers than the Sejm. The senate consists of **100 senators**, who are elected for 4 years in an election that is:

- public,
- equal,
- direct,
- anonymous,
- majoritorial.

The senate's organs are: the Speaker of the Senate, the Presidium of the Senate, the Council of Senior Senators and Committees of Senate. The Speaker's role in the Senate is the same as a Speaker's role in the Sejm. The Presidium consists of the Speaker and three vice-Speakers, who coordinate the actions of the senate according to the letter of the Senates protocol. The Council of Senior Senators, as in the Sejm, is to organize the cooperation of parties and Senate circles.

**The Committees** work with the matters taken up by the Senate and take a position to the amendments made by the Sejm, which are then discussed at the Upper Chamber. The Senate must take action within 30 days of receiving an amendment from the Sejm. It can accept the amendment without fixes or it can propose fixes of its own. Then the

amendment goes back to the Sejm to be considered. The Senate has the right to make a statements, resolutions and appeals.

The Senates power lies mostly in giving opinions (like giving opinions on people trying to get a reason of state). The Senate also has legislative power. It is a voice of advice in the countries management – a supplement to the countries legislative power.

### 3.3. The Executive Power

An important part of Polish structure is its **executive power**. It is supervised by **the President** and **the Government**. It is written in the constitution that these two have to cooperate in order to lead the country's political force.

In Polish political system the post of President has been present since after the first world war. During the PRL time, Poland was lead by a collective organ named: the Council of State<sup>2</sup>. After Poland regained its democratic freedoms, the post of President was reinstated as a stability factor in the country. The President is chosen by the people for 5 years, with the possibility of reelection<sup>3</sup>.

The privileges of **the President** are highly restricted. His role is mainly a representative one. In light of the constitution the president is part of the executive power. He is a guardian of **righteousness, sovereignty and safety** in the country and of the inviolability of its borders. Such a broad spectrum of responsibilities can be divided into:

1) **legislative responsibilities** – the President has legislative initiative, signs acts of the Parliament (also has the right to refuse signing – presidential veto, and can sue an act thus presenting it to the Constitutional Tribunal – blocking it from becoming the law) and declares acts of law,

2) **executive responsibilities** – takes part in establishing the Government, in international affairs – he ratifies and denounces international agreements,

3) **responsibilities towards the Parliament** – he ordains the parliamentary elections, calls the first meeting of the new parliament, has the right to issue proclamations towards the parliament.

He appoints and dismisses plenipotentiary representatives of a Republic of Poland, receives letters accrediting and dismissing representatives of the diplomacy of other states and international organizations in Poland. On the plain of the foreign policy **the President is supposed to**

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<sup>2</sup> This structure was forced on Polish political system from USSR.

<sup>3</sup> That situation took place in Aleksander Kwaśniewski case.



**cooperate with the Prime Minister of the Government and the Minister of Foreign Affairs,**

1) judicial entitlements – the President appoints: judges, First President of The Supreme Court, presidents of the collective bodies of the legal environment; all made nominations are out of candidates introduced by the legal environment,

2) as the Head of the armed forces – in peacetime he exercise sovereignty by the Minister of National Defense, he appoints the Chief of the General Staff and military commanders. In case of war, President, at the request of the Prime Minister, appoints the Supreme Commander of the armed forces as well as he orders a general mobilization. In the outside and internal safety, a National Security Council is a help for the President.

Matters of the great importance for the State let the President convene **Council Cabinet**. It consist of members of the Government, which are debating under the leadership of the president. However Council Cabinet has only a coordinating and advisory significance.

The president has the right to issue official acts which are important only with the signature of the Prime Minister. In the Polish political system, a mandate received from the nation is a strength of the position of the President, although in practice support of the parliament also counts.

**The Government** (the Council of Ministers) is performing **the executive power**. **The Prime Minister** of the government is being designated by the President and he usually comes from the party which won the parliamentary elections. So that the Government starts activity, it must get the vote of trusting in the Parliament. For activity in the Council of Ministers, its members are responsible before **the State Tribunal**. Apart from that they are responsible for activity of the Government before the Parliament.

The Council of Ministers is responsible for internal affairs and foreign policy of the Polish Republic, Council of Ministers shall manage the government administration. Its competence is connected with:

1) **conducting of state policy** – right of legislative initiative, development of the state budget,

2) **implementation of the independent politics of the government** – public order, outside and internal safety, foreign policy,

3) implementation of the law and protection of the interests of the State and the organization of its functioning,

4) supervision over the functioning of the government administration.

**The Prime Minister** chairs the debate of the Council of Ministers. He decides every time about the allocation of competence to individual Ministers in the Government. He has the right to demand the information

about functioning of departments. Whereas ministers have the duty of cooperating with the local government as well as they will supervise local authorities of public administration.

The Government is making decisions together, at the presence of at least half of members. In case of the balance of voices, a voice of the Prime Minister is deciding. The Prime Minister is responsible for structure of the government as well as its functioning. He is representing the Council of Ministers. He is combining function of the head of government and the manager of the government administration. He is deciding on members of the government and he is appointing the government's plenipotentiaries and Head of The Chancellery of the Prime Minister. He is also a superior of the Corps of Civil Servants, which is responsible for reliable performance of tasks of the State.

**Ministers** are members of the collegial body of authority – the Government, and simultaneously state authority obligated to be in charge of a particular department of the government. They are obliged to implement the politics of the government and to act according to the common position of the government. They have the right to issue a regulation and orders. A ministry serves as a support of individual departments. It has the political level, that is dependent on the election process and apolitical, i.e. composed of officials.

*The working committees of the Council of Ministers:*

- Economic Committee,
- Social Committee,
- European Integration Committee,
- Committee on Defense Affairs,
- Committee of the Regional Policy and the Sustainable Development,
- Committee for Scientific Research.

To sum up one should state that Poland has the constitutional political regime of a mixed nature – **presidential-parliamentary**. Polish political scientists willingly are describing it as “**semipresidential**”. The evolution of the political system in Poland from 1989 went in direction of limiting of presidential prerogatives what is often connected with the instability of the Polish political scene.

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**Political regime** – is the whole of legal-political relations between two decision-making structures of the state: the Parliament and the Government.

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### 3.4. The administrative system of Poland

**The Republic of Poland** fulfills its functions through public administrative activity. Some of these, which encircle the whole country, are lead by **the governmental administration** – others are lead by **local self-government**.

#### 3.4.1. The central administration

The governmental administration consists of organs, departments and additional public organizations, which are the direct responsibility of a respective minister. The most essential question to understanding how Polish administration works is: what is an organ of the administration? It is:

- a separate part of the public administrative structure. It functions on behalf of the country and is financed by it. It carries out public missions of administrative nature, according to lawfully received powers,
- a department is a part of an organ that helps it fulfill its role. It is a organization and a team of people chosen to fulfill an organs role in practice.

In other words – the Prime Minister and the Government are administrative organs and the department responsible for helping them is **the Prime Minister Office**.

Polish law administration is divided into principal and central organs. The principal organs are: the Government, the Prime Minister, Ministers and Presidents of Committees which function as part of the Government. They are represented by departments called **Ministries**. The main feature of principal organs is that they are appointed by the President or Sejm. Their power extends over the whole country.

The Ministries are lead by **Ministers**. They can lead certain divisions of the administration or have individual assignments – such ministers are called “Ministers without portfolio”. The decision to assign Ministers to Ministries is left to the Prime Minister.

Central organs of the government administration are one person organs (chairman, director, president). Their powers extend over the whole country, but central administrative organs, in light of Polish law, answer to principal organs. They are under the supervision of the Prime Minister, the Government, or respective Ministers.

To finish the overview of Polish central administration one also has to name **budget units**. They are departments created to represent central organs and are financed by the country. Administrative units that complete assignments for the government on the central level are part of this category. Therefore those will not only be organs of the law or govern-

ment administration, but also specialized units such as: the National Insurance System (ZUS), the National Health Fund (*Narodowy Fundusz Zdrowia*), the Polish Academy of Sciences (*Polska Akademia Nauk*). The central administration also has local units, understood as representatives of the government on a local level.

In recent years government centers have begun playing a very important role in Polish management system. They are neither Ministries nor independent departments, but they are directly under the Prime Minister jurisdiction. They are an important part in preparing the government's policy (for example: the Governmental Centre of Strategic Studies is operational since 2006).

Executive units of the central administrative organs dealing with public safety and order (the Police, National Security Agencies, prisons) are accounted for by respective Ministers. Public service enterprises (the National Post, National Forests *etc.*) are also connected to respective ministries.

Local organs of the administration complement the broad spectrum of assignments assigned to the board of Ministers. They deal in matters of internal security and managing the country's finances. The local government administration, which is under the jurisdiction of the **provincial Governor** (*wojewoda*) is called merged and examples of it would be: the Chief of Provincial Fire Police, the Chief of Provincial Police or the Chief Education Officer. Local government administration which is not merged answer directly to the Ministers (for example: chiefs of treasury offices).

To sum up, the actions of the government administration are realized by over 100 administrative units. Their task is to take care of everything that the government is responsible for. This overview is topped by over 600 subunits that realize public assignments overlooked by the government.

### 3.4.2. The local government

**Local government** complements the country management process. It is a form of decentralized administration. We can describe it as „*isolated in the structure of the State, created by law, the union of the local community, appointed to the independent exercise of public administration*”<sup>4</sup>.

*In order to complete the tasks it is equipped with financial resources. Its existence has been recognized internationally as an important element*

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<sup>4</sup> *Demokratyzacja w III Rzeczypospolitej, ed., A. Antoszewskiego, 2002.*

of the development of the democracy<sup>5</sup>. The local government enables the local communities to manage, essential for them, part of public affairs – to their responsibility and for the benefit of inhabitants. It is a form of satisfying collective needs of local communities by *chosen representatives of these communities*.

Local government consist of *community of citizens* inhabiting the same area. They are creating basic units of local government, which are having legal personality and they *exercise* the executive power with the help of the local government administration. The local government is performing tasks independently, manages its own budget, but isn't independent *from the State*. The State supervise over *activity* of the local government and expects *performance of the assigned duties*.

There is a **three-stage division** into units of the local government in Poland from 1999:

- **municipalities** (*gmina*),
- **districts** (*powiat*)<sup>6</sup>,
- **Voivodeships/provinces**(*województwo*).

Execution of tasks of the local government is *compatible with European standards*. On the local government plain international integration is being carried out.

The local government performs tasks of public administration. How *are the competences divided* between the central administration and the local government administration? *The principle of subsidiarity applies here* i.e. the State is interfering in matters, which cannot be resolved by local government. If in some matter the smaller unit can act as effectively as bigger one, the matter should be referred to the local government. Moreover the execution of tasks of the local government is limited by existing law.

The local government performs tasks: own, commissioned or *transferred*. Into its own tasks, the State interference is limited to the minimum. The rest of the tasks is connected with the functioning of the State as a whole and they are subject to control of central authorities.

In the light of political science analyses the local government will move the administration of the State close to the settled matter, and above all it is propagating „**increasing a sense of responsibility**” for fates of own territory. The existence of the local government is also manifesting itself with forming connections between the local authorities and citizens.

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<sup>5</sup> *The European Self- Government Charta from 1985 was ratified in Poland in 1993.*

<sup>6</sup> *Powiat in some cases is described in term „county” but in opinion of the author it's not correct.*

In legal terms *Law on Local Government* of 1990 and *Small Constitution* of 1992, formed foundations of modern Polish local government. Currently the *Constitution of 1997* and *Law of June 1998 on local government district and regional local government*, determine the basis of Polish political system.

Currently the country is divided into **16 provinces**<sup>7</sup>. There are **315 rural districts and 66 citiesdistricts** in terms *county* in Poland. There are **2489 municipalities**. The separate act determines the local government status of the capital city of Warsaw. According to the act of 2002, elections of the municipal mayor, the mayor and the mayor of the city are direct.



Figure 16. Polish provinces  
Source: K. Dmochowska-Dudek

<sup>7</sup> Earlier Poland consisted of 49 smaller provinces.

**The province** is a largest unit of *territorial division* of the country. It is also a regional social community. *Local government law of 1998*, in force from 1 January 1999, implemented the dualism in the *province board*. By the government administration, a local administration was created. The autonomy (self-governance) of the province is being implemented in the form of the indirect democracy. The direct democracy is applied by elections for the regional assembly, referendums and civil consultations.

The catalogue of tasks of the provincial *government* includes tasks not reserved exclusively for the government administration which *relate to the* public education, health care, culture, *social assistance*, pro-family policy, modernization of *rural areas*, spatial planning, environmental protection and water management, fire protection, public transport and public roads, physical culture and tourism, protection of consumer rights, defenses of the region, public safety, counteracting unemployment. The self-governing province is supposed to contribute to the regional policy and to create conditions for the development of its region.

**Regional Chambers of Audit** are dealing with the financial side of the projects of the regional *governments*. Finances of local government's units are disclosed.

Provincial government bodies are: Regional Assembly, Region Management, **Marshal of the Province**.

Regional Assembly is a *representative body, implementing a form of indirect democracy. It is also a body of decision-making and control, at the same time. It is elected in general elections.* On 2 million inhabitants there are 30 councilors and on every next 500 *thousand* of inhabitants there are 3 councilors. *Term of office of the regional assembly is 4 years.* Method of voting is usually open or *open roll-call, resolutions are passed by simple majority of votes*, by the quorum of the half of *statutory composition.* The most important competences of the Province Assembly are:

- *adoption of the Statute of the province,*
- *adoption of a development strategy of the region and provincial programs,*
- selection and dismissal of the board of the province,
- considering reports on activities of the board of the province and determining salary of *Province Marshal,*
- appointment and dismissal of the treasurer of the province
- *appointment of committees for specific tasks,*
- *adoption of the rules on internal organization of self-governing province,*
- passing the budget of the province,

- adoption, within the limits set by law, of the provisions on local taxes and fees,
- passing resolutions on the formation of associations and foundations,
- passing priorities of foreign cooperation of the province, participation in international regional associations (according to art. 172 of The Constitutions of Republic of Poland).

*From a group of councilors of the assembly, a chairman and not more than 3 vice-chairmen are elected by voting by secret ballot.*

**Board of the Province** is a collegial executive body of the provincial government. Board has 5 members: *Marshal of the Province, deputy marshals and other members.* To avoid corruption there is a provision prohibiting the merger of membership on the board of the province with the membership of the local municipality and the city districts, as well as the mandate of the MP or senator, and employment in government administration.

The Chairman of the Board of the Province, i.e. the *Marshal of the Province* is an *administrative body*, combining collegial and single executive competences. He has the right in *exceptional situations*, to make decisions independently. However the decisions must be approved on the closest meeting of the board of the province. The Marshal also has entitlements reserved for own executive competence. They are:

- directing current province affairs,
- representing province on the outside,
- performing the tasks of the head of *Marshal's Office*.

*Marshal of the Province* should cooperate in activity for the region with the body of the government administration i.e. with the Province Governor (*wojewoda*). The Province Governor is also the head of the government administration complex in the province. He is also a body of supervision over local government units. As a so-called a higher degree body, he is *appointed and dismissed* at the request of the competent minister. Competence of the Province Governor are determined by specific acts, whereas maintaining the contact of the government administration with the area is his duty.

**District** is an *indirect link* between the *municipality* and the province. In the assumption of the act from 1998 the district should be an *area consistent* in terms of settlement and spatial consideration. Complementation of *tasks performed by the municipality* is a function of the district. In other words these are actions over the *municipality*. The district has a *larger budget* at its disposal and it can perform tasks *with a higher degree of specialization* than the *municipality*.



An area of interest of the district is above all: education, health care, *social assistance*, transport and public roads, supporting people with disabilities, promoting the culture and sport, real estate management, water management, agriculture, forestry and the inland fishery, flood and fire protection, public order, counteracting unemployment *etc.* Since the accession to the EU a promotion of the district and a cooperation with non-governmental organizations are important functions. From a point of view of practical requirements of the democracy it is an *important determinant* of its functioning.

The district coordinates activity of district services. It can take over functions of the government administration, if the administration commissions it. The district can also waive a part of the tasks to the *municipalities*, but after the prior mutual agreement of the parties. By analogy the situation is applicable in case of assignments connected to the province.

On the plain of the district there are functioning: the district referendum, the district council and the board of the district. **The referendum** is a form of the implementation of the direct democracy. If it is obligatory, it concerns the process of dismissal of the District Council *before the expiration of the term* of office. It is being announced *upon request* of the 10% of *entitled to vote*. Optional *referendums* concern *issues related to* competences of the district. It is valid only if 30% of the citizens participate in it, and it is *binding* for the council if more than 50% of voting will be in favor of a matter.

*District authorities* are: **District Council and Board of the District**. The Council is a *body of decision-making and control*. It resolves issues of the district, unless they must be *subjected to a referendum*. In case of cities functioning as districts we call it members of the City Council. Elections of district councilors are general. The term of office is 4 years. The number of councilors depends on the *abundance* of the district. On 40 thousand inhabitants there are 15 councilors and on every next 20 *thousand* of inhabitants there are 3 councilors.

In *voting by secret ballot*, at the absolute majority of votes, council elects the chairman and up to two vice-chairmen. The Chairman convene a meeting of the Council and *conducts* its deliberations. The Council has exclusive competence of constituting *acts of local law*, choosing and dismissing the board, appointing the secretary and the treasurer of the district, passing budget of the district, *adopting resolutions concerning* the taxes and payments *assigned* under the acts of the parliament, of making loans, making investment, forming associations and *creating foundations*.

*Building of local identity* is an important *element of the district consistency*. The Council take decisions on matters of the coat of arms and the flag of the district. The Council *meets in sessions* with the frequency at least quarterly. Resolutions are usually *adopted* by a simple majority of

votes. Also In this case often applied method of voting is an open vote. District councilors are supposed to act in favor of *local community*, but also are supposed to *protect the interests* of the Polish State. They have the right to present demands of the citizens on the *Council Forum*. *Local government mandates cannot be combined*.

The district performs *control* function over *the actions of the board* and district organizational units. *This function is performed by permanent or ad hoc commissions* formed by the Council.

**The Board of the District** consist of: the Foreman, vice-foreman and other members. It is a body, which carries out the resolutions of the Council. The term of office *lasts from the time of appointing*, to the moment of *appointing* the new composition of the board, by the new Council. It is important that the secretary and the treasurer appointed by the board are not the *local government bodies*. *Their task is only a coordination of activities of the board*. The board is a *body functioning in continuous mode*. The Council must appoint a board *within 3 months* from the date of the elections, because *otherwise* it will be dissolved. The lack of the *vote of acceptance* of the Council results in dismissal of the board.

The tasks of the Board of the District include: preparation of the draft resolutions, implementation of council resolutions, management of county property, *implementation of the budget* and *exercising leadership* over organizational units of the district. *Statute of the district* determines the *internal organization* and *mode of operation* of the management board.

Complex organization of the district: *district government*, managers of district services, the inspection and the guard, and under their authority organizational units of the district. Foreman as the superior of these services has the influence on inter alia: appointing their managers (with the approval of the province governor), managing their shared action. Decisions of the management board of the district *related to public administration* must be signed by a district administrator. In order to avoid the corruption, surnames of members of the management board responsible for the decision are mentioned. Foreman forms commissions coordinating his work e.g. commission of security and public order.

The District Council has the right to constitute acts of local law, if it is necessary for functioning of the over-municipal community and if the acts aren't contradictory to regulations of specific acts. They must be immediately published for the public information.

Budget of the district is passed by the Council for one year and must be presented to the *Regional Chamber of Audit* within 7 days after passing. A management board has the initiative of the project presentation. It is also responsible for a correct realization of budget.

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In order to facilitate executing public purposes, districts can create associations with other districts. It requires the approval of councils of interested districts, councils confer a legal personality. In this case an *assembly of the association is a body of decision-making and control*. It is composed of 2 representatives of every membership district, resolutions require the absolute majority of votes. The association also has at its disposal its management board appointed by the *assembly*.

In case of performance of tasks connected between districts and municipalities, associations are formed, on condition that they cannot perform economic functions. The district is supposed to help in matters of the province, help municipalities and the central administration department and to give the forum of contact between the authority and the local community.

**Municipality** is the smallest and as well basic *unit of local government*. *Municipality is a defined territory along with inhabitants which are self-governing community*. Its purpose is an organization of the cooperation of citizens on carrying out public tasks. Its most important feature is a fact that it is a self-organizing system, that means it can improve its internal organization. It is supposed to keep the balance between the purposes of the State and purposes of the local community.

In Poland there is currently 2489 municipalities. We have two types of municipalities: rural and urban areas. They do not differ in legal terms, but only in territorial terms. This is evident in the nomenclature of community support units –**villages leaderships in villages, city districts and neighborhoods in the cities**.

Municipality is fulfilling its duties through the performance of tasks. The tasks are: care of roads, sanitary infrastructure, basic education and social welfare, health care and public safety, spatial and ecological order. Also tasks such as: supplying inhabitants with water, maintenance of the landfills, energy supply, health care, municipal housing assistance, *promotion of culture* and sport, maintaining public utilities *etc.* are included in own tasks of the municipality, that is tasks performed fully independently by the municipality.

Moreover the State can commission to the municipality additional tasks by making an agreement or administrative arrangement. These tasks define the resources allocated for the purpose and conditions of performing the task. In practice, The State supervision over commissioned tasks is more accurate than over the municipality's own tasks. Activities of municipalities are under current supervision of the *proper* governor and subsequently Chairman of the Council of Ministers.

Bodies of the municipality are: authorities that constitute (resolution-making) and executive authorities. They must cooperate with each other. The Municipal Council is a basic body of decision-making and control. It

doesn't manage directly the municipality, but it controls activity of its board. It consist of councilors which are chosen in the general, direct, equal and secret elections. Its term of office lasts 4 years. The number of councilors having a seat on a council depends on the number of residents of the municipality.

One isn't allowed to combine a mandate of the Councilor with the employment in the municipality office, in order to limit corruption tendencies on the local government level. Moreover one isn't allowed to combine a mandate:

- with mandate of the member of parliament or the senator
- with post of the province governor or the deputy province governor
- with membership in the body of other local government unit.

The councilor has duties and rights connected with the mandate. The act on municipal autonomy determines it: „**the councilor is obliged to be guided by the best interests of the self-governed community of the municipality.** The councilor is maintaining the constant bond with inhabitants”<sup>8</sup>.

Moreover the councilor should take an active part in works of the Municipality Council and its committees. As the person performing public office, he is subject to legal protection. He isn't allowed to run his own business during performance of the mandate. In Polish municipal autonomy, a possibility of dismissal of the single councilor from the composition of the council doesn't exist. In exceptional circumstances, there is only a possibility of dismissal of the whole council, through a local referendum.

Sessions are a basic form of a work of the Municipality Council. Sessions are open and are divided into ordinary and extraordinary. Resolutions of the council are passed *by simple majority of votes*, by the quorum of at least half of the *composition of the Council*.

A board is an executive body of the municipality.

In the Polish system it consist of one person, chosen directly by the local community. In Poland a Municipal Mayor is a basic executive body of the municipality. Similarly to the mayor and the mayor of the city he must be a Polish citizen. His term of office lasts 4 years. His tasks are: an administration of municipal property, implementation of the budget, preparing draft resolutions for the Council and determining the way of their *execution*. The municipal mayor is also the tax authority in the scope of the taxes charged by the municipality.

A Mayor has analogous administrative competence in municipalities, in which the city is a seat of authorities. In cities above 100 000 inhabitants a Mayor of the City performs executive functions.

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<sup>8</sup> *The Municipal Self-government Act, Article 23.*

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**Political pluralism** – is coexistence in political life of the state many parties, which activity is a guarantee of civil liberties and a freedom of diversification of interests, ideas and political programs in social life.

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### 3.5. The evolution of political system of Poland

The shape of contemporary Poland and its political structure is an outcome of the changes that occurred in the years 1989-91. Those years were the years of so called the **Contract Democracy** – a time of change between Socialism and Democracy. It is worth mentioning that the political changes in mid-eastern Europe begun in Poland and have ended relatively peacefully. A consensus of communistic and opposition (centered around the workers union Solidarity (*NSZZ Solidarność*) elites has been reached<sup>9</sup>. It is highly mentionable that life in Poland is a direct effect of not only political actions, but also a common national need to fight for human rights and dignity.

Poland is specific because of the role that the Catholic Church plays in politics. This institution played a very important role of communication between the former political regime and the opposition. The fact that the church had full approval from the pope John Paul II and was backed up by the whole society is also worth mentioning.

Taking into consideration the shape of the contemporary Polish political structure, the most important changes occurred in the central institutional structure. The decision of the Sejm from 7.04.1989 changed the shape of the Parliament and established the Senate. The seat of the President of Poland was also called to life. The election process had to be changes in order to prepare the partially free parliament election.

These events were the beginning to a vast variety of changes that in the next 6 years. Their goal was to introduce the mechanics of democracy and the standards of modern society.

A very important reason for these changes was the low effectiveness of socialistic economy. **Polish road to democracy consists of the coexistence of political and public slogans with the need to introduce a public economy – a capitalistic system with a special protectionism over public property in times of changes.**

The basis for change, and also a standard in our times is the concept called **pluralism**. It is a concept of freedom expressed by freedom of speech, diversity of opinions through political life, political parties and

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<sup>9</sup> *The elections statute from 1989 reserved the free voting for the Senate only, in the case of the Sejm a proportion for the opposition was established to 35% of seats. It was the moment of the transition of political system.*

associations. Based on the concept of pluralism, variety of political parties, their equality and role in fulfilling democracy has been honored.

The fluent change from socialism to democracy is a reason to be proud, but is also a topic of constant debate among Polish people.

A role of **the Roman Catholic Church** in political transformations is a *specific feature* of Poland. This institution can be perceived as a unifying force in the difficult process of negotiations between recent torturers and recent political prisoners. *Not without significance is the fact* that the Polish Church in its political action had, at that time the full support of the Pope **John Paul the Second** and was a moral strength amongst the Polish people.

Political transformations formed Polish political realities and to this day affect the image of the Polish party living. Evolution of the Polish party system is taking place constantly. *On the one hand* it remains in the range of the policy typical for *post-Communist countries*, but it also has features specific exclusively to the area of Poland.

Poland is a democracy. It retains basis of democracy i.e. carrying out cyclical and free elections. In order for the elections to be really free, *they must be competitive. It becomes necessary to create and to maintain* in the system, social organizations which will accomplish purposes of social groups – of potential electors. In the current form of the politics they are called political parties.

### 3.6. The Party System of Poland

**The party system** is represented by the number of the parties permanently or temporarily present in the political life, their *impact on the authorities* and on the society, strategies of rivalry taken towards other parties, the ideological distance between the individual parties. These elements are undergoing constant transformations and they form the political map of the country. In the light of the Polish Constitution, political parties have the provided freedom of creating and functioning (Art. 11) and possibility of influencing the politics of the State according to democratic principles. Parties are obliged to an openness of action and of appointing internal bodies through elections.

In Poland there is an obligation of official registration of the party organizations. District Court in Warsaw and Constitutional Tribunal performs control functions over the legality of actions taken by the political parties. In order to avoid corruption tendencies towards the part of administrative posts, membership in any political party is prohibited. This applies to:

- 1) judges of the Supreme Court and common courts,
- 2) prosecutors,

- 3) policemen,
- 4) Border Guard officers,
- 5) *professional soldiers*,
- 6) firemen of the State Fire Service,
- 7) presidents of the National Bank of Poland, of Supreme Chamber of Control, of the National Institute of Remembrance,
- 8) ombudsman.

Polish political scene has changed a lot for the last 20 years. After the first free elections, 24 parties entered the parliament. It resulted in fragmenting the political forces and the political instability towards the then governments. Due to amending the electoral law, currently political parties in order to enter the Sejm, must exceed 5% threshold in a general election.

The today's political landscape in Poland is the product of rivalry between the powers of the parties – the Left and the Right. On the right political side there is the winning in the last elections (and the next to last elections too) **Civic Platform (PO)**, and also opposition party **Law and Justice (PIS)**. On the left side we can see the *internally* consolidated party the **Democratic Left Alliance (SLD)** which effectively for years gathers the strongest politicians of the Left around itself. **The Polish Popular Party (PSL)** remains the agricultural party still, associated with the electorate of the villages and small cities. From a formal point of view it is placed on the Left. It makes the coalition *PO – PSL* more complicated and interesting.

Poland remains in the developmental trend of the democracy of post-communist countries, and therefore often classifying political parties strictly as right-wing, or left-wing is problematic. Andrzej Antoszewski, describes them as unconventional parties, i.e. raising the issues, across party lines of the Left and the Right wing. In Poland such parties were e.g. Party of Pensioners, the League of Polish Families (*LPR*), or the Self-Defense (*Samoobrona*). An evaluation of political potential of the parties which it is hard to predict and to specify, is a problem for observers of the party scene.

A few years earlier, Polish political scene has been disturbed by the two interesting but controversial parties, using populist slogans, which were a blend of different ideas. As it turned out, due to the slogans the parties entered not only to the parliament, but also to the ruling coalition. It was right-wing League of Polish Families and agricultural Self-Defense. Their popularity *among the society* is justified with the fact that the Polish society is tired of constant political reshuffles, party elites losing touch with reality of the province, corruption scandals amongst civil servants. The level of discussion of the political elites led to a phenomenon, which was the widespread discouragement and disbelief in the possibility of

positive changes in the functioning of the State. It had an impact on the society which is slowly being taught democratic principles and because of that, it can be easily influenced by popular slogans, often empty and divergent from possibilities of a political party<sup>10</sup>.

A tendency of change of the public support in next elections is characteristic feature of the Polish political realities i.e. if a right-wing party won, in next elections a victory of a left-wing party is probable. But it is not always that clear because of the groupings that come from the same democratic origin - Solidarity, but often combine right-wing elements with elements of the Left. A Work Union (*UP*) can be a good example of that. 2005 shows very well the tendency of the Polish society to assess, through elections the party governing so far. In 2001 the Democratic Left Alliance won the election. After its governments, elections from 2005 had one of the lowest voter turnout and *PiS* and *PO* opposition to *SLD*, won. Winning parties received: – *PiS* 33.7% of mandates and *PO* – 28.9% of mandates. *SLD* stayed in the Parliament only with 55 mandates.

Elections from 2005 are important for the Polish political system for the reason, that only these parties which were previously present on the political scene crossed the electoral threshold. The situation was similar in the last elections in 2008. I concur with the opinion, that it is „**an indication of evolving and stabilization of the Polish political life**”<sup>11</sup>. The concentration of electoral votes around the strongest parties, i.e. these which have real chances to influence the politics, can be also perceived as the sign of the gradual political stability.

In Poland we can observe political geography. It is somewhat volatile, what is typical of the democracy. However, research on the electorate proved that currently individual party groupings are appealing to particular social groups. Except for parties, which political slogans are intentionally directed to *particular occupational group*, also parties, which have wider range of purposes concentrate on the fragment of the society. Universal slogans appear in the political life, however issues antagonizing the community seem to decide on the public support. For the Polish reality the issues are: privatization of large state enterprises, health care, pensions, the attitude to abortion, euthanasia and homosexuality. In the current international situation a presence of Polish armies in Afghanistan also remains the substantial matter.

Although an election geography doesn't remain unchanging, it is possible to notice regularities. Right-wing parties, which use radical slogans, appealing to the social solidarity, are supported by people identifying

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<sup>10</sup> *After the tragic death of her Leader Andrzej Lepper on 5 August 2011, the Self-Defence started to disintegrate and have no seat in the Sejm today.*

<sup>11</sup> *M. Migalski, W. Wojtasik, M. Mazur, Polski system partyjny, 2006, p. 78.*



themselves with the Roman Catholic Church, disappointed with the current development of Poland and lack of chances of the development for the society. Age range is diverse here, although people over 50 years of age, represent the considerable part of the supporters. These are often people which come from smaller urban centers. Electorate of *PiS* is an example of this. Right-wing parties, which use liberal economic slogans are being supported by young, educated people, searching for their place in life, and which also can live outside the country. Left-wing parties are being supported by young and educated people, as well as by older persons, which often have secondary education. Observation of this electorate is showing that the supporters of left-wing parties are in good financial situation, but also people with financial problems. It seems that this electorate is concentrating *the broadest* social spectrum. One can also see it on the map of elections in Poland. The support for the Left is visible in large, as well as small urban centers, and even in the country.

Currently the Polish political landscape is the coalition cabinet *PO-PSL*. The next to last elections had the highest, after 1989, voter turnout and showed the tiredness of the society with *aggressive style* of the political struggle of *PiS* and its coalition partners. Number of mandates of victorious parties are: *PO* – 207, *PiS* – 154, *the Club of the Left (SLD)* – 42 and *PSL* – 31. The leader of *PO* – Donald Tusk took up the post of the Prime Minister.

Unfortunately, on 10 April 2010 the Polish Air force was crashed near of Smolensk, killing all 96 people on board. These included the President Lech Kaczyński (who was a brother of the leader of *PiS*), his wife, many Polish government officials, 15 members of the Parliament, many politicians from all parts of the Polish political life. They were en route to attend the very important event for the Poles marking the 70<sup>th</sup> anniversary of the Katyn massacre. There was the test for the Polish political system too. Following the death of Lech Kaczyński powers and duties of head of state were assumed to Bronislaw Komorowski as Marshal of the Sejm. He was the governing Civic Platform party's candidate in 2010 presidential elections, which he won in the second round of voting on 4 July 2010.

Currently the Polish political scene is the coalition government *PO-PSL* with the leadership of Donald Tusk as the Prime Minister. In the October 2011 elections *PO* have got 39,18% of the vote and won 207 seats in the Sejm, *PSL* have got 8,36% of the vote and won 28 seats in the Sejm. The biggest opposition party *PiS* have got 157 seats in the Sejm.

The interesting phenomenon on the Polish political scene currently is the Palikot's Movement (*Ruch Palikota*). In the October 2011 elections,

this new party received 10% of the vote and won 40 seats in the Sejm. There was the big success of this politician. Political goals of this party are eclectic. Palikot wants to end religious education in state schools, end state subsidies of churches, legalize abortion on demand, reform the Social Security Agency etc. I can't agree with "The Financial Times" when described the party's economic views heterogeneous ranging from libertarianism to social democracy. This party was taking the considerable part of the left voting electorate of the Club of the Left.

It is interesting that in the Polish party arena, European issues don't remain in the direct connection with the division into the left and the right wing. The most *Euro-enthusiastic* parties are *SLD*, *PO*, the *Palikot's Movement* and euro-skeptical - *PiS*, at one time *LPR* and *Self-Defense*. Although the attitude to integration with the Union remains separate from the place on the Left, or on the Right, an optimistic fact is that the parties place the strongest European matters amongst priorities of the development of the State.

Polish political life and election geography are a resultant of social expectations and political conditions, in which Poland functions as the State and the society. Political scientists observing the evolution of the Polish political landscape and the political system are putting forward different hypotheses concerning the evaluation of present form of the political scene in Poland and the future of it. W. Jednaka distinguished two stages which all post-Communist countries, including Poland, go through. The stages are: a stage of the dominance of small parties and stage of the dominance at the parliamentary scene of large parties. R. Herbut put the interesting conception forward. He divided evolution of the Polish political system for the genetic stage, which creates the fully democratic political landscape and the stage of the consolidation, during which parties strengthen their positions on the political arena. Currently in Poland we can observe the stage of consolidation.

A. Antoszewski points out another feature of the Polish society which has an influence on the political life. It is a problem of building political coalitions up above divisions which are a result of the past of politicians. So far in free Poland a one-party government wasn't formed. Criterion of creating the coalition is a presence of post-Communist and post-Solidarity parties. It has negative effects unfortunately. If we as citizens, assume that the government is supposed to be a reflection of the whole society, we let politicians treat the success in the election as the complete victory, rather than as temporary authorization to govern the country. In the democracy we are dealing with the diversified, divided, pluralistic society. When we recognize it, it will be possible on the plane of political conversations to consolidate the politics, in Poland, around

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program conceptions, with recognizing that the parties which are in opposition at that time, are also the part of the system.

The Polish political system and its potential still develops, after 20 years from the beginning of the political transformation. We managed to achieve a lot, but still there is a lot to modify in the Polish political system. As a member of the European Union, Poland must and wants to aspire to democratic and transparent in every respect, domestic relations. It concerns the sphere of the organization of functioning of the State, as well as the social and political potential. Polish political scientists and outside observers aptly notice that there is more than one scenario of the Polish future. However, we can observe and analyze appearing phenomena in order to push them in direction that will be good for the political stability.

### 3.7. Summary

**Poland is a democratic country, is a republic.** The political system of Poland is described by the Constitution which was established on 2. April 1997. We have a political regime **of a mixed nature – a presidential-parliamentary regime** in Poland. **The prime minister** is usually a member of the party holding the majority of votes in the parliament. **The government** is also politically responsible in front of the parliament. The rights of **the president**, the head of the country, are also narrowed by the will of the parliament. The third element of the democratic division of power – the courts, have independence. According to the constitution the state organs are the parliament (**the Sejm and the Senate**) – in terms of legislative power and the President and the Government (**the Cabinet**) – in terms of executive power.

The main central organ of the legislative power is **the Sejm**. it consists of **460 members**. They are chosen in public, equal, direct, proportional, anonymous elections. The right to vote is acquired upon reaching 18 years of age. **The Senate** is a higher chamber of the Polish Parliament and has noticeably smaller powers than the Sejm. The senate consists of **100 senators**. Once elected, the Sejm and the Senate rule for 4 years.

The executive power is supervised by **the President and the Government**. He is the head of the state but his real role is mainly a representative one. **The Government** (the Council of Ministers with the prime minister) is performing **the executive power**. The Government is responsible for internal affairs and foreign policy of the Polish Republic.

The governmental administration and the self-government are a vital part of the Polish political system. **The local government** complements the country management process. There is a three-stage division into

self-governmental units in Poland, there are: municipalities, districts and provinces.

The political system was transformed in Poland after 1989 parliamentary elections. The process of evolution of the Polish system is taking place constantly. *On the one hand* it remains in the range of the policy typical for *post-Communist countries*, but it also has features specific exclusively to the area of Poland. **The party system** is represented by the number of the parties permanently or temporarily present in the political life. Currently the Polish political scene is the coalition government *PO PSL* with the leadership of Donald Tusk as the Prime Minister.

## 4. POPULATION POTENTIAL

### 4.1. Development of population

In 1900 Poland was home to 25,106 thousand people. In the beginning of 1914, the population on the later territory of Poland increased up to 30.3 million that is 19% within fourteen years. The developments related to World War I such as evacuation of people from the areas of military operations caused 13% decline in population between 1914 and 1919 with 4 million residents leaving Polish lands. The first census results of 1921 showed that the population density was 27,177 thousand people. Poland took the sixth place among European countries, behind Russia (105 million) Germany (59 million), England (46 million), France (40 million) and Italy (38 million). During the interwar period the population in Poland increased gradually (within its borders of 31.03.1938), as a result of relevant post-war population growth and repatriation. Nevertheless, it was not until 1927 when Poland reached the population level of 1914. Before World War II, in the end of August 1939 Poland had 35,339 thousand residents.

Table 1. Poland's population based on the census<sup>a</sup>

Census dates	Population (thousands )			Urbanization rate(% rural population)	Population density (people per km <sup>2</sup> )
	Total	Men	Women		
1900 <sup>b</sup>	25 106	12 482	12 624	19.6	65
30 IX 1921	27 177	13 133	14 044	24.6	70
9 XII 1931	32 107	15 619	16 488	27.4	83
14 II 1946	23 930	10 954	12 976	31.8	77
3 XII 1950	25 008	11 928	13 080	39.0	80
6 XII 1960	29 776	14 404	15 372	48.3	95
8 XII 1970	32 642	15 854	16 788	52.3	104
30 III 1974	33 636	16 313	17 323	54.1	108
7 XII 1978	35 061	17 079	17 982	57.5	112
6 XII 1984	37 026	18 026	19 000	59.9	118
7 XII 1988	37 879	18 465	19 414	61.2	121
17 V 1995	38 620	18 771	19 849	61.6	124
20 V 2002	38 230	18 516	19 714	61.8	122

Note: <sup>a</sup> – The information in the table included general censuses of: 30.09.1921, 9.12.1931, 3.12.1950, 6.12.1960, 8.12.1970, 7.12.1978, 7.12.1988 of the National General Census and Register of Apartments of 20.05.2002 and the census and register of apartments results via representation method of 30.03.1974, 6.12.1984 and 17.05.1995.

<sup>b</sup> – For former Russian Partition - census data 1897.

Source: Rocznik Demograficzny 1945–1966, 1968, GUS, Warszawa, Rocznik Demograficzny 2007, 2007, GUS, Warszawa

During the interwar period the central Voivodeships contributed mostly to the population growth of Polish lands (Voivodeships of: Warsaw, Białystok, Łódź, Kielce and Lublin) whose inhabitants constituted 42% of all Poland's population. At the same time, the group of central Voivodeships occupied the biggest country's surface – 35.5%. More than  $\frac{1}{4}$  of population was the residents of southern Voivodeships, that is Voivodeships of: Cracow, Lwów, Tarnopol and Stanisławów. In the eastern Voivodeships (Wilno, Nowogród, Polesie, Wołyń) in 1931 domiciled 17.4% of Republic of Poland's population, whereas in western Voivodeships (Pomerania, Poznań, Silesia) 14%. The population density increased from 65 people per km<sup>2</sup> (in 1900) to 83 people per km<sup>2</sup> (in 1931). Although the eastern Voivodeships enjoyed the most rapid growth (compare table 3.2), there sustained the lowest population density (45 people per km<sup>2</sup>) compared with southern Voivodeships (107 people per km<sup>2</sup>), central Voivodeships (97 people per km<sup>2</sup>) and western Voivodeships (95 people per km<sup>2</sup>). The most densely populated Voivodeships were: Silesia (307 people per km<sup>2</sup>), Łódź (137 people per km<sup>2</sup>) and Cracow (132 people per km<sup>2</sup>). The least populous Voivodeships included: Polesie (31 people per km<sup>2</sup>).

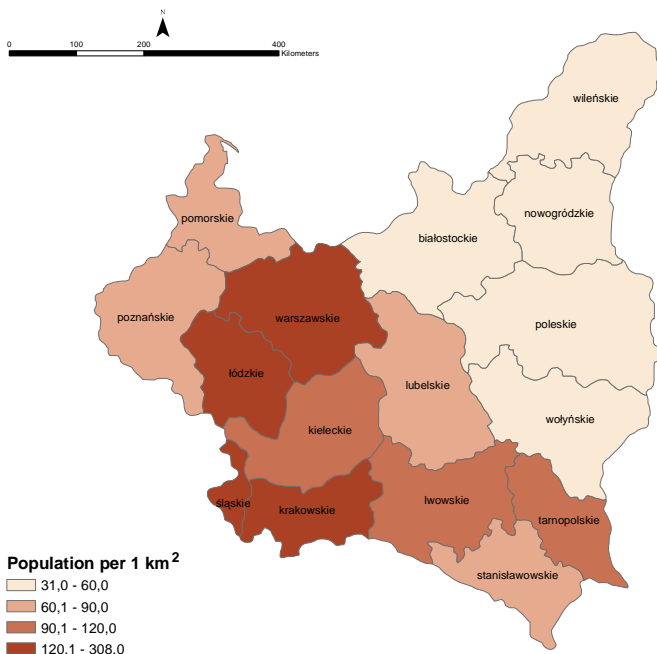


Figure 17. Poland's population density in 1931

Source: K. Dmochowska-Dudek

Table 2. Population of Poland according to Voivodeship in 1921 and 1931

Groups of Voivodeships/Voivodeships	Population (in thousands)				Population change (in%)	
	30 IX 1921		9 XII 1931			
	total <sup>a</sup>	(in%)	total	(in%)	urban	rural
Total	27 176.7 <sup>a,b</sup>	100.0	32 107.3 <sup>b</sup>	100.0	25.8	16.4
Central	11 231.4	41.8	13 377.6	41.9	24.3	16.7
Eastern	4 119.9	15.4	5 550.6	17.4	37.4	34.3
Western	4 028.5	15.0	4 481.7	14.0	32.7	2.1
Southern	7 478.5	27.8	8 505.9	26.7	20.0	12.0
City Warsaw	936.7	3.5	1 171.9	3.7	25.1	x
Warsaw	2 112.8	7.9	2 529.2	7.9	22.3	19.0
Łódź	2 252.8	8.4	2 632.0	8.2	26.8	10.6
Kielce	2 535.8	9.4	2 935.7	9.2	23.0	13.5
Lublin	2 088.0	7.7	2 464.9	7.7	20.8	17.5
Białystok	1 305.3	4.9	1 643.8	5.2	24.6	26.4
Wilno	977.9 <sup>a</sup>	3.6	1 275.9	4.0	46.6	26.9
Nowogród	823.1	3.1	1 057.1	3.3	22.6	29.1
Polesie	881.0	3.3	1 131.9	3.6	35.5	27.5
Wołyń	1 437.9	5.4	2 085.6	6.5	36.5	46.3
Poznań	1 967.8	7.3	2 106.5	6.6	25.6	-2.5
Pomerania	935.6	3.5	1 080.1	3.4	43.8	5.5
Silesia	1 125.0 <sup>a</sup>	4.2	1 295.0	4.1	39.4	6.3
Cracow	1 992.8	7.4	2 297.8	7.2	20.6	13.6
Lwów	2 718.0	10.1	3 127.4	9.8	19.3	13.7
Stanisławów	1 339.2	5.0	1 480.3	4.6	17.8	8.9
Tarnopol	1 428.5	5.3	1 600.4	5.0	23.4	10.0

Note: <sup>a</sup> – included the non-registered areas of 1921: – Wilno Voivodeship (total 501.7 thousand people) using the census of 1919, in Silesia Voivodeship (total 908 thousand people) using the census of 1910;

<sup>b</sup> – in subsequent division there were not included the areas of barracked army : in 1921 – 318,5 thousand and in 1931 – 191,5 thousand.

Source: Krysiński A., 1937, *Struktura narodowościowa miast polskich*, Biblioteka „Spraw Niepodległościowych” 30, Warszawa.

As a result of German and subsequent Soviet Union onslaught and partition of Poland by the invaders, there were 22,140 thousand residents on the occupied territories, including 10,568 thousand people on the territories incorporated into Reich (according to mother tongue 9,221 thousand Poles, 653 thousand Germans and 582 Jews), 11,542 thousand on the General Government territory (9,863 thousand Poles, 1,225 thousand Jews, 357 thousand Ukrainians and 61 thousand Germans) and about 30 thousand on the territories incorporated into Slovakia. 13,199 thousand residents got under Soviet occupation, being on the territories:

- connected with Lithuania 537 thousand (371 thousand Poles, 71 thousand Jews),
- incorporated into Belarusian Soviet Socialist Republic 4,733 thousand (2,320 thousand Poles, 1,105 thousand Belarusians, 426 thousand Jews and 708 thousand others, who shall be included as „locals” to Belarusians),
- incorporated into Ukrainian SSR 7,929 thousand residents (4,474 thousand Ukrainians, 2,583 thousand Poles and 612 thousand Jews and 112 thousand others).

World War II and its consequence – occupation of Poland, caused great population losses. As a result of direct and indirect genocide committed by Nazis, 6,028<sup>12</sup> thousand people were killed, including 3,577 thousand people murdered in concentration camps, pacification, executions and ghetto liquidations and 1,286 thousand people died in prisons, camps due to epidemic, exhaustion and non-human treatment. Additionally, in the direct military operations (except Warsaw Uprising casualties) fell 450 thousand people, including civilians. It shall be also added nearly 500 thousand people who died during the forced emigration on the territory of USSR. Taking into account one thousand residents, Poland suffered from the greatest population loss among the countries which participated in World War II – 220 people per 1 thousand residents (USSR – 164 people per 1 thousand, Yugoslavia 108 people per 1 thousand).

The first post-war census carried out in the middle of February 1946 on the new territory of Poland indicated 23.9 million people, including 20.5 million Poles and 2.3 million Germans. The average population density was 77 people per km<sup>2</sup>, whereas on the former lands lived 89 people per km<sup>2</sup> and on the new lands 48 people per km<sup>2</sup>. The lowest density was measured in Olsztyn Voivodeship (18 people per km<sup>2</sup>), where in four districts there was nearly demographic emptiness, with density under 10 people per km<sup>2</sup> (Pisz, Braniewo, Górowo Iławeckie, Węgorzewo). Relatively smaller decrease was noticeable in Voivodeships of Cracow, Pomerania, Warsaw, former Poznań, Silesia and Kielce. The development of Poland's population during the first post-war period was stimulated by high population growth and mostly by the migration processes due to the emigration inflows from east (689 thousand in the period 1946 to 1949) and displacement of 2,275 thousand Germans to Germany and 176 thousand to USSR. The changes in population distribution occurred mainly on the new territory specified as recovered lands. On a national scale more than one million people

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<sup>12</sup> Polish casualties in the number 6.03 million were specified by Reparations Office, UN estimates provides the number of 5.8 million.



moved from rural to urban areas and migration played more important role in towns and cities development than population growth. The increase of urban population was explosive and achieved on average 3.7% against the population decline in rural areas of 0.4%. Total census carried out in 1950 showed that from 24,614 thousand people (except 394 thousand of the army) 72.6% lived in the same Voivodeship as before war outbreak, however this group cannot be treated as non-mobile since there was migration within the Voivodeship itself which may be proved by 7 million migration between 1946 and 1950. The second group constituted 15.8% of residents who in the years 1939-1950 changed the Voivodeship and 9.4% of population lived abroad before war, that is along Polish eastern borderlands. In fact only the small part of population lived abroad, on the west of Europe.

In 1950 the highest population density was mostly on the former lands, among others on the three Voivodeships with density exceeding 100 people per km<sup>2</sup>: Voivodeship of Łódź (118), Lesser Poland (133) and Silesia (248), large cities and areas around them and municipal districts. On the recovered lands only southern part of Inferior Silesia extinguished with high population density. The least populous were present Voivodeship of Lubusz and Podlaskie, but the record was set by Bieszczadzki District with 8 people per km<sup>2</sup>.

In 1950s population growth was of explosive nature and average dynamic rate was 2.0%, whereas the population grew most rapidly in present Voivodeships of Lubusz, West-Pomeranian (4%), Inferior Silesia (3.2%) and Warmian-Masurian (3.0%). As far as concerns the average annual dynamics of urban population, it was 3.4%, but in the above mentioned Voivodeships was much higher and for instance in case of West-Pomeranian reached 6.3%. Period between 1951-1960 was a decade in which rural population did not decrease. Census of 1960 revealed that Poland's population was 29,776 thousand and increased by 4.7 million compared with the year 1950.

In the next decade, between 1961 and 1970, dynamics of growth fell to 1.1% per annum but still it constituted the number which is characteristic for rapid development. The highest population growth was noticeable in Pomeranian Voivodeship (2%) and West-Pomeranian (1.7%) and the lowest in Łódzkie and Świętokrzyskie Voivodeship (0.5%). The accelerated development of urban population continued (2%), however the pace of growth was slower than in the previous decade. In 1960s, especially in December 1966 after 20 years of rural population advantage over urban, the numbers equaled and since the end of 1966 urban population started to outweigh rural population. Nevertheless, in September 1967 the thirty-two millionth citizen of Poland was born which meant that 22 years were needed for the country after the war to achieve

the population of 1931. In 1970 Poland had 32.6 million residents, among whom 54% lived in towns and cities. There were on average 104 people per 1 km<sup>2</sup> and distribution of population density was similar to the one of 1950.

Between 1971 and 1978 demographic development pace in Poland slightly declined to 0.9% but still dynamics of development was locally diversified. Voivodeships of Pomeranian (1.5%), Inferior Silesia and Silesia (1%) and Lubusz (1.1%) developed substantially faster than Łódzkie, Opole and Świętokrzyskie Voivodeships (0.5% annually). When compared with the previous decade, the dynamics of urban population did not change (2% annually). Explosive development of towns and cities was a consequence of the introduction in 1975 a new country division into 49 Voivodeships (earlier there were 17). Small urban centers were established the capitals of the new Voivodeships, which led to the rapid increase of their population after receiving new functions.

The distinctive feature of the next period between censuses (1979–1988) is the moderate pace of Poland's population growth being 0.8% per annum. The population grew at a slightly quicker pace in Podkarpackie Voivodeship (1.2%) and Lubusz Voivodeship (1.1%) but in Łódzkie Voivodeship (0.4%) and Świętokrzyskie Voivodeship (0.6%) the pace was the slowest. Ongoing economy recession caused the decline in urban population development to 1.4% per annum. The slowest development pace had strongly urbanized cities of Silesia (1.0%) and Inferior Silesia (1.1%) against significantly higher pace in Voivodeships of Podlaskie (3.1%), Podkarpackie (2.8%), Lublin (2.4%) and Warmian-Masurian Voivodeship (2.3%). The rural population declined by 64 thousand people which in relative values constituted recession (0.0%), comp.

The last period between censuses 1989–2002 experienced stagnation of population development in our country since the population increased only by 351 thousand people, that is on average 0.1% per annum. In five Voivodeships (Inferior Silesia, Łódzkie, Opole, Silesia, Świętokrzyskie) population regress occurred. The pace of urban population development dramatically fell down to the level of 0.1% annually, and in three Voivodeships: Inferior Silesia (-0.1%), Łódzkie (-0.2%) and Silesia (-0.4%) there was noted the decline in urban population. Higher dynamics of growth than in the remaining Voivodeships had towns of present Podlaskie Voivodeship (0.7%), Lublin Voivodeship, Masovian Voivodeship, Podkarpackie Voivodeship and Warmian-Masurian Voivodeship (0.4%) which benefited from the capital cities development of old Voivodeships until 1999. As in the previous period, rural population did not change and varied locally. In nine Voivodeships the rural population declined, whereas the most noticeable dynamics of decline was in the Podlaskie

Voivodeship (-0.6%), Lublin Voivodeship and Łódzkie Voivodeship (0.4%). However the most peculiar was the situation of five Voivodeships: Lesser Poland (up to 0.6%), Pomeranian (0.7%), Podkarpackie, Silesia and Greater Poland (0.2%) in which rural population did not diminish.

The last census results of 2002 specified the population of Poland for 38,230.1 thousand people which placed our country on the sixth position among European countries behind Germany (82.5 million), France (59.5 million), the United Kingdom (59.1 million), Italy (57.5 million), Spain (41.0 million), not to mention Russia (144.0 million), Turkey (69.6 million) and Ukraine (48.9 million). The proportion of urban population was 61.8%, which allowed Poland to be located in the third ten of European countries. The average population density increased in 2002 to 122 people per 1 km<sup>2</sup>.

Within the periods between censuses information on such issues as population has been gained through current registry statistics. According to initial estimates, in the end of 2007 Poland's population was 38,115 thousand people, that is 10 thousand people less than last year. In respect of the population, Poland is in the 31<sup>st</sup> place in the world and in the 6<sup>th</sup> within the European Union countries (behind Germany 82.3 million, France 63.6 million, the United Kingdom 61.0 million, Italy 59.4 million and Spain 44.9 million). In respect of the surface, Poland takes 5<sup>th</sup> position amongst the European Union countries (behind France, Spain, Sweden and Germany). As far as population density concerns we are in the mid-populous group of European countries (per 1 km<sup>2</sup> in 2007 resided 122 people, in the cities 1095 and on the rural areas 51). The urban population and its proportion in general national population continues to diminish. Currently the urban population constitutes little more than 61%, but the rural population grows at an increasing pace.

The Poland's population has been decreasing for 11 years. The last period of factual population growth was in 1996 when the population was 38,290 thousand people. Within 1997 and 2007 180 thousand of Poland's inhabitants diminished. Negative population growth was from -0.01% in 1997 to -0.08% in 2006 and -0.03% in 2007. In 1990s of the last century the mid-year population growth rate was about 0.09% but as soon as in the second half of 1990s the dynamics growth was zero or negative. In the years from 1990 to 2005 population growth was merely 0.4% and was as little as eleventh times lower than the average for European Union (4.6%).

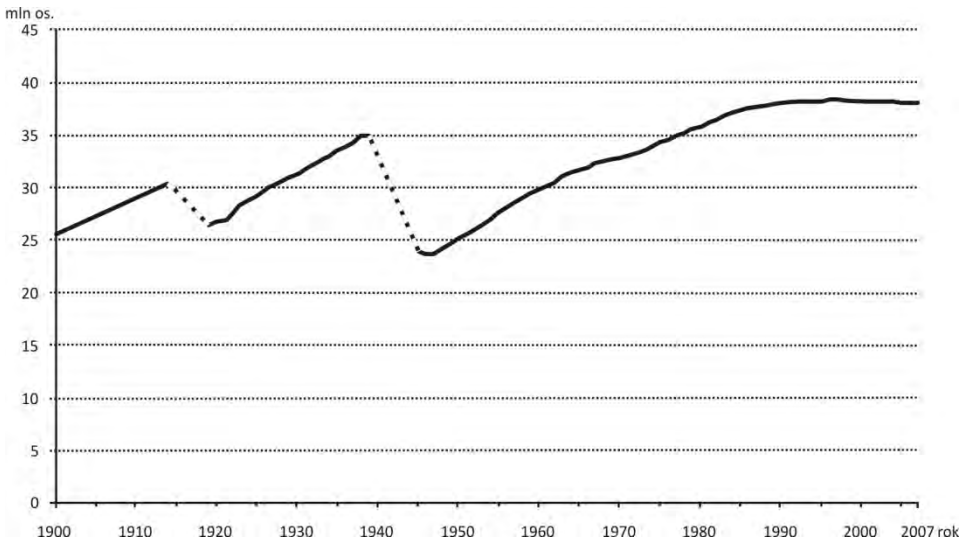


Figure 18. Poland's population 1900-2007

Source: GUS

The population is not evenly distributed on the whole country territory, which is mainly due to natural conditions, level of economic development and urbanization level of the country. In this respect, the majority inhabits: Masovian Voivodeship (13.6%) with the capital city of Warsaw and Warsaw agglomeration, Silesia (12.2%) including Upper Silesian Industry Area and its highly urbanized surrounding, Lesser Poland with Cracow (8.6%) and Inferior Silesia (7.6%) - highly urbanized and economically developed regions, having high level of agricultural production (Greater Poland). The least populous are Voivodeships of Lubusz, Opole (2.7%), Podlaskie (3.1%) and Świętokrzyskie (3.3%).

Uneven population distribution reflects the population density rate which in 2007 varied in particular Voivodeships. The diversification is best shown by extreme density rate values: from 59 people per km<sup>2</sup> (Podlaskie and Warmian-Mazurian Voivodeships) to 377 people per km<sup>2</sup> (Silesia). In five Voivodeships the population density is higher than the national average (122 people per km<sup>2</sup>), including: Silesia (377), Lesser Poland (216), Masovia (146), Inferior Silesia (144) and Łódzkie Voivodeships (140).

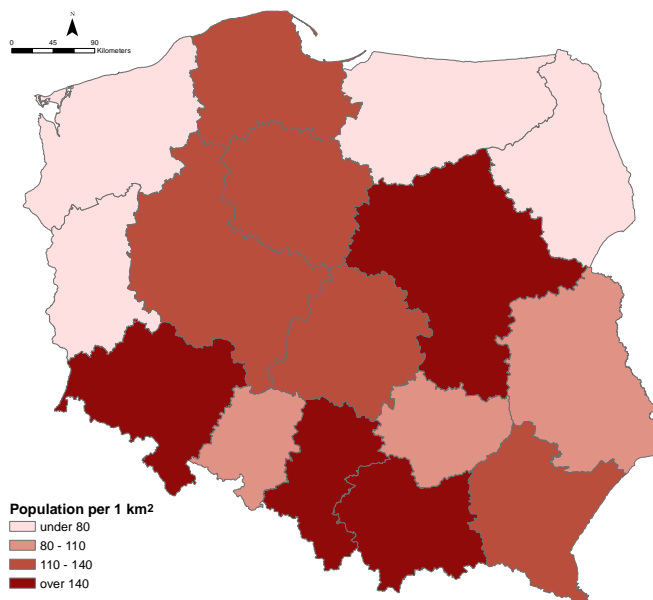


Figure 19. Poland's population density in 2007

Source: K. Dmochowska-Dudek

More people live in towns and cities than in the rural areas (since the end of 1966 which was mentioned above). The highest urbanization rates, higher than national average which in 2007 was 61.2% can be found in: Silesia (78.4%), Inferior Silesia (70.6%) and West-Pomeranian Voivodeship (68.9%). The lowest urbanization level occurs in Podkarpackie Voivodeship (41.1%), Świętokrzyskie Voivodeship (45.4%), Lubelskie Voivodeship (46.6%) and Lesser Poland (49.4%).

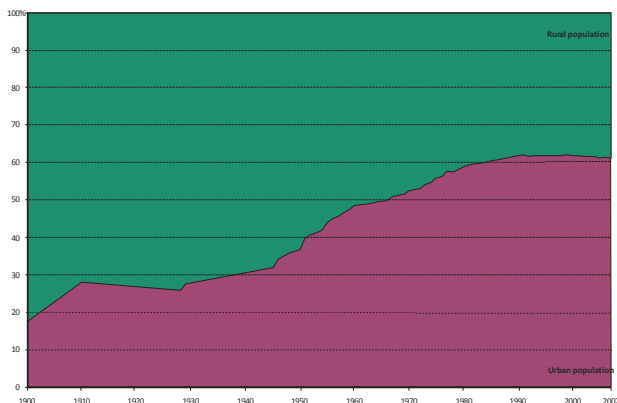


Figure 20. Urban and rural population in Poland in 1900-2007

Source: GUS

Table 3. Area, population and ranking position by Voivodeships, 2007

Voivodeships	Area in km <sup>2</sup>	Population			Ranking position by	
		total	per km <sup>2</sup>	in% share in Voivodeships	area in km <sup>2</sup>	population
Poland	312 679	38 115 641	122	61.2	x	x
Inferior Silesia	19 947	2 878 410	144	70.6	7	5
Kujawsko-Pom.	17 972	2 066 136	115	61.1	10	10
Lubelskie	25 122	2 166 213	86	46.6	3	8
Lubusz	13 988	1 008 481	72	63.9	13	16
Łódzkie	18 219	2 555 898	140	64.4	9	6
Lesser Poland	15 183	3 279 036	216	49.4	12	4
Masovia	35 558	5 188 488	146	64.7	1	1
Opolskie	9 412	1 037 088	110	52.5	16	15
Podkarpackie	17 845	2 097 338	118	41.1	11	9
Podlaskie	20 187	1 192 660	59	59.5	6	14
Pomerania	18 310	2 210 920	121	66.7	8	7
Silesia	12 334	4 654 115	377	78.4	14	2
Świętokrzyskie	11 710	1 275 550	109	45.4	15	13
Warmian-Maz.	24 173	1 426 155	59	60.0	4	12
Greater Poland	29 827	3 386 882	114	56.6	2	3
Zachodniopom.	22 892	1 692 271	74	68.9	5	11

Source: Powierzchnia i ludność w przekroju terytorialnym w 2008 r., 2008, GUS, Warszawa

#### 4.2. Demographic reproduction

Two factors that decide upon development, as matter of fact, population of a given region or country are: population growth and migration balance. Growth or decline follows such demographic events as birth and death. The second element which affects the changes of population on the national or regional level is migration movements. Migration concerns territorial displacement of people connected with relatively permanent change of domicile. These factors indicate regular regional diversification, upon which significantly influence structure of population age, family model, tradition, degree of civilization and cultural development, standard and conditions of living, health and sanitary state, level of economic development and regional urbanization, *etc.*

In the demographic development in Poland in 20<sup>th</sup> and in the beginning of 21<sup>st</sup> century population growth outweighs migration balance. Negative factual growth took place during I and II World War and during the first years of 21<sup>st</sup> century. The decline of Poland's population in world war period was due to war casualties and displacement. Nevertheless, the depopulation processes which has begun in the beginning of 21<sup>st</sup> century was caused both by negative population growth and negative

migration balance values. There has been noted a slightly (0.1‰) positive population growth since 2006, but it does not counterbalance migration losses and as a consequence we still encounter the population decline. In the European Union countries the population growth in 2006 amounted to 1.1‰, in seven countries it reached the negative values (Bulgaria, Latvia, Lithuania, Romania, Germany and Estonia).

Table 4. Population balance (in thousands) in 1895–2007

Years	Population as of January 1	Actual increase			Population as of December 31
		total	natural increase	net migration	
1895–1938	24 019	+10 830	16 666	–5 836	34 849
1895–1913	24 019	+6 291	8 826	–2 535	30 310 <sup>a</sup>
1914–1918	30 310 <sup>a</sup>	–4 028	–365	–3 663	26 282
1919–1923	26 282	+2 492	1 508	+984	28 774
1924–1930	28 774	+2 894	3 411	–517	31 668
1931–1938	31 668	+3 181	3 286	–105	34 849
1946–2006	23 895.0	+14 956.8	17 017.5	–2 060.7	38 125.5
1946–1950	23 895.0	+1 116.3	2 160.0	–1 043.7	25 035.0
1951–1960	25 035.0	+4 883.6	4 983.3	–99.7	29 795.2
1961–1970	29 795.2	+2 957.4	3 156.9	–199.5	32 657.7
1971–1980	32 657.7	+3 156.6	3 366.1	–209.5	35 734.9
1981–1990	35 734.9	+2 510.6	2 760.0	–249.4	38 183.2
1991–2000	38 183.2	+460.7	612.8	–152.1	38 644.2
2001–2005	38 254.0	–96.8	–26.1	–70.7	38 157.1
2006	38 157.1	–31.6	4.5	–36.1	38 125.5
2007	38 125.5	–9.8	10.7	–20.5	38 115.6

Source: Rocznik Demograficzny 2007, 2007, GUS, Warszawa; Ludność. Stan i struktura w przekroju terytorialnym. Stan w dniu 31 XII 2007, 2008, GUS, Warszawa; Gawryszewski A., 2005, Ludność Polski w XX wieku, PAN IGiPZK, Monografie, 5, Warszawa.

As mentioned above, the population development indicates the remarkable regional diversification. The best demographic situation was in the Voivodeships of: Masovia, Greater Poland, Pomerania which increased their population in 2007 and annual population growth reached respectively the following positive values: 0.32, 0.25, 0.24, 0.33. The population growth in Masovian Voivodeship was caused by advantage of positive migration balance over population growth, in three remaining Voivodeships there prevailed the positive population growth. The biggest decline in the form of negative population growth was reached by the Voivodeships of Opole, Łódzkie (–0.40%), Silesia (–0.32%) and Podlaskie (–0.29%). Within the foresaid regions the decline in population was due to the population outflow and negative population growth. Only in the

case of Łódzkie Voivodeship the negative population growth affected the size of population decline.

Table 5. Population balance by Voivodeships in 2007

Voivodeship s	Actual increase				Annual growth in%
	total	natural increase		net migration	
			in ‰		
Poland	-9 838	10 647	0.3	-20 485	-0.03
Dolnośląskie	-3 794	-2 224	-0.8	-1 570	-0.14
Kujawsko-Pomorskie	-885	1 487	0.7	-2 372	-0.01
Lubelskie	-7 279	-1 528	-0.7	-5 751	-0.30
Lubuskie	129	1 344	1.3	-1 215	-0.00
Łódzkie	-10 259	-8 131	-3.2	-2 128	-0.40
Małopolskie	7 356	4 641	1.4	2 715	0.24
Mazowieckie	17 134	2 300	0.4	14 834	0.32
Opolskie	-5 191	-1 129	-1.1	-4 062	-0.47
Podkarpackie	-96	3 057	1.5	-3 153	-0.01
Podlaskie	-3 074	-546	-0.5	-2 528	-0.29
Pomorskie	7 151	5 908	2.7	1 243	0.33
Śląskie	-13 768	-3 878	-0.8	-9 890	-0.32
Świętokrzyskie	-4 654	-1 738	-1.4	-2 916	-0.34
Warmińsko-mazurskie	-1 096	2 696	1.9	-3 792	-0.05
Wielkopolskie	8 969	7 097	2.1	1 872	0.25
Zachodniopomorskie	-481	1 291	0.8	-1 772	-0.03

Source: Ludność. Stan i struktura w przekroju terytorialnym. Stan w dniu 31 XII 2007, 2008, GUS, Warszawa.

Natural population movement covers such demographic events as marriages, divorces, births and deaths. From theoretical point of view it may be assumed the cause and effect connection between the number of marriages and number of born children. At the turn of 19<sup>th</sup> century there were generally 210 thousand of marriages in Poland, which was an equivalent of 8.2 marriage rate per 1 thousand people<sup>13</sup>. Higher frequency of contracted marriages occurred on the south and east lands and slightly lower on the subsequent west Voivodeship s. Before World War I

<sup>13</sup> Before the restoration of independence the law of partition countries were in force on the Polish territories Within the Prussian partition the secular marriage registry was obligatory (since 1874) in the Registry Offices. Within the Austrian Partition there was a mixed system: secular and religious. In the Kingdom of Poland marriage issues since 1836 were subject exclusively to clerical court competence of four officially acknowledged religions, that is: Roman Catholic, Greek Catholic, Orthodox and Protestant. During the entire period of the Second Polish Republic in the field of family law, the laws of former partition countries were applied.



outbreak, the intensity of contracted marriages slightly fell down to 7.3 per 1 thousand people. In 1919, being the first year after the end of World War I, there were contracted 336 thousand marriages – half as much as before war and the marriage rate was 12.8 per 1 thousand people. After 4 years the rate declined to 10 per 1 thousand people. As in the beginning of 20<sup>th</sup> century, marriages were more often contracted on the east and south Voivodeships and significantly less seldom on the western regions (8.4 per 1 thousand people). In the following years, the intensity of contracted marriages diminished and in the last years before World War II outbreak it fell down to 8.2 marriages per 1 thousand people. At the same time, the space diversity faded (tab. 6).

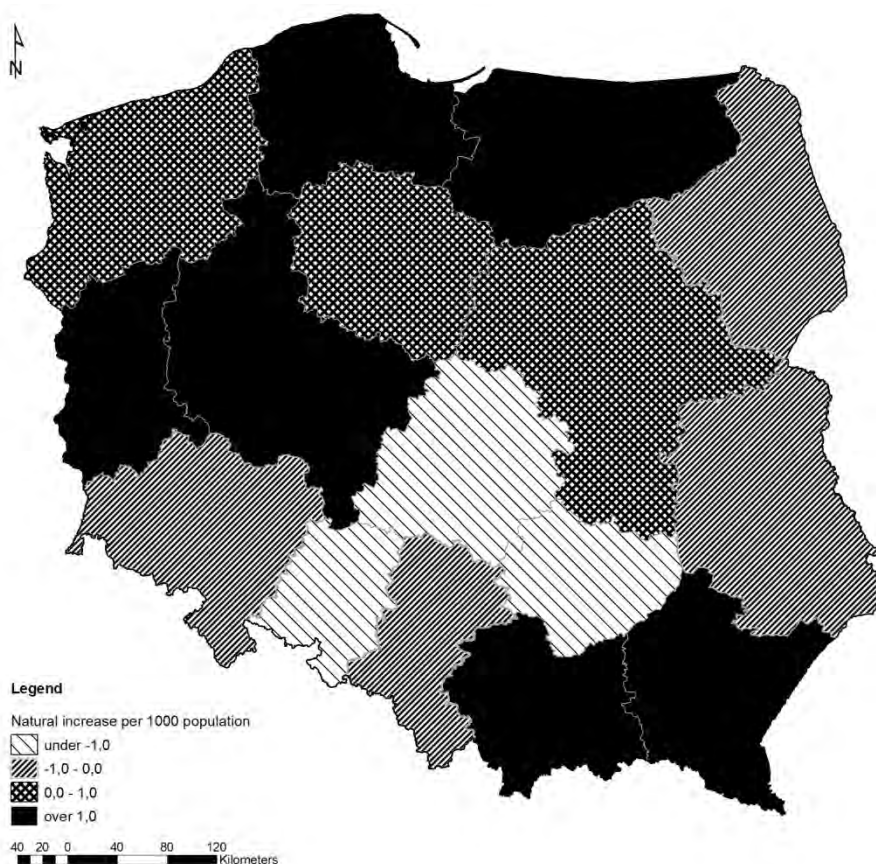


Figure 21. Natural increase in Poland in 2007

Source: GUS

In Poland the level of marriages in the period of World War II was affected by many negative factors, including casualties, family separation, common famine, and also invaders' policy focused on undermining Polish population demographic power. On the territories incorporated to Reich occupation authorities introduced the ban of contracting marriages before the age of 28 for men and 24 for women.

In 1946 the frequency of contracted marriages in Poland was 45% higher than in 1938 and amounted to 11.9 marriages per 1 thousand people. After the year this rate increased up to 13% and in 1948 to 13.3% per 1 thousand people, being the highest ever noted for whole country in 20<sup>th</sup> century<sup>14</sup>. In 1950 the intensity of contracted marriages decreased to 10.8‰ and was very regionally diversified. Very high marriage rates occurred in the districts so called recovered lands, above all on the Inferior Silesia (around 22‰ in Wałbrzych and Dzierżoniów Districts and about 21‰ in the cities of Świdnica and Wrocław), whereas the lowest in Lesser Poland (from 6 to 7‰ in Districts of Limanowa, Nowy Sącz, Brzozów, Dąbrowa Tarnowska). The diversification of marriage rate between so called recovered lands and former lands was a consequence of youth outflow from former lands on the west and north lands, where they related their life plans to and started families. High marriage rate in the first half of 1950s remained under the influence of fading compensation tendency. It was not until 1954 when the rate fell down under 10‰. In the beginning of 1960s there occurred a sudden fall in contracted marriages since the generation of demographic low born during World War II reached the matrimonial age. Besides, from the beginning of January 1965 the new family and custodial code was introduced which raised the age limit for contracted marriages: the age of 21 for men. In the second half of 1960s, the marriages were contracted more often within after-war generation and previously falling marriage rate begun to increase from 7.2‰ in 1963 to 8.5‰ in 1970. The diversification of marriage frequency remained between west and north lands and former lands. To great extent, it was an effect of the past since most marriages were contracted on the areas where 25 years earlier there was the biggest number of births. The frequency of contracted marriages,

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<sup>14</sup> The observed regularity in low frequency of contracted marriages in the war period and high frequency during the first years after war, what was noticed by Polish demographer Edward Rosset. This unique demographic cycle according to Rosset includes war destruction phase – with high death rate, low number of marriages, birth and shrinking population growth, and after war compensation phase – with characteristic marriage growth (and then birth) and increasing population growth; in the compensation phase there are contracted marriages which were postponed due to the war.

mainly by after-war baby boom generation increased to 1975 (9.7‰), whereas during the next quarter, when the matrimonial age was reached by the demographic low generation, gradually decreased to 5.5‰ in 2000. Last years (2006–2007) have indicated the growth of marriage rate to 5.9‰ in 2006 and 6.5‰ in 2007. Space diversity of marriage frequency is low, from 5.6‰ in Opole Voivodeship to 7‰ in Greater Poland and Pomerania.

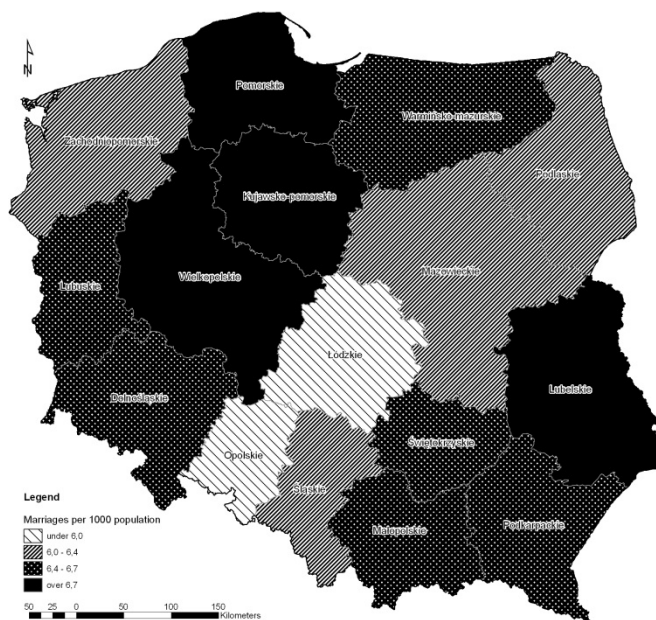


Figure 22. Marriages in Poland in 2007

Source: GUS

Another relevant feature of contracted marriages is the age of newly-married. During the inter-war period (1931) usually men aged 20–24 (37.2%) and 25–29 (36.4%) got married, in the case women the age of 20–24 (44.3%) prevailed. At that time there was high proportion of very young women (19 and less), who entered into marriage and constituted 20% of all women getting married. In the first years after World War II, the age structure of newly married slightly changed. The explicit transformations within the age structure took place from 1960s and relied upon the increase of marriage frequency in the younger groups. Starting from 1960s young people's aspirations and preferences who were becoming adults have changed due to social and economic changes of the system. The reflection of these transformations is for instance contracting marriages in the later age, in 2006 nearly 44% men and over 38% women contracted marriage at the age of 25-29. The age median of

newly-married was 27.3 for men and 25.3 for women. Urban residents got married at the slightly older age (27.8 for men and 25.9 women) against rural inhabitants (26.5 men and 24.1 women). It was noted also the space diversity of the age median of newly-married, the highest median occurred in 2006 in West-Pomeranian Voivodeship (28.3 men, 26.0 women) Inferior Silesia (27.8 men, 25.7 women), and the lowest in Podkarpackie Voivodeship (26.6 men, 24.5 women) and Świętokrzyskie Voivodeship (men 26.8, women 24.6).

In Poland the possibility of contracting apart from civil marriages also religious marriages with the legal effect in civil law, which are commonly called concordat marriages was introduced on the 15<sup>th</sup> November 1998.<sup>15</sup> In 2006 69.5% of all contracted marriages constituted such marriages, the remaining% belonged to civil relationships. The proportions between number of religious and civil marriages since 1999 have been on the same level. During the first year after law amendment (that is 1999) religious marriages were contracted by nearly 67% of newly-married.

The institution of divorce was introduced in Poland on the first January of 1946. Between the early post-war period and 1955 the frequency of divorces was very low and sustained on the level between 4.4 – 5.0 per 10 thousand people. It was no later than in 1963 when it exceeded 6 and in 1969 – 10. During the next 30 years the number of divorces oscillated between 11 and 10 thousand. (*Rocznik...* 1968). During the first years of 21<sup>st</sup> century the number of granted divorces increased from 45.3 (2001) to 71.9 thousand (2006). In 2007 the number of divorces diminished by 7 thousand in comparison with previous year. Within urban areas the intensity of divorces is almost three times as much as in the rural regions. Most divorces were granted in Inferior Silesia, West-Pomeranian, Lubusz, Warmian-Masurian Voivodeships – 21 divorces per 10 thousand inhabitants. The least marriages ended in divorce were in the Voivodeships of Świętokrzyskie (0.9‰), Lublin (1.1‰), Podkarpackie (1.1‰) and Lesser Poland (1.3‰) that is in the regions where residents are claimed to be the most religious with strong tradition of marriage validity.

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<sup>15</sup> The act of 24<sup>th</sup> July 1998 (Journal of Laws, 1998, No. 117, item 757), the legal basis of this act was signing the concordat on the 28th July 1993 between Poland and the Holy See and its ratifying on the 3<sup>rd</sup> April 1998 by Polish parliament (Journal of Laws, 1998, No. 51, item 319).

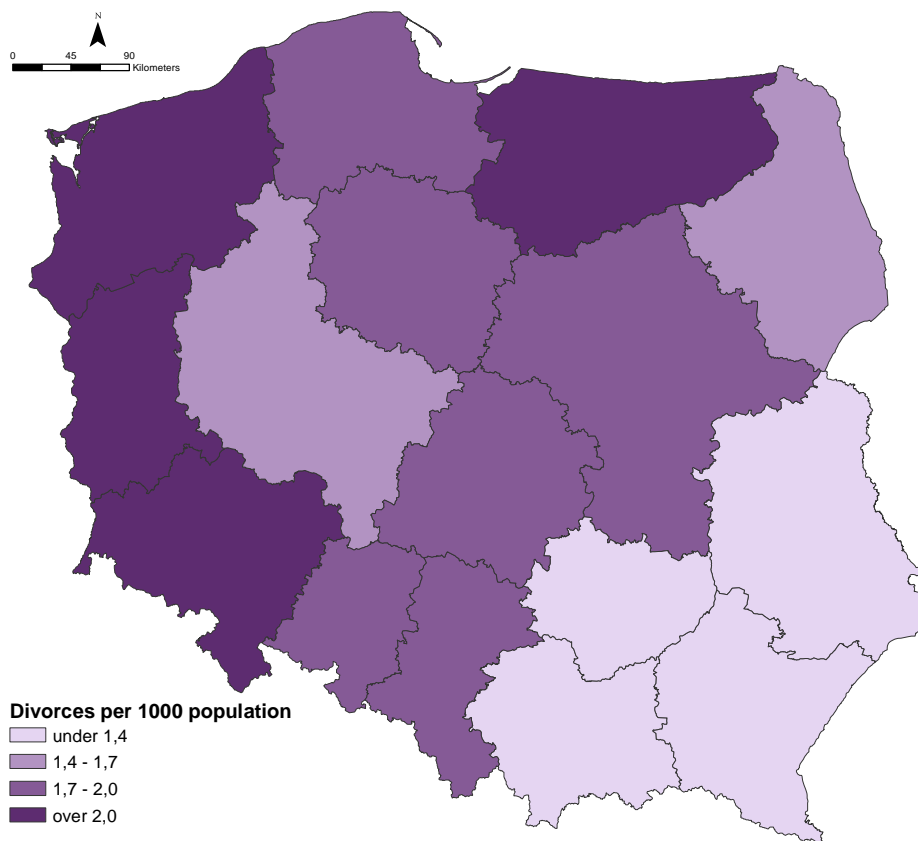


Figure 23. Divorces in Poland in 2007

Source: GUS

In Polish law apart from divorces, the institution of separation exists which revokes marriage community (estate) and forbids the spouses to contract new marriages<sup>16</sup>. The number of separations legally granted dynamically grew in Poland, in 2000 1,340 of separations were granted and in 2005 as much as 11,600 (eight times as much). In 2006 there was noted the decline of granted separation to 7,978. Separation rate (number of separations per 100 thousand people) was in 2006 20.9 and as in the case of divorces the separation intensity is higher in the cities than in the rural regions (23.9 cities, 16.2 rural regions). Separation reached the highest values in Silesia (29.9), Warmian-Masurian Voivodeship (26.1) and Kujawsko-Pomeranian Voivodeship (26.0). The

<sup>16</sup>The institution of separation was introduced in Poland in December 1999 with the act of 21st May on act amendments of Family and Custodial Code, Civil Code and some other acts (Journal of Laws, 1999, No. 52, item 532).

lowest number of separation (with respect to residents) was granted in Świętokrzyskie Voivodeship (11.9), Lubelskie Voivodeship (12.5) and Opole Voivodeship (12.7) – *Rocznik...* 2007.

The birth rate on the Polish lands in the beginning of 20<sup>th</sup> century was very high and exceeded 40‰. The biggest number of birth was noted in 1902 – 1160 thousand. The falling tendency of birth was noted only during the first decade of 20<sup>th</sup> century. Until World War I the number of birth sustained on the permanent level or slightly fell, in 1911 intensity of birth reached 37.8‰. During World War I the global number of births rapidly fell down – according to estimates in the final period of war to 50-60% of the number of births of 1913. After war the intensity increased from 30.5‰ in 1919 to 35.6‰ in 1923 and after two-year stagnation began to slowly drop to 24.6‰ in 1938. The falling tendency occurred in the whole country, however there was a regional diversification concerning initial and final intensity of this phenomenon. In central Voivodeships the birth intensity increased from 33.1‰ to 35.0‰ and then declined to 24.5‰ in 1937. In the group of east Voivodeships initially it was 27.6‰, then increased to 39.4‰ and declined to 26.6‰. On the west, the intensity changed from 26.8‰ to 34.0‰ and diminished to 23.9‰ in 1937, and on the south just after World War I end intensity was 30.2‰, increased to 36.3‰ in 1922, and in 1937 fell down to 24.9‰.

In the first decade after World War II the birth rate increased from 26 in 1946 to 31 per 1 thousand people in 1951. Between 1951 and 1955 the number of births exceeded annually 750 thousand, reaching the maximum of 793.8 thousand live births in 1955. The growth of number of births in the end of 1940s and in the first half of 1950s is a result of after-war compensation phase and the generation born during this time is specified as after-war demographic boom generation. Within the level of births there was marked the space diversity between so called recovered lands and former lands. On the west and north lands the birth rate was 39.1‰, whereas on the former lands - 27.8‰. The record birth rate in 1950 occurred in Szczecin Voivodeship (48.9 ‰), Wrocław Voivodeship (44.7‰), Zielonogórskie Voivodeship (44.4‰) and Koszalińskie Voivodeship (44.3‰). The demographic situation on the recovered lands after World War II, high parity and high intensity rate of contracted marriages was due to the settlement of these areas by young people and effects of after-war compensation phase of procreative and matrimonial processes.

In the end of 1950s and 1960s of 20<sup>th</sup> century the birth intensity in Poland started to gradually reduce, in 1967 there was registered 521.8 thousand of live births (16.3‰). In the end of 1960s there was the growth of contracted marriages and birth number since the after-war baby boomers reached the procreative age. The maximum number of births in

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this period occurred in 1983 and was 723.6 thousand. An average annual intensity in the years between 1981 and 1983 was 19.3‰, in the cities 18.1‰ and in the rural areas 21.2‰. The biggest birth intensity was in Nowosądecki Voivodeship (23.0‰) and Suwalskie Voivodeship (22.9‰), highly urbanized Łódzkie Voivodeship (14.6‰), Warsaw Voivodeship (15.1‰), Cracow Voivodeship (17.4‰) and Katowickie Voivodeship (17.9‰).

Beginning from 1983 during the next 20 years, the birth number declined, to 351.1 thousand in 2003. In the end of 1990s there was expected the birth growth since the procreative age attained the generation from baby boom of the second half of 1970 and first half of 1980. Due to social and political transformations from the beginning of 1990s, there was a change in fertility patterns which resulted in extinguishing the effect of the second after-war echo effect. Since 2004 there has been observed the progressive birth growth, although Poland is still in the demographic low. The number of births in 2007 was 387.9 thousand, the highest birth intensity occurred in Pomeranian Voivodeship (11.6‰), Greater Poland (11.3‰) and Warmian-Masurian Voivodeship (10.9‰), and the lowest in Opole Voivodeship (8.2‰). The increase of birth intensity occurs both amongst families domiciled in urban and rural areas, but the birth rate in the latter is still higher. In 2006 the birth rate in Poland was 9.8‰ (in the rural areas 10.5‰, in the cities 9.3‰) and was lower than the average of EU countries (10.6‰).

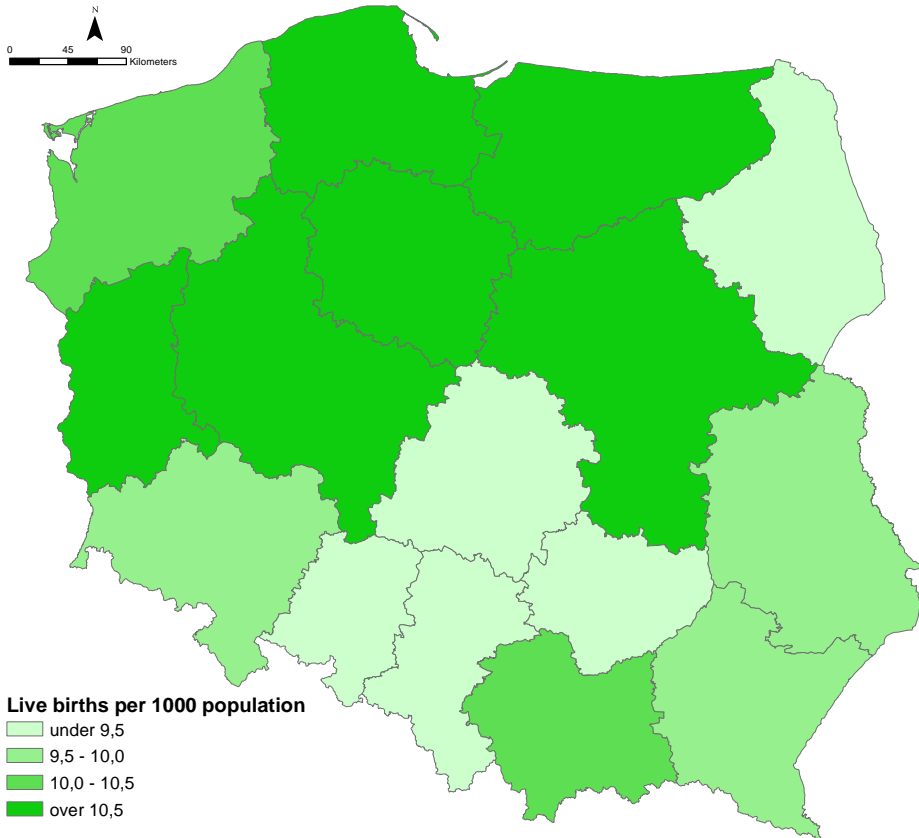


Figure 24. Live births in Poland in 2007

Source: GUS

Despite the increasing number of births, still the reproductive level does not guarantee simple birth substitutability. In 2006 the total fertility rate was 1.27, which means growth (over 0.05 points) with respect to the rate noted in 2003, being the lowest from over 50 years. Within European Union countries in 2006 the lowest total fertility rate occurred in Slovakia. One shall remember that the most advantageous demographic situation specifies the rate being on the level 2.1-2.15, that is when in a given year for one woman aged 15-49 falls on average 2 children.

As a result of demographic transformations of 1990s there have been: a shift of the highest women fertility from the age of 20-24 to the age of 25-29. This is due to choice made by more and more young people who firstly decide to achieve the given level of education and economic stabilization and then start a family and enlarge it. While analyzing the education level of mothers, it can be noted that from the beginning of



1990s almost as much as five times the percentage of mothers with higher education increased (from 6% to 29%), whereas the percentage of mothers with primary education and without education reduced (from 18% to 8%). The consequence of pro-family behaviors is the increase of the average age to give birth which in 2006 was 27.6 years (compared with about 26 years in the middle of 1990s), and the average age to give birth to the first child – 25.6 in 2006 (about 23 years in 1990s).

The great majority of children (in 2006 over 80%) has been born in families made by legally contracted marriages and almost half of children is born within 3 years from their parents marriage. Simultaneously the percentage of births in the promiscuous relationships has from several years increased. In the beginning of 1990s 6-7% of children were born in the promiscuous relationships, whereas recently 17-19%. This percentage is definitely higher in the cities – in 2006 was about 22%, whereas in the rural areas nearly 15%.

At the turn of the century, 25 out of every 1,000 inhabitants of the future territory of Poland died, which was the European average at that time (25.9‰). Polesia, Volhynia and eastern Galicia had the highest mortality rate. Kingdom of Poland, Greater Poland and Pomerania had considerably lower mortality rates. At the end of the first decade of the 20th c., national mortality rate fell to 22.4‰. Based on general estimates, mortality rate in the Kingdom of Poland and Galicia rose during WWI to over 40‰, not including war casualties. During the first two years after WWI, mortality rate remained high (27‰), but already in 1922 it fell to 20‰, while in mid-1920s it decreased by another 3.3‰ to 16.7 deaths per 1,000 inhabitants and came close to the average European rate (15.6‰). As a result of the improvement general healthiness in the 1930s, mortality rate fell gradually: from 15.5‰ in 1931, to 13.9‰ in 1938 matching European standards (13.9‰). Such countries like France and Romania had worse rates (15.4‰ and 19.0‰ respectively), whereas the rates in the Netherlands, Norway, German and Sweden were far better.

In the first years after WWII, mortality rate according to the estimates of the Central Statistical Office was 10.2‰ (1946), but more probably, it matched the rate of late-1930s (14.1‰). Mortality rate rose to 12.4‰ in 1951 as a result of wartime destruction of the country, devastation of the population's health, shortage of food and heating materials, catastrophic sanitation condition and uncontrollable spread of infectious diseases.

Starting from 1952, mortality rate began to fall reaching in 1965 and 1966 the lowest rate of the 20th c. (7.4‰). Since late-1960s, researchers have been observing a slow and steady increase in the mortality rate mainly caused by ageing of the society. In the 1970s, average mortality rate rose to 8.7‰ and in the last two decades it settled around 10‰, with a slight decrease in the first years of the 21st c. to 9.4‰ in 2002 and then

rising to 9.9‰ in 2010. The highest intensity of mortalities in 2010 was recorded in Łódzkie (12.3‰) and Świętokrzyskie (11.0‰) Voivodeships while the lowest in Podkarpackie and Pomorskie Voivodeships (both 8.7‰). Both in the second part of the 20th c. and the first years of the 21st c., mortality rate in the countryside was higher than in the cities. If one compares individual decades, average annual mortality rate in the countryside was always 14-16% higher than in the cities.

The most common cause of death in Poland in the years 1970-2005 were neoplastic and cardiovascular diseases which constituted 70% of all deaths, followed by respiratory diseases, digestive diseases, genitourinary diseases and injuries. In the past few years, there has been a decrease of mortality caused by cardiovascular diseases; in the first half of the 1990s, they were the cause of more than 52% of all deaths, while only 48% at the beginning of this century and 46.2% in 2009. Mortality rate among women as a result of cardiovascular diseases is significantly higher, constituting 52.1% of all deaths, while among men - ca. 41%. Also the percentage of deaths as a result of injury or poisoning is gradually decreasing. In 2009, they were the cause of 6.3% of all deaths compared to 7.6% in early 1990s. In this case, there is also a high diversification of mortality rate depending on sex: injuries and poisoning are the cause of 9.1% of all deaths among men, but only 3.1% among women. One of the most detrimental phenomena is the rapid increase of deaths caused by neoplastic diseases coupled with an increase in the number of new cases. In 1990, malignant tumors were the cause of 18.7% of deaths, while in 2009, they constituted 25% of all causes of death (26.4% among men, 23.4% among women).

Several factors influence mortality rate. Some of the most significant are: people's material and health conditions, cultural and sanitation-civilization level, level of medical knowledge and the quality of hospital equipment, social insurance and access to healthcare, as well as some demographic factors (sex, age, marital status). Demographic determiners, including sex and age, are important elements conditioning mortality rate. All age groups feature higher mortality rates among men than women which is referred to as excess mortality of men. While in the 1950s the mortality of men aged over 20 was higher than the mortality of women in the same age only by several dozen%, in the mid-1960s, the mortality of men aged 15-34 was twice as high as the mortality of women in the same age group. In the following decades, the mortality of men aged 20-34 was already 3-4 times higher than the mortality of women in the same age group.

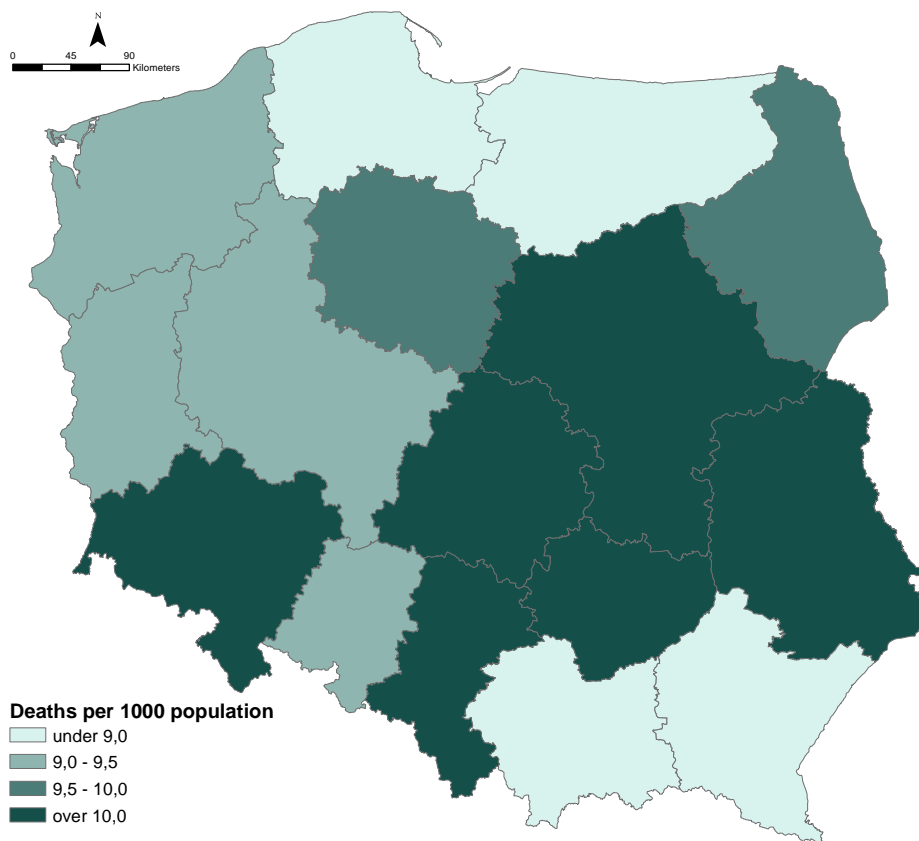


Figure 25. Mortality rate in Poland in 2007

Source: GUS

At the end of the 19th c., the mortality rate of newborns in the territories of today's Poland was very high (223 deaths of newborns per 1,000 live births), but the same mortality rate was recorded in Austria, Hungary and German lands. Within the first quarter of the 20th c., the mortality rate of newborns in Poland fell by 20%, but in most European countries it fell by even more (e.g. by 60% in Switzerland and in Great Britain). In the 1920s and 30s, the mortality rate of newborns fell to 139‰ (1936-1938). After WWII, the mortality rate of newborns was slightly over 110 deaths per 1,000 live births. Since 1952, there has been a steady decrease of the mortality rate of newborns, starting from under 100‰ in 1952, through under 30‰ in 1973, under 20‰ in 1988 to under 10‰ in 1998. In 2010, the mortality rate of newborns in Poland was 5.0‰, reaching the lowest values in Łódzkie and Wielkopolskie Voivodeships (4.0‰ and 4.4‰ respectively) and the highest number of newborn deaths per 1,000

live births in Świętokrzyskie, Dolnośląskie and Kujawsko-Pomorskie Voivodeships (6.3‰, 6.1‰ and 5.8‰ respectively). Almost every year since 1971 and exactly every year since 1991, the mortality rate of newborns in the countryside has been lower than in the city (by a few tenths per mill).

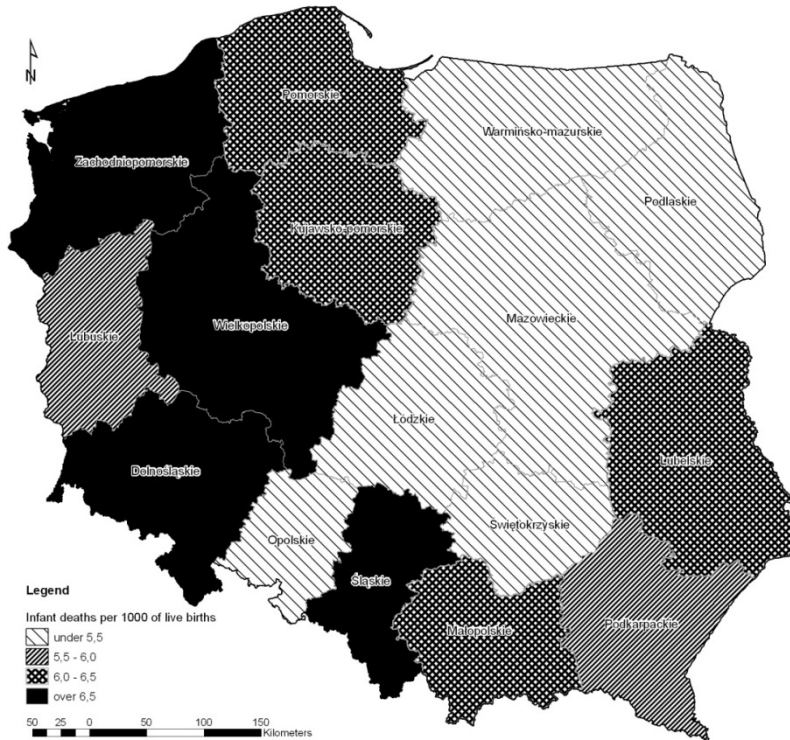


Figure 26. Mortality rate of newborns in Poland 2007

Source: GUS

### 4.3. Urbanization

At the beginning of the century, nearly 25% of the Polish population lived in cities. In 1900, Upper Silesia was the most urbanized area with city population, including the inhabitants of industrial settlements without municipal rights, constituting 50% of the total population. Galicia and north-eastern guberniyas of the Kingdom of Poland were the least urbanized areas. Low urbanization in those areas was a result of dispersed city network and city size structure: cities of more than 10,000 inhabitants contained less than 10% of the total population of those areas. Relatively intensive urbanization of the south-western part of the Kingdom of Poland, on the other hand, was mostly a result of the

development Łódź and Warsaw. By 1913, the Kingdom's city population has increased from 23.1% to 29.2%. Dynamic growth was a characteristic feature of Kielce guberniya, mostly in Zagłębie Dąbrowskie, with developing coal-mining, machine, metalwork and chemical industries with a dominant growth of Sosnowiec, Olkusz, Zawiercie and Dąbrowa Górnicza. The growth the population of Kielce was also significant. Cities of the Kalisz guberniya continued to grow, mainly as a result of the growth of Kalisz. Łomża, Siedlce and Płock gubernias were the least developed, mainly as a result of the "Brazilian emigration rush" which occurred there at the time. Between 1914 and 1918, i.e. during WWI, the growth of Polish cities was hindered, as most of them became a theatre of war, and thus, sustaining significant human, city development and industrial infrastructure (removed by occupying forces) losses. The cities of the Kingdom and Galicia sustained most severe losses as they lied on the path of moving fronts.

Based on the Interbellum censuses, Polish city network was dominated by small cities; in 1931, 90% of all 610 cities with city rights were small towns<sup>17</sup>. There were only twelve large cities, but note that cities with a population in excess of 100,000 were considered big. Five of them were located in central Voivodeships.

The share of city population within 1921–1931 increased from 24.6 to 27.4%. During the Interbellum, western Voivodeships (34.1% in 1921 and 35.8% in 1931) and central Voivodeships (31.8% in 1921 and 33.2% in 1931) were the most urbanized areas. The level of urbanization of southern Voivodeships was lower than the national average reaching 22.6% in 1931. Eastern Voivodeships were agricultural areas with the lowest level of urbanization and with poorly developed city network, which is why in 1931, the share of city population in their total population was 13.8%.

In the 1930s, city growth was slightly slower than in the previous decade mainly as a result of the 1929–1935 economic crisis. While between 1921 and 1931, average annual increase of city population reached 2.5%, between 1932 and 1939 it was lower, reaching 2.0%. The share of population in big cities of more than 100,000 inhabitants rose from 30.8% in 1921 to 40.1% in 1939. Within the same period, the share of population in small towns under 20,000 inhabitants fell from 43.3% to 34.8%. The share of population in medium-sized cities did not change (25.9% and 25% respectively). The level of urbanization in August 1939 was estimated at 28.4% (without Zaolzie).

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<sup>17</sup> Cities with city rights as of 01.01.1933 in central and eastern Voivodeships and as of 1. 08. 1934 in western and southern voivodships; the number of Interbellum cities within today's borderlines is different - see Table 3.8.

During the Interbellum, a new city: Gdynia (sea port) was built and as a result of the development of heavy industry, mainly arms industry, many small towns of central and south-eastern Poland, the so-called Central Industrial Complex, were developed, e.g.: Starachowice, Pionki, Skarżysko-Kamienna, Ostrowiec Świętokrzyski, Kraśnik, Stalowa Wola, Mielec, Dębica *etc.*

As a result of the shift of its eastern border after WWII, Poland lost 164 cities, including two major ones: Vilnius and Lviv. Thanks to the inclusion of western and northern lands with 256 cities, the overall balance of city network was predominantly positive, considering the number of cities. However, the loss of Vilnius and Lviv was an irreparable loss not only because of their historical significance but also because of numerous cultural goods left there (archives, documents, museum and library items and architectural monuments).

WWII caused extensive damage to the cities' human and material resources. Cities with population in excess of 100,000 suffered the most - their population on average plummeted each year by 8.8% (7.0% in the old lands and 12.6% in the newly incorporated lands). Medium-sized cities (20,000-100,000 inhabitants) suffered slightly less, reaching an annual average population loss of 5.6% (4.0% and 8.2% respectively). Finally, the total population of small towns (less than 20,000 inhabitants) fell annually by 4.1%.

The first years after WWII (1946-1950) recorded an exceptionally high average city population growth rate reaching 5.8% annually: the lowest population growth rate was recorded in small towns (0.8%) and the highest in the largest cities (13.6%). The speed of the development of cities varied; population in the newly incorporated lands grew faster than in the old lands. This was a result of depopulation of cities and German displacement of people from the newly incorporated lands which then were subject to inflow of Polish people displaced from eastern borderlands (Kresy) and Polish people from central Poland trying to find better living conditions. The country's level of urbanization, measured by the percentage of city population, according to a 1950 census reached 39.0%: 35.6% in the old lands and 47.5% in the newly incorporated lands.

Between 1951 and 1960, the city population growth rate remained high (4.3% on average), but it was significantly lower than during the first post-WWII period. The development of cities in the 1950s was mainly a result of administrative changes; the share of population growth as a result of administrative changes was nearly twice as high as the share of population growth as a result of migration (34.1% and 19.3% respectively). During the next decade (1961-1970), city population growth dynamics reached an average annual value of 2.4% and there was no significant

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difference between population growth in the old and the newly incorporated lands. The 1960s was the first time when the results of industrial investments began to be visible in the population growth rate in individual cities. The process of industrialization of Poland resulted in an increase of city population and since 1966 city population has exceeded rural population. The number of cities grew in 1970 to 834, with a steady dominance of small towns: more than 82% of all cities were small towns up to 20,000 inhabitants.

The city population growth dynamics in the following inter-census period (1970-1978) remained at the previous decade's level (2.4%), but the number of cities decreased to 803 in 1978. The highest population growth rate was recorded in the largest cities (from 2.1% to 3.9%), whereas small towns recorded a decrease of 0.7% annually. In the last decade of the 20th c. and at the beginning of the 21st c., the city population growth rate fell significantly to only 0.1% annually, but the number of cities grew from 822 in 1988, through 891 in 2007 to 903 in 2010. Unlike in previous periods when the largest cities recorded greatest growth, this time the highest growth was recorded in small towns (0.6% annually) while large cities recorded a decrease by 0.2% annually.

Since the 1950s, researchers have been observing a phenomenon of concentration of city population in large cities with more than 100,000 inhabitants. Urbanization processes, transformation of city networks and concentration of the population lead to the creation of higher functional and spatial forms of city development in the form of the so-called metropolitan areas. Metropolitan areas are large concentrations of city population and industry settled around one or several closely located large cities which participate in an intensive process of transfer of people, goods and services.

The new territorial situation after WWII, including the shift of administrative borders of Poland, required the creation of a new countrywide settlement pattern. During the first years after WWII, no changes were introduced to the pattern. However, the so-called Reclaimed Lands started to be settled and their settlement network was incorporated into the country's settlement pattern. Better development conditions had areas which performed administrative functions as well as industrial areas, especially those where production plants could be started-up quickly as production capabilities were extremely necessary for the destroyed country trying to rebuild itself. An important stimulus for the development of cities after 1949 was the national industrialization policy. Some changes to the country's settlement pattern were always caused by the changes in the country's territorial division. The new territorial division of 1975 played a major role, replacing previously existing 17 Voivodeships and 5 separate cities with 49 new Voivodeships. The cities

which became new Voivodeship seats were very different, with cities like Częstochowa, Toruń, Wałbrzych and Kalisz on the one hand and Sieradz, Leszno, Piła and Ostrołęka on the other. Those changes, however, spurred dynamic development of new Voivodeship capitals, which coupled with insufficient public funding, had to be done by sacrificing other cities, especially Poviats which entered a period of economic stagnation.

Recent settlement pattern changes are not as much a result of the new territorial division of Poland introduced in 1999, as a result of a new political situation which began to form after 1989. As the role of central budget in stimulating the development of settlement units did not change significantly, current development of cities and other settlement units largely depends on the efficiency of local-government authorities (city marketing) and their competitiveness (ability to generate growth through e.g. attracting new investments).

The Polish settlement pattern in 2010 consisted of 54,200 settlement units which included 903 cities and more than 53,000 rural units. The Polish settlement network of the 21st c. can be divided into 6 levels of functional hierarchy of settlement units which means there are 6 functional classes of settlement units, considering the spatial dimension of their influence.

The pattern consists of:

- 1) capital area - Warsaw,
- 2) macro-regional centers: Kraków, Łódź, Wrocław, Poznań, Gdańsk (Tri-City), Katowice (performing the function together with other large cities of the metro area) and Lublin,
- 3) regional centers, i.e. remaining 49 former Voivodeship capitals (from the 1975 territorial division), specifically 41 cities,
- 4) sub-regional and supralocal centers, 307 cities,
- 5) local centers (commune, town and rural centers and other cities), specifically 532 cities and 1,592 commune villages,
- 6) sub-local centers (villages), over 51,000 centers.

In 2007, the largest number of cities was recorded in Wielkopolskie, Dolnośląskie and Mazowieckie Voivodeships (109, 91 and 85 respectively), while the largest number of villages in Mazowieckie, Wielkopolskie and Łódzkie Voivodeships (8,601, 5,491 and 5,068 respectively). It is those Voivodeships that possess the highest density of settlement networks. The largest Polish city, Warsaw, is not only the capital of Poland, but also one of the biggest and the most important cities of Central Europe, pertaining to the role of metropolitan area of the subcontinent. Warsaw is being challenged for its high international position in this part of the continent by the dynamic Budapest and the picturesque Prague. Warsaw is constantly developing its metropolitan functions and



related spatial and functional structures. Poznań, Wrocław and Cracow and even Gdańsk (or rather Tri-City) possess favorable growth perspectives, all undoubtedly macro regional centers constantly developing their metro functions on the national level. Łódź has started to develop dynamically in the past few years. New investors were invited and the revitalization process of post-industrial areas is dynamic and full of interesting solutions (like the Manufaktura shopping and cultural centre).

The settlement pattern of Poland has been developing throughout the entire history of the Polish state. Regardless of some stabilization (basically since 1975 on), it is, apparently, transitional in nature and it will undergo further transformation within the next 15-20 years. Possible factors influencing the change will include the results of political change of 1989, especially of the modernization of the economy and the development of local-government authorities' efficiency as well as globalization coupled with continued EU integration. Apart from the subcontinental metro area and 6-7 national metro areas, another 10-12 new, possibly able to compete Europe-wide, new regional centers will emerge, such as: Bydgoszcz, Toruń, Białystok, Rzeszów, Kielce, Opole, Koszalin, Olsztyn, Wałbrzych and ca. 250 subregional centers. The remaining cities will become local centers the development of which will depend not only on their resources but their skilled and efficient utilization in market economy conditions and their function within the local-government structures.

#### **4.4. Migration movements**

In each case, migration leads to change in the distribution and specificity of the population. Migrations can be classified according to the distance being covered and borders being crossed (internal and international migrations), reasons for migrations (economic or non-economic) and the mode of decision-making (free or forced). Population is directly affected not only by population growth but also the size of migrations. International migration influences the entire country, whereas the population of smaller units (Voivodeships and other territorial units) depends on the international and internal migration balance.

Spatial mobility of the Polish population in the 20th c. was significant. This was a result of various factors, from normal migration tendencies to the tragic influence of wartime activities and persecution by occupying forces.

The mobility (lack of migration) rate in 1921, defined as a share of non-mobile population, i.e. population living in the same place since birth, was 71.5%. The highest values of the index were recorded in eastern Voivodeships (85.5%), particularly in Poleskie (87.6%). A completely

different situation was taking place in the western Voivodeships where the population living in one place since birth constituted only 44% of the total population, i.e. inflow population was predominant. After WWII, massive internal migrations began. Apart from spur-of-the-moment migrations, the displacement of people from the old lands to the newly incorporated lands had also a government-organized character, managed by the National Repatriation Office (Państwowy Urząd Repatriacyjny). As a result of the relocation operation (in the years 1944-1947), 2,216,900 people were displaced from the old lands to the newly incorporated lands. Most people came from Warsaw and Łódzkie Voivodeships and the over-populated south-eastern Voivodeships - more than 84% of all the displaced.

Migrations during the first post-WWII years were the result of the settlement processes of western lands but also a result of people seeking new places to live which could offer better prospects for the future and better opportunities for rebuilding the economy. Between 1950 and 1955, during the implementation of the 6-year economic plan, work was started to build many new production plants which resulted in increased workforce needs. In order to acquire out-of-town workforce without specific qualifications, recruitment actions were initiated. In the 1950s, the total internal migration reached 13.6 million people. Migration spurred inflow of people to cities and urbanization processes. During the entire period, positive balance was recorded by western and northern Voivodeships (without Gdańsk) and in the old lands: the city of Warsaw, Katowice, Warsaw and Cracow Voivodeships. The following decade featured a continuation of industrial investments in Upper Silesia, in the Lubin-Głogów, Turoszów and Konin coal fields, in the chemical industry (Puławy, Police) and in the textile industry (Łódź). The biggest investment of the 1960s was undoubtedly the creation of the refinery-petroleum complex in Płock (PKN ORLEN today) and the "Friendship" Pipeline. Internal migrations in the 1960s continued to be high, reaching the level of 9,355,000 people. Voivodeships with large cities and city-industrial metro areas, such as: Warsaw, Cracow, Wrocław, Poznań and Łódź as well as Katowice, Szczecin, Gdańsk and Opole Voivodeships gained the most.

Internal migrations in the 1970s were still a result of Poland's economic growth; emphasis was put on the development of the electromechanical, steelworks, textile, food and housing industries. The number of people who at that time decided to change their place of residence was lower than in the previous periods, reaching 8.9 million people. 12 out of 49 Voivodeships profited from the migrations, i.e.: Warsaw, Katowice, Legnica, Gdańsk, Łódź, Cracow, Poznań, Lublin, Bielsko-Biała, Opole, Rzeszów and Wrocław Voivodeships. The intensity of migrations in the

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following decades decreased gradually. In the 1980s, 6.7 million, whereas in the 1990s only 4.4 million of Poles migrated. The downward tendency in internal migrations continued into the first years of the 21st c. – 422,100 people migrated on average each year (440,000 people in the 1990s).

The decrease of the number of people deciding to migrate was accompanied by a shift in the migration direction structure. Within the entire discussed period, migration from the countryside to the city constituted a significant or predominant (from the 1970s until the mid-1990s) part of the migration stream. The percentage of people migrating from the countryside to cities remained in the range 25-26% in the 1950s and it increased to 34-36% in the 1970s and 80s. Since the mid-1990s, city-to-city and city-to-countryside migrations have become predominant. The latter has been a result of "moving out" of wealthy city population from large cities to metro area communes.

International migrations from Poland started in the final years of the 19th c. and they intensified just before WWI. It was a result of growing need for cheap workforce in the United States, in South America and in Western Europe. According to some estimates, between 1871 and 1913, 3.5 million people emigrated from the Polish land, mostly to the United States and Germany (in the case of Germany, formally it was internal migration). Those migrations were predominantly motivated by the economic factor.

WWI caused mass migrations of people, enforced wartime migration processes of soldiers who were drafted to the armies of the occupants, of prisoners of war returning to their homes and of civilians. The Kingdom of Poland was mostly affected by those processes. Estimates by the Central Statistical Office indicate that migration losses in the territories of today's Poland in the years 1914–1918 reached 3,663,000 people. After war efforts ceased, some of the losses were compensated by returns through e.g. repatriation.

During the Interbellum, more than 2 million people emigrated from Poland. Between 1918 and 1921, almost 216,000 people emigrated from Poland to the United States and France. During the next four-year period (1922–1925), 60% more people left Poland than in the previous period, the direction of migration being France. In late-1920s, the number of emigrants reached 963,000 people. World crisis of the 1930s hampered the size of migrations. Only after the crisis had been overcome, in the years 1937-1938, international migration began to increase.

Considering continued migrations of 1927-1938, the area of Poland from which most migrations originated were southern Voivodeships where 283,100 people emigrated, i.e. 36% of Polish continued migrations - mostly to France and Canada. The second area of emigration were

central Voivodeships where 278,400 people emigrated mostly to France, Palestine, Argentina, USA and Canada. The least emigrants moved permanently from central Voivodeships – 127,200 people, mainly to Argentina, Canada and Palestine.

The events of WWII caused massive migrations in this region, estimated at 20 million people. Those migrations at the beginning of the war were a result of refugees fleeing oppressors and German and Soviet POWs relocations. Just before the end of WWII, the Polish eastern borderlands were inhabited by 2.2-2.7 million Polish citizens entitled to be relocated to Poland whereas 3.4 million people forced to leave the country and 575,000 Polish soldiers participating in the war efforts still remained in the Nazi Germany.

Relocations were initiated by the National Repatriation Office. According to the National Statistical Office, between 1944 and 1949, 3,811,540 people were repatriated to Poland, 40.1% from the USSR. The peak of repatriation took place in 1945 and 1946 (2.6 million) which constituted more than 67% of the total repatriation flow at that time. Most re-emigrants (81.4%) from the lost eastern lands and from other territories of the USSR were distributed on the so-called reclaimed lands. Repatriations from Germany included 2.1 million people (62%) out of 3.4 million of displaced Polish citizens. Between 1955 and 1959, during the second stage of repatriation, 249,200 people returned from the USSR to Poland.

According to applicable agreements, Ukrainians (481,200) and Belarusians (36,400) were relocated to the territory of the USSR. After WWII, 730,000-780,000 Germans left Poland, mostly from Western Pomerania (291,000), Lower Silesia (108,000), Opole region (86,000), Warmia and Masuria (nearly 25,000) and from Lubusz Land (20,000). Emigration from Poland also included Jews. Between 1944 and 1948, over 142,000 Jews emigrated. After the foundation of the Jewish country of Israel in 1948, the government allowed another 113,000 Jews to emigrate.

After the great post-WWII migrations ceased, foreign immigration into Poland in the 1960s remained at a steady and low level of 2,400 people annually, while emigration was almost ten times as high. In the 1970s, foreign inflow for permanent immigration was rather symbolic, reaching 1,600 annually, while emigration was 14 times as high as a result of outflow to Germany of the population of German descent. International migrations remained similar in the following decade. However, please note that within the entire post-WWII period all until the end of the 1980s, international migrations very strictly controlled by the government. Political changes which have occurred in Poland since 1989 and EU accession enabled a free movement of Polish citizens (Table 3.10.)

Researchers estimate that in 2007, the negative international migration balance reached 21,000 people and it was lower by nearly 15,000

than in 2006. At the same time, the scope of continued emigration (usually returning to Poland) was increasing, from 11,000 in 2006 to 15,000 in 2007. Furthermore, estimates seem to indicate that at the end of 2007, ca. 2,270 million Poles remained abroad, 1,925 million in Europe. A predominant number of Polish immigrants lived in EU Member States: ca. 1,860 million. Based on available statistical data, since 2008 the negative international migration balance has been decreasing. This is a result of lower emigration which in 2010 was higher only by 2,000 than immigration.

#### 4.5. Demographic restructuring

The population structure according to sex and age is the basis for assessing the demographic potential and for forecasting future population growth trends. A good indicator for analyzing the population structure according to age is the share of men and women in the analyzed population, but usually researchers use the feminization index ( $W_f$ ), i.e. the relationship between the number of women and men (per 100 men).

At the beginning of the 20th c., in 1910, there was a slight dominance of women in the Polish territories ( $W_f = 103.7$ ). In 1921, the sex structure of the Polish population was highly disturbed similarly to other countries which participated in WWI (109.6). The disturbance in the sex structure mostly applied to city population (where per every 100 men there were 116.0 women) rather than rural (107.7). A decade later, the sex structure changed and become less deformed: the feminization index reached 106.9 with insignificant regional variations. WWII had much more destructive influence on the size and structure of the Polish population than WWI. According to the 1946 census, the deficit of men rose to 2.3 million, i.e. per every 100 men there were 121.5 women, 117.8 in the old lands and 137.1 in the western and northern lands. Within a few years, structural deformations subsided as a result of migration processes and natural generational exchange, i.e. dying out of generations with highly deformed sex structure and introduction of new generations with normal structure. In 1950, the feminization index fell to 109.6 and then to 106.7 a decade later. Between 1970 and 2000, the relationship between the total number of women and men nationwide remained stable at 105.8-105.9 per 100 men. In 2010, the total feminization index was 107, reaching 111 in cities and 101 in rural areas per 100 men. The highest dominance of women over men was recorded in Voivodeships: Łódzkie (110), Mazowieckie (109) and Dolnośląskie (109) and the lowest in Podkarackie, Warmińsko-Mazurskie and Świętokrzyskie Voivodeships (105).

At the turn of the century, the population structure in the Polish lands according to age corresponded to the specificity of a young society

(progressive type). That was a result of high population growth which exceeded intense emigrations and high mortality rate ensuring rapid growth of the population. Age structure was rather harmonized. Children (aged 0-14) constituted 39.3%, adult population (aged 15-49) 47.7% and older population (aged 50 and more) 13.0%. Similar structure was recorded in Bulgaria, Russia and Italy. The structure of the population of the Polish lands at the turn of the century was not regionally diverse.

In 1921, the structure of the Polish population according to age reflected significant wartime losses, with a high decrease (by 30%) of children aged 0-5 as a result of decrease of the number of births during WWI and people aged 20-44 who were mostly affected by the war. The age structure of 1931 still reflected the results of the war. Similar situation occurred during WWII. With the beginning of the 1950s, age structure of the Polish population began to change which was mainly a result of natural movement. In 1950, the share of children and the youth (aged 0-14) was 29.5%, adult population (aged 15-59) 62.3% and older population (aged 60 and more) 8.2%. Within ten years of the 1960s, the share of the population aged 0-15 fell from 35.3% to 28.6%. Between 1971 and 1988, the share of the youngest population decreased by 1.7 pp, the share of adult population remained unchanged and the share of older population increased by 1.6 pp. Since the 1990s, the share of children and the youth up to 15 years of age in Poland has been constantly falling (from 24.4% in 1990 to 15.1% in 2010) while the share of the oldest population aged 65 and more has been growing (from 10.2% in 1990 to 13.6% in 2010).

The actual population forecast created by the National Statistical Office in 2010 for the years 2015-2035 indicates a constant downward tendency within the Polish population within the entire forecast period (Table 3.11.) Based on the forecast, the population of Poland in 2035 will be 35,993,100 people, decreasing by nearly 2.2 million as compared to 2010. The population loss will not apply to all Voivodeships as the researchers forecast a population increase in Mazowieckie, Małopolskie and Pomorskie Voivodeships. Depopulation processes will mostly affect Świętokrzyskie, Łódzkie, Lubelskie, Opolskie and Śląskie Voivodeships. According to the forecast by the National Statistical Office, the decrease of the Polish population will be mainly a result of the decrease of the city population. City population is forecast to increase only Mazowieckie Voivodeship. The change of rural population will be far less significant - a decrease by 177,600 people. Seven Voivodeships will record an increase in the size of rural population, the biggest increase to be recorded in Pomorskie and Wielkopolskie Voivodeships.

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## 5. SOCIAL POTENTIAL

### 5.1. Introduction

A term *potential* is commonly used in many various fields of learning. According to the dictionary of Polish language (1989) *potential* means “a provision of possibilities, powers, capacities of production which may be found in something; in particular it is country’s dexterity, efficiency and possibility in some field, for instance in economic or militar field”. In the present chapter the potential is related to the social element although it is worth taking into consideration that in this meaning there are two terms commonly used at the same time: *resource* – human resources; *capital* – human capital, intellectual capital. That is why below there are two terms defined, firstly the term of social potential and in a further part the term of human capital as it was used in the chapter as an economic term as well.

*Social potential*, it is a potential “referring to a society, appearing and forming in the society, becoming fulfilled in the society, by society and connected with the society”<sup>18</sup>. The essence of the social potential is determined by people, and its significant growth results from the challenges of the phenomenon known as globalization shaped under the influence of scientific and technical development. An exchange of commodities is replaced with an exchange of information, courses of instruction and the knowledge, so that information and creativity become the strategic resource of societies. Predominant significance of knowledge and its replacement to a capital in the traditional aspect entail a spread of a conviction about the transition from an economic order defined as the economy “based on the carbon” to the economy “based on the knowledge”<sup>19</sup>, which is perceived as a source of economic success and it is believed to be the desirable state in every country.

A presentation of various measures constituting the dimensions of social potential, an analysis of their diversity in Poland in the regional aspect and indicating an influence of Poland’s accession to the European Union on the possibilities of creating and developing the social potential in Poland are regarded as the subject of the chapter. Creating the most competitive world’s economy based on the knowledge, capable of systematic growth is the strategic aim of EU. The social potential and its significance in creating “an area which could compete with the most

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<sup>18</sup> *The Dictionary of Polish Language*, 1989, PWN, Warszawa.

<sup>19</sup> Kukliński A., 2001, *Gospodarka oparta na wiedzy jako laboratorium polskiej szkoły myślenia strategicznego. Wyzwanie dla Polski XXI wieku*, Wyd. KBN, Warszawa, p. 239.

dynamic word's economies"<sup>20</sup>, is the subject of the first chapter of Lisbon Strategy concerning the labour market. At the same time, a progress of processes in EU's integration favours and intensifies differences in the level of economic development both member countries and their regions. In the latter part the chapter will present the aims of EU's regional, structural policy and its tools, which are used by Poland after its accession to the European Community. To recognize social potential of Poland as a wider phenomena, the problem of national minorities will be also presented. It is believed that the wide range of historically formed customs and traditions provides a better background for social integration, creativity and development. Poland with minorities constituting about 3-4% of the entire society could be called a national state, nevertheless some regional differences of the minorities' density and their socio-cultural influence can be recognized.

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A term of "intellectual capital" was used for the first time by John Kenneth Gilbraith, who in his letter to Polish economist Michał Kalecki (1899–1970) wrote: "*I am curious if You realize how much in the world do we owe to the contribution of Your **intellectual capital** in the last decades*"<sup>21</sup>.

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## 5.2. The human capital as an economic term

The term of human capital already appeared in the works of eighteenth-century economist Adam Smith. However it was only the latter part of 20th century when the term acquired an economic sense. Economists began to use the metaphor of "capital" – known since a long time in economy, to explain the role of education and competences in generating the economic growth. It was argued that people invest in their education and training in order to create the resource of abilities and skills labeled as the "capital", which may bring many long-term profits. This kind of investment may also bring some benefits to national economies and help in the stimulation of their economic growth. A theory of human capital emerged in response of the economic world to the process of abandoning the industrial era based on the usage of traditional factors and becoming "the Era of Knowledge".

Among the theorists of human capital, who are considered as the authorities by the contemporaries of this economic category, T.W. Schulz

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<sup>20</sup>Budzyńska A., Duszczyk M., Gancarz M., Gierończyk E., Jatczak M., Wójcik K., 2002, Strategia lizbońska – droga do sukcesu zjednoczonej Europy, Urząd Komitetu Integracji Europejskiej, Warszawa, p. 6.

<sup>21</sup>Kunasz, 2003, Ogólny zarys koncepcji kapitału intelektualnego, [w:] D. Kopcińska (red.), „Kapitał ludzki w gospodarce”, PTE, Szczecin, pp. 7-18.



and G.S. Becker should be mentioned. Becker emphasized one of the human capital's fundamental features, namely, that "by no means it is possible to separate a human being from knowledge, skills, health. However it is possible to transfer financial and material assets"<sup>22</sup>. Whereas the main subject of Schultz's scientific interests was the influence of the human capital's level on the economic growth in USA until the 1960s. The author stated that the economic growth in this period of time could not be explained by the growth of "classical" production's elements (of work, material and land), because the national income was growing faster than the production's elements mentioned above. It seems therefore that the production's element which may explain in great measure wide differences in economic growth is human capital.

There are a few attempts to define the term of human capital presented in the table below due to the lack of an unequivocal approach applied by the authors who have undertaken this problem in researches hitherto. However in each of them the clear emphasis of qualitative features, characterizing the human element of economic growth, comes into prominence.

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#### **THE HUMAN CAPITAL IS...**

"the synthetic characterization of working qualities",  
 "the accumulated (...) scientific knowledge and skills based on it",  
 "qualitative components such as skills, knowledge and similar attributes which have an influence on human capabilities to carry on the useful work"<sup>23</sup>.

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In this place one should underline that resources of human capital do not change proportionally to the change of number of people and they are not determined by population's genetic features, they do not possess only the quantitative aspect but also the qualitative one. S.R. Domański mentions four crucial features of human capital:

- The resource of this capital is in great measure independent of a society's demographic potential.
- The capital does not yield to all laws of market.

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<sup>22</sup> Becker G. S., 1993, Human Capital. A theoretical and Empirical Analysis, with Special Reference to Education, The University of Chicago Press, Chicago and London, p. 16.

<sup>23</sup>Welfe W., 2000, Empiryczne modele wzrostu gospodarczego, „Ekonomista”, nr 4, p.484, Aulin A., 1992, Foundations of Economic Development, Springer-Verlag, Berlin, p. 4, Schultz T. W., 1976, Investment in Human Capital, The Free Press, New York, p. 35.

- The human capital cannot change its owner – it is not possible to separate the human capital from a particular person what may be done with some other kinds of capital.
- The capital may be still (both in the aspects personal and social) accumulated, laid out, invested or wasted like the other kinds of capital.

### **5.3. The social potential in Poland in the regional aspect**

In this part of the chapter there will be presented selected measures of the social potential's level, which afterwards will be put through the statistic analysis in the regional aspect in Poland according to the statistic data from 2006. The data used derives from "Yearbook of Voivodeships" and from the website of Central Bureau for Statistics ([www.stat.gov.pl](http://www.stat.gov.pl)). The data on national minorities will be presented according to the national census carried in May 2002. Among the measures of social potential analyzed in this chapter with reference to Poland's Voivodeships, there are:

- scientific researches and education,
- health and nutrition,
- professional mobility and resources of workforce,
- sectarian structure of employees,
- entrepreneurship,
- national minorities.

Comparing presented phenomena in Poland requires their reduction to a common denominator so the majority of numerical data was counted per 1000 inhabitants. The only exception were national minorities and their structure compared between inter-war period and current situation.

Scientific researches and education will be described and compared on the grounds of employment in Research Development Activity, number of students and academic teachers. A measure reflecting in some way the level of health in society is the number of infant deaths per 1000 living births. It seems that migrations being an expression of human resources' spatial mobility generally related to the displacement of people with the aim of finding better job or adapting to new conditions, are the comparatively good reflection of human capital. The development of human capital is closely connected with labor market, especially with a sectoral structure of employees. Entrepreneurship is also generally accepted as the measure of some ideas and human skills. It will be presented as a number of natural persons conducting economic activity per 1000 inhabitants. The last measure to be presented is a structure and regional diversity of national minorities in Poland. It is believed that the wide range of historically formed customs and traditions provides a

better background for social integration, creativity and at the same time regional development.

In 2006 the average employment in Research Development Activity in Poland was trending on the level of 3 regular posts per 1000 inhabitants. In six Voivodeships (Mazowieckie, Wielkopolskie, Małopolskie, Lubelskie, Dolnośląskie and Pomorskie) the number of the employees in this sector was higher than the country's average and only in the Świętokrzyskie Voivodeship there was less than one regular post per 1000 inhabitants. These results are indicative of the considerable progress in Research Development Activity in which the employment between 1996-2002, was trending on the level of 2 regular posts per 1000 inhabitants, only three Voivodeships reached values higher than the country's average and in four of them less than 1 employee per 1000 inhabitants was stated. Regional differences of this measure of social potential in Poland are very strongly connected with the location of the main academic centers of Warsaw, Cracow, Poznan, Wrocław and Gdansk.

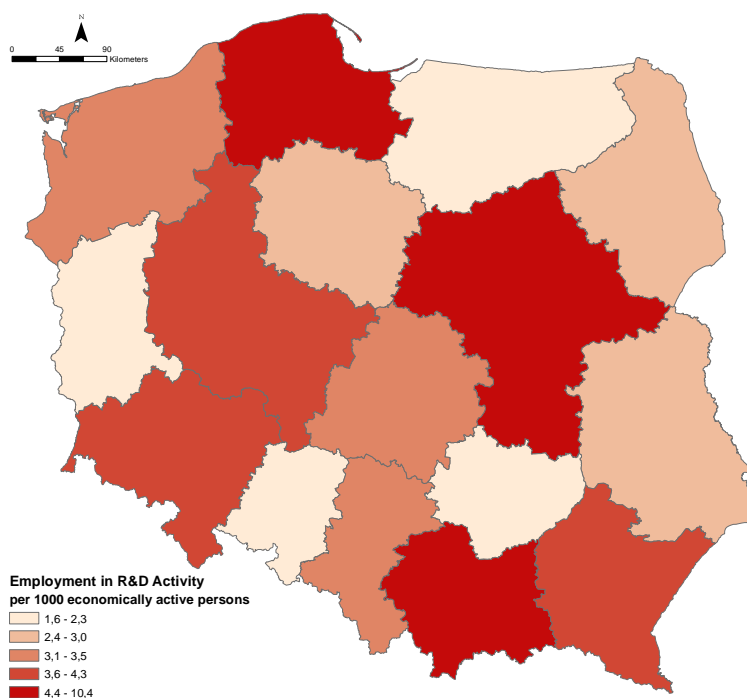


Figure 27. Employment in Research Development. Activity per 1000 economically active persons (2006)

Source: Own research based on data from Statistical Yearbook of Voivodeships

In Poland the tendency of steadily growing education level among the citizens is noticeable. The number of students is growing as well. Polish people more often complement possessed qualifications in particular by taking part in post-graduate studies. Appropriate education and occupational qualifications are both an incredibly crucial element of economy based on the knowledge- they enable to create so-called “ human resources for science and technology”. These are the persons who at the present moment or potentially may carry on a profession involving the creation, development, propagation and application of the scientific and technological knowledge. Unfortunately in Poland unequal arrangement of students among separate learning fields is alarming. The deficiency of graduates from technical universities, who possibly would compose a young research personnel responsible for conducting technological innovations in the country, brings into relief .

Regional diversity in number of students and academic teachers, presented in the figures number 2 and 3, is similar. The majority of students and academic teachers per 1000 inhabitants is found in Voivodeships like: Mazowieckie, Małopolskie, Dolnośląskie which are perceived as the principal academic centers in Poland. Other regions where presented measures are of higher value than the country's average are: Łódzkie, Wielkopolskie, Lubelskie which are also important regional academic centers . In all Voivodeships mentioned, where the number of students and academic teachers is higher than the country's average, there is a wide range of public and private universities, technical, medical or art schools providing well developed educational services. There are 16 state-owned schools of higher education in Warsaw, 13 in Cracow, 11 in Wroclaw, 9 in Poznan, 7 in Lodz and 5 in Lublin.

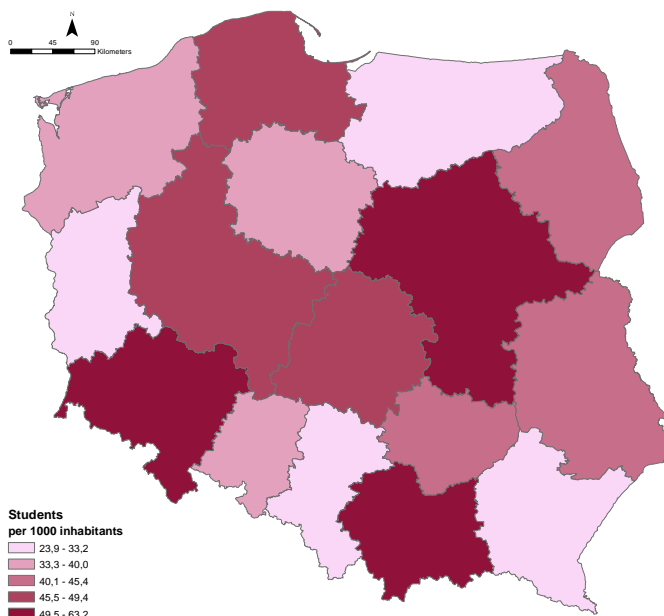


Figure 28. Students of higher education per 1000 inhabitants (2006)

Source: Own research based on data from Statistical Yearbook of Voivodeships

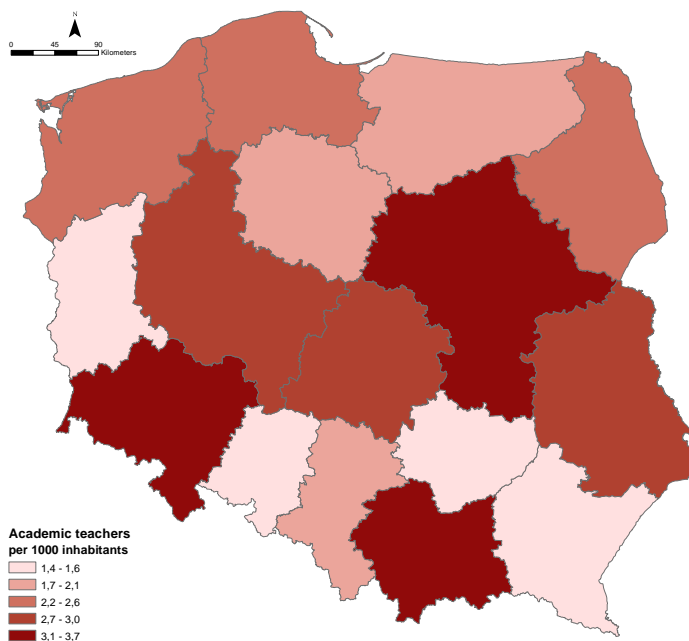


Figure 29. Academic teachers per 1000 inhabitants (2006)

Source: Own research based on data from Statistical Yearbook of Voivodeships

Health and nutrition are factors of great importance when the level of social potential is considered. The better physical and psychological condition of society's members is, the higher measures of average life expectancy and longer capacity for professional work are. One of the measures illustrating the level and quality of medical attention are infant deaths which regional diversity in Poland is presented in the figure 4. The average value of the measure in the country is 5. Regions where the infant mortality is higher than average are accumulated in the western and eastern parts of the country, except on the Śląskie Voivodeship. Regions where the infant death-rate is lower than the country's average are: Warmińsko-Mazurskie, Mazowieckie, Świętokrzyskie, Małopolskie, Opolskie, Łódzkie, Pomorskie and Kujawsko-Pomorskie. These are at the same time regions with the birth rate lower than the average for Poland.

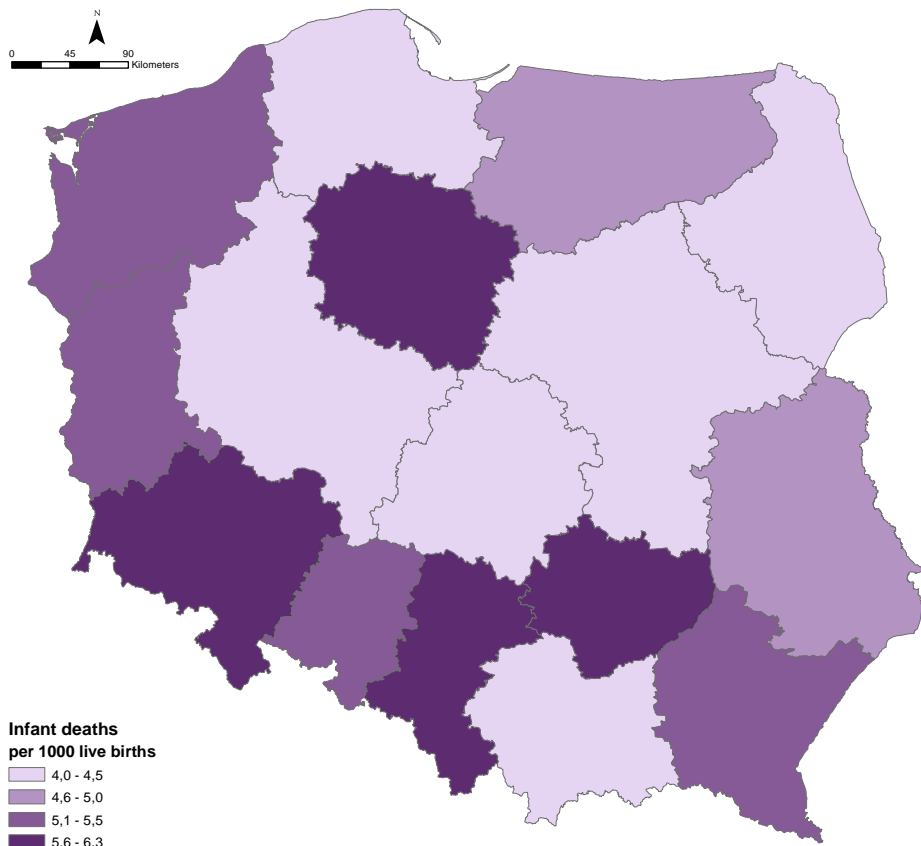


Figure 30. Infant deaths per 1000 live births (2006)

Source: Own research based on data from Statistical Yearbook of Voivodeships

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The spatial mobility of human resources is presented in the maps below illustrating the international and internal net migrations per 1000 inhabitants. According to the data from 2006 in all Poland's Voivodeships people's emigration abroad was predominant. The phenomenon of the international migrations beginning from 2004 has assumed great proportions, at the same time the departure's directions changed which was closely connected with Poland's accession to EU and opening of succeeding labor markets. As early as the moment of Poland's accession to the European Community there were three labor markets opened for Polish people: in Great Britain, Ireland and Sweden. The following markets opened in Spain, Portugal, Finland and Greece (from 1<sup>st</sup> May 2006), and then from 31<sup>st</sup> July 2006 - in Italy. At the same time the rest EU member countries were introducing many privileges in the access of employees from the countries newly admitted to their labor markets, particularly it referred to France, Belgium and Denmark. Among countries of Polish people's immigration after Poland's accession to EU, two countries stand out: Great Britain and Germany, mainly due to the scale of this phenomenon. Central Bureau for Statistics estimates that in the end of 2006 in Great Britain there were about 580 thousands of emigrants from Poland and in Germany – about 450 thousands; the next places are taken by Ireland- about 120 thousands, Italy – about 85 thousands and Netherlands – about 55 thousands of Polish people.

A positive regional net migration was characteristic for a few Voivodeships: Mazowieckie, Dolnośląskie, Wielkopolskie, Pomorskie and Zachodniopomorskie. Among those of the greatest emigration there were: Podlaskie, Lubelskie, Warmińsko-Mazurskie and Świętokrzyskie. Each of them neighbors Mazowieckie Voivodeship, which is the largest regional labor market – about 2 millions of people find employment there (16% of work force in Poland). Mazowsze is most often the destination of regional migrations in Poland. The negative regional net migration is also distinctive for the Voivodeships of southern Poland, Kujawsko-Pomorskie and Łódzkie Voivodeships. It may have negative influence on the level of social potential in respective regions, because more mobile population possessing greater abilities, skills, when noticing the lack of chances in under-developed regions, abandons them in search of perspectives of better life.

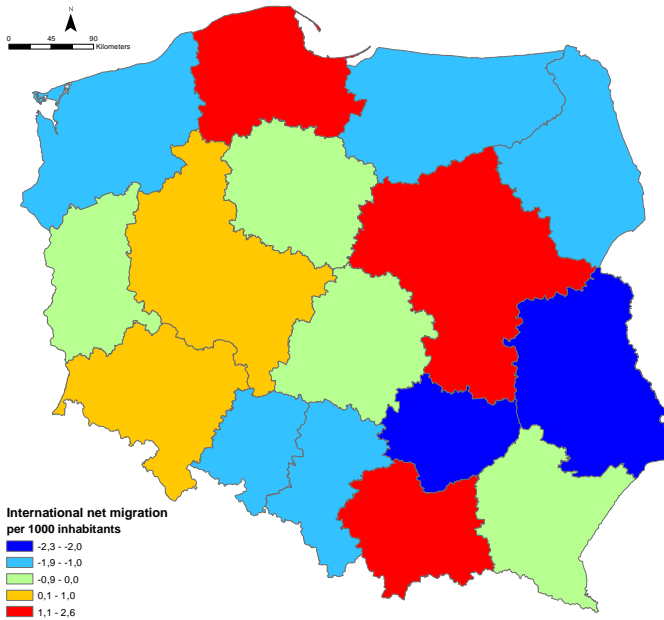


Figure 31. International net migration per 1000 inhabitants (2006)  
 Source: Own research based on data from Statistical Yearbook of Voivodeships

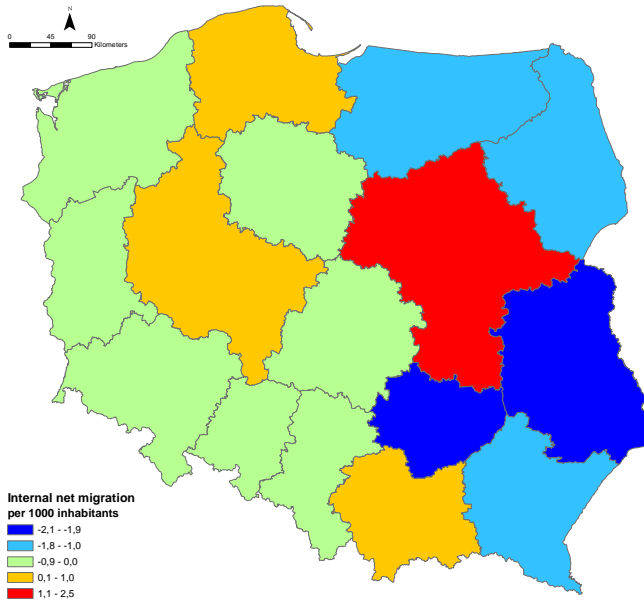


Figure 32. Internal net migration per 1000 inhabitants (2006)  
 Source: Own research based on data from Statistical Yearbook of Voivodeships



The next evidence of an existing connection between the social potential and the labor market is a map below presenting the employment by kind of activity in particular Voivodeship. In 2006 in Poland, almost 16,6% of working people were employed in agriculture, 28,5% in industry and 54,9% in services. This structure of employment indicates that Polish economy stepped in so-called postindustrial period and its reflection is an employment of more than 50% of the people at large in services. However the analysis of the employment structure in each Voivodeship proves great diversity of this phenomenon. Here are the regions, where the level of employment in services is lower than the country's average: Kujawsko-Pomorskie, Lubelskie, Łódzkie, Opolskie, Podkarpackie, Podlaskie, Świętokrzyskie, Warmińsko-Mazurskie and Wielkopolskie. Some of them are the traditional agricultural regions so in such provinces as: Lubelskie, Podkarpackie, Podlaskie or Świętokrzyskie there are more than 25% of people employed in agriculture. In Opolskie and Wielkopolskie Voivodeships more than 30% of people are employed in industry. In the rest regions: Łódzkie, Kujawsko-Pomorskie and Warmińsko-Mazurskie both agriculture and industry are the converging fields of nearly 50% of the employees. Among the Voivodeships of definite services' predominance in the employment structure ranging 63% are: Dolnośląskie, Mazowieckie, Pomorskie and Zachodniopomorskie.

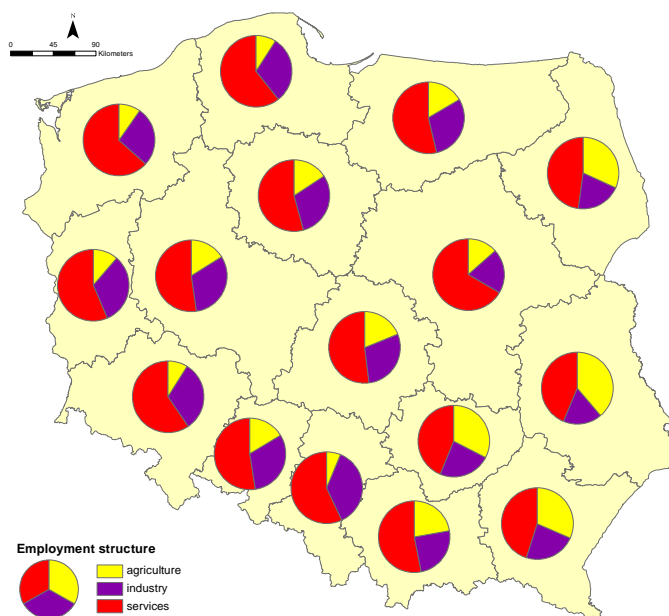


Figure 33. Employment by kind of activity (2006)

Source: Own research based on data from Statistical Yearbook of Voivodeships

Entrepreneurship which expresses creativity and human skills, moreover lack of resistance to assume responsibility and undertaken risk of conducting one's own business. The measure of entrepreneurship's level is assumed by the society to be the number of natural persons conducting individual economic activity per 1000 inhabitants. The average value of the measure in 2006 was 75,5. Its regional diversity is illustrated in figure number 8. Definitely the majority of firms was registered in Mazowieckie and Zachodniopomorskie Voivodeships. In these regions among all in the country the highest employment in services was stated as well. The number of economic activities conducted by natural persons was also higher than the country's average in the: Lubelskie, Wielkopolskie and Pomorskie Voivodeships. In the Kujawsko-Pomorskie, Łódzkie and Dolnośląskie the measure's values oscillated in the area of the average while in Opolskie and in the regions of so-called "eastern wall" a risk related to management of individual economic activity is taken the least willingly. Therefore, the entrepreneurship's measure in Opolskie, Warmińsko-Mazurskie, Podlaskie, Lubelskie, and Podkarpackie Voivodeships reached the lowest level even below 60 firms registered per 1000 inhabitants.

The national minority is understood as a social category made of those citizens who differ from the majority in respect to their ethnic or national identity and frequently religion and language. Exploring changes of Polish borders throughout the last century one can agree with the statement of O'Dowd: "One of the key lessons to be drawn from the history of state formation in Europe is that the structure, functions and meanings of state borders seldom remain fixed or stable for long periods. Change is the norm rather than exception"<sup>24</sup>. The twentieth century brought the dynamic development of the relationships between the dominant population and national minority groups in Poland.

Standards for the minority policy in the Republic of Poland were set by the Treaty of Riga that ended Polish – Bolshevik War of 1919 – 1921. They acknowledged the non – Polish populations to be integral components of the Polish state. The constitution of 1921 adopted a set of laws securing minority rights. The basic assumption was that: "Each citizen is entitled to maintain his national identity and language. Specific laws secure all the minorities living in Poland full and free development of their national distinctiveness"<sup>25</sup>. This law was considered to address to a very crucial issue as at that time Poland had 11.3 million citizens of non-Polish

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<sup>24</sup> O'Dowd L., 2002, *The Changing Significance of European Borders*, *Regional and Federal Studies* 12 (4), pp. 13-36.

<sup>25</sup> Tomaszewski J., 1991, *Mniejszości narodowe w Polsce w XXw.*, Warszawa, p. 24.

nationality, who constituted 35% of the entire population. Below, the ethnic structure of Polish society in 1931 has been presented.

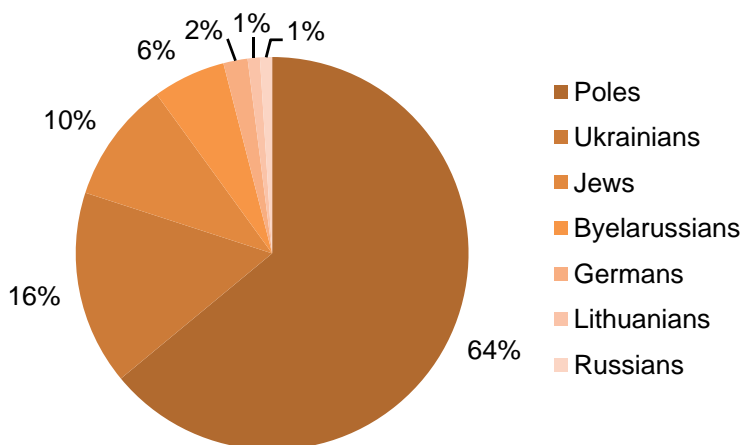


Figure 34. The ethnic structure in Poland in 1931

Source: J. Tomaszewski 1991, p. 23

After the Second World War, the Shoah/Holocaust, the mass deportations and the westward shift of state borders Polish ethnic structure changed diametrically. In the 1930s Poland was inhabited by almost 12 million people of different nationalities. In 1954, there were only 650 thousands of them. Currently Poland is almost ethnically homogenous, inhabited by the representatives of 8 national minorities: Byelorussians, Czechs, Lithuanians, Germans, Russians, Slovaks, Ukrainians, Jews. After the national census which was carried in May 2002 it was possible to determine a precise number of the representatives of national and ethnic minorities in Poland. It is estimated that minorities account for about 3-4% of the population, which is equivalent to some 1.5 million people among the overall Polish citizens.

Polish law vests national minorities with the following fundamental rights:

- prohibition of any discrimination and ban on any organizations whose program of activities envisages or allows any form of racial and national hatred,
- freedom to preserve and develop their mother tongues,
- freedom to cherish their customs and traditions and to develop their own culture,
- the right to learn their mother tongue and to be instructed in their mother tongue;
- the right to unrestricted religious practice,

- the right to establish their own educational and cultural organizations, or the ones that protect religious identity,
- election privileges granted to election committees of minority organizations.

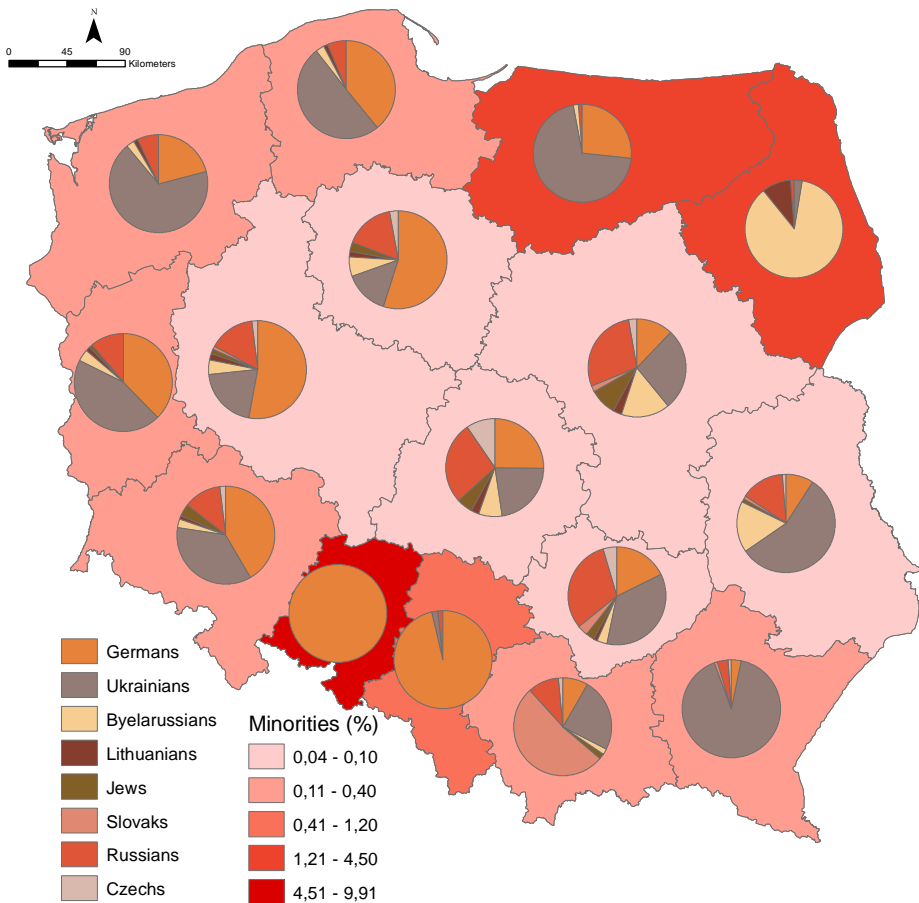


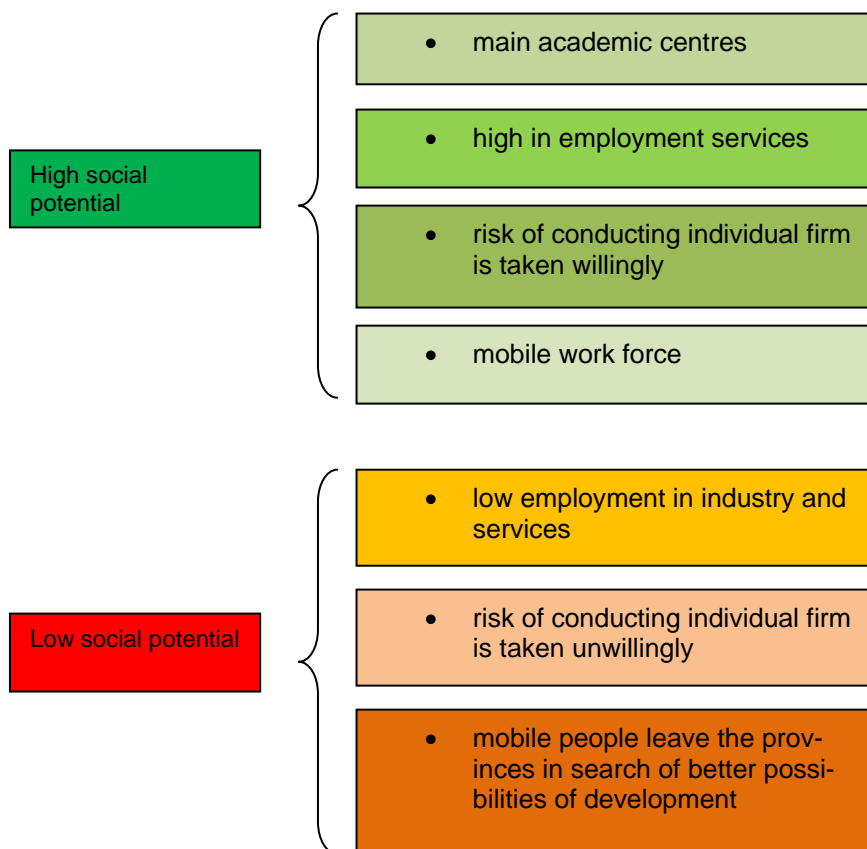
Figure 35. Structure of ethnic minorities in Poland by Voivodeships in 2002

Source: Own research based on the data from national census carried in 2002

One must agree that a wide range of historically formed customs and traditions of different groups of people living close together within one region and preserved by national law, provides a better background for social integration, creativity and development of these regions.

Recapitulating the deliberations outlined in this part of chapter it may be noticed that in Poland there is a regional diversity in the level of social potential. Among the regions of relatively high level of social potential are the: Mazowieckie, Małopolskie, Wielkopolskie and Dolnośląskie Voivode-

ships. Whereas the regions of eastern border are characterized by comparatively low measures of social potential. Besides, a few characteristic features closely connected with both regions of high social capital and low social capital are noticeable and presented in the table below.



#### 5.4. Social potential's investments and Poland's membership in the European Union

The main issue within the long-term development of social potential is the investment in its creation. According to G.S. Backer it is the entirety of actions which have an influence on future financial and physical income through the growing level of human abilities. Examples of social potential investment programs were presented by S.R. Domański who mentioned such activities as:

– widely understood services and facilities connected with health care and having an impact on life expectancy, vitality and people's vigor,

- trainings at work,
- formal training on all education levels,
- programs of studies for adults,
- information on profession's perspectives,
- research that play a different role – bringing innovation and information, open new fields of application for any investment activity including human capital investments.

Projects of such character do exist in the European Union which member countries perceive changes taking place in the contemporary economy and problems of global competition requiring continuous training, developing skills, competencies and assimilating new knowledge by working people. Joining EU meant that programs being instruments of regional, structural policy of European Community are also compiled in Poland as the response on the needs of Polish society and economy.

Constant aim of structural policy of the European Union is to decrease economic and social disparities within regions which leads to community's cohesion. Cohesion Policy of EU in any programming period focuses on limited number of aims and this is why its main enrolment instruments have changed throughout different programming perspectives. Between years 2000-2006 four structural Funds as instruments of Cohesion Policy existed: European Social Fund (ESF) for training and employment, European Agricultural Guidance and Guarantee Fund (EAGGF) for rural development, European Regional Development Fund (ERDF) for infrastructure and SMEs (Small and Medium-Sized Enterprises) and Financial Instrument for Fishing Guidance (FIG).

Enlargement of the European Union in 2004 was both a historic opportunity for Europe and a challenge for Cohesion Policy as the accession of ten new countries made regional disparities doubled. After Poland joined EU, the document regulating directions and level of financial support within European Funds for realizing development projects between 2004 and 2006, was the Community Support Framework. Statements of the document presenting strategy and priorities of certain funds and member country of EU were implemented by five sectoral operational funds. Resources for developing human capital were gained within two operational programs:

- Sectoral Operational Program - Improvement of the competitiveness of enterprises,
- Sectoral Operational Program Human Resources Development.

Structural Funds concentrated on one territorial objective, Objective 1 for regions lagging behind in development. Financial resources could also be gained within Integrated Regional Operational Program administered on national level but implemented in decentralized system on

regional level of particular Voivodeships. There were also four Community Initiatives as programs of support for certain environments and social groups (INTERREG, EQUAL, URBAN and LEADER+). Among them EQUAL as the initiative for equality on the labor market as well as social and professional integration of immigrants should be underlined.

Even before EU accession, as a candidate country, Poland could apply for financial support within several Community Programs prepared and governed by the European Parliament and the Council of Europe. These were instruments of implementing EU's policy in various spheres. In the perspective of social potential development the significance of Socrates Program, prepared for promoting educational and training institutions, should be underlined. In the 2000-2006 period due to a wide range of program's applications possibilities, few different components developed:

- ERASMUS - supports the mobility of students and staff across Europe, for both work placement and study purposes,
- COMENIUS - project-based partnerships, in-service opportunities and assistantships for all levels of school and further education,
- LINGUA – promotes learning foreign languages,
- MINERWA - promotes European co-operation in the field of Information and Communication Technology (ICT) and Open and Distance Learning (ODL) in education,
- GRUNDTVIG – gives partnerships and training opportunities for adult education organizations, teachers and learners,
- EURYDICE – the information network on education in Europe,
- ARION - enables study visits for education specialists,
- NARIC – Academic Recognition Information Center.

Apart from Socrates Program, Poland took advantage from opportunities driven by Leonardo da Vinci Program, for the development of skills and training and Youth in Action Program which offers a range of international activities for young people aged 15 to 25.

Before new assumptions of the Cohesion Policy for the 2007-2013 period were implemented, Poland for the first time had participated in the preparations of final shape of Community's Dispositions within which they are enrolled. As EU member country, Poland has also prepared National Strategic Reference Framework (NSRF) - a document defining priorities, fields of EU funds investment and system of implementing European Regional Development Fund (ERDF), European Social Fund (ESF) and Cohesion Fund (CF) scheduled in the Community's budget for 2007-2013 period. As laid down in the Polish National Strategic Reference Framework (NSRF), EU funding will be invested to achieve the following overall objective:

‘Creation of those conditions for growth of competitiveness and of a knowledge based economy and entrepreneurship, assuring an increase in employment and in level of social, economic and territorial cohesion.’

This objective is translated into six specific horizontal objectives:

- improved functioning standards for the public administration and development of partnership mechanisms,
- improved quality of human capital and enhanced social cohesion,
- development and modernization of technical and social infrastructure of fundamental importance for growth in Poland’s competitiveness,
- improved competitiveness of enterprises, including a special focus on the production sector and highhanded value as well as development of the service sector,
- increased competitiveness of Polish regions and counterbalancing of their social, economic and geographic marginalization,
- balanced development opportunities and support for structural changes in rural areas.

Poland’s NSRF includes a significant commitment to the Lisbon Strategy for jobs and growth, as it is allocation a substantial share (64%) of its investment directly to elements of the Lisbon Strategy. Broad priorities in the NSRF presented above has been translated into 21 operational programs (OPs): five national programs and 16 regional programs for all 16 Polish Voivodeships.

The main instrument for social potential development from EU funds for 2007-2013 period is Human Capital Investment Operational Program (HCI OP) with investment of almost €10 billion from the European Social Fund (ESF). The program takes up such challenges as improvement of adaptability of workers and enterprises, increase of social capital and improvement of the level of education and vocational skills of citizens. It consists of 10 Priorities realized both on regional and national (central) ground. Funds planned to be allocated within the regional component of the program will mainly concentrate on people and social groups whereas funds for the central component of the program will lead to institutional systems and structures support. The structure of Human Capital Investment Operational Program (HCI OP) is presented on the scheme below:

The second national program supported by the European Regional Development Fund (ERDF) which can also help to improve the level of social potential in Poland is Innovative Economy Operational Program (IE OP). The main aim of this program is to develop Polish economy by promoting research and innovation, building links between business and science sector, promoting the information society and improving access of enterprises to external financing. Priority is given to supporting small



and medium – sized enterprises (SMEs). Qualifications of professional workers and entrepreneurial spirit of citizens are also not left behind.

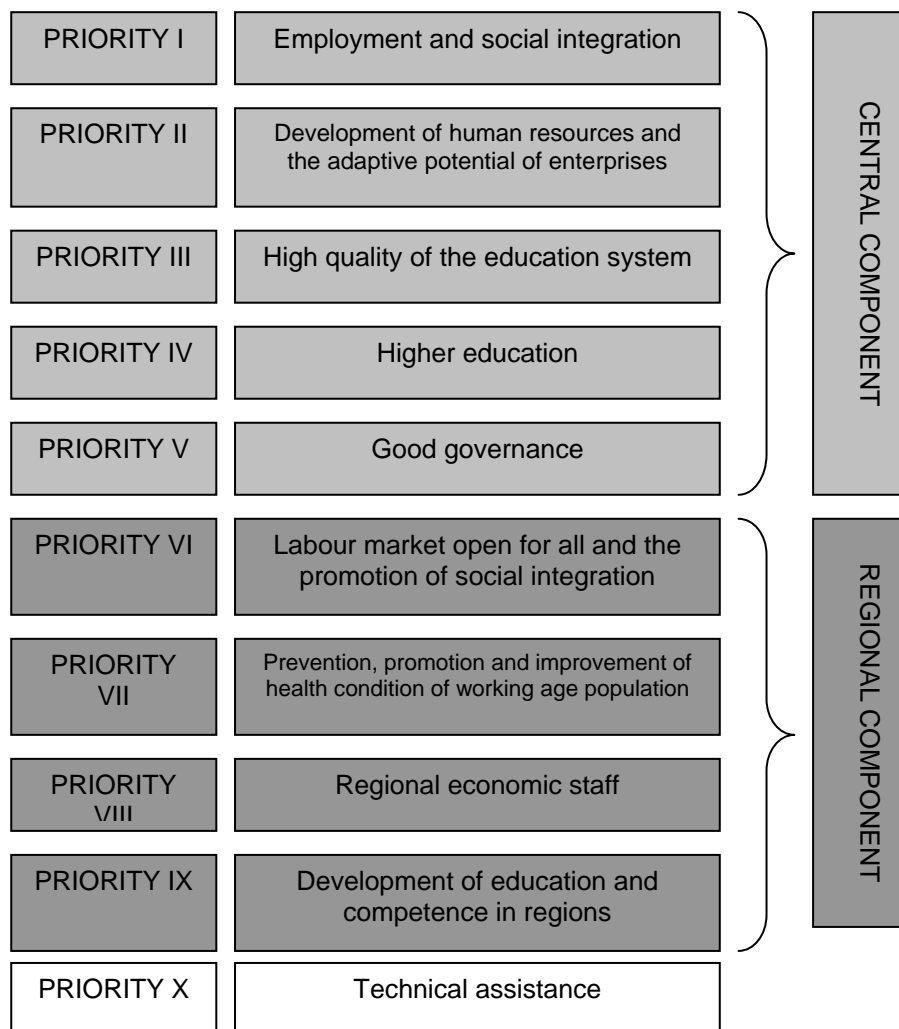


Figure 36. The structure of the Human Capital Investment Operational Program (HC IOP) 2007-2013

Source: Own research based on <http://www.funduszezstrukturalne.gov.pl>

For the 2007–2013 period Community's Initiatives have been abandoned. Their aims and challenges have been included in specific fields of EU funds support. Community's Programs promoting educational and training institutions have been integrated and they now became components of the Lifelong Learning Program (LLP).

Despite a few changes generated by the reorganization of Cohesion Policy for 2007–2013 period which have led to the decrease of the number of EU funds, abandonment of Community's Initiatives and Programs, there is still one fundamental challenge laid down in the Lisbon Strategy: to make the European Union

"the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010"

For the 2007–2013 period, Poland has been allocated approximately €67,3 billion being the largest beneficiary of Cohesion Policy for this period. All regions in Poland are eligible under the Convergence objective. If the EU funds' support is used wisely the progress of regional development of social potential will be unavoidable.

## **5.5. Conclusion**

In this chapter regional disparities of social potential in Poland has been presented. In the economy based on knowledge they are closely connected with uneven economic development. It is possible to distinguish more economically developed regions of high social capital level and less economically developed regions of low social capital level. Measures which have been used in the presented analysis enabled to point out few characteristics of both types of regions. These are: location of main academic centers, mobile work force, high level of people employed in services, high value of entrepreneurship index which indicate more developed regions of high human capital level and emigration, high employment in agriculture and low value of entrepreneurship index for less developed regions of low human capital level.

In the following part of the chapter, possibilities of social potential development due to the Poland's EU accession have been presented. No matter how the Cohesion Policy has changed with its aims and instruments of enrolment, in particular programming periods, investments in social potential could be undertaken in Poland within EU Funds. Proper usage of resources allocated in developing Polish regions within Human Capital Investment Operational Program and Innovative Economy Operational Program, will lead to increased level of all components of human capital analyzed in this chapter.

Findings of the presented analysis compared with previous researches in regional differences of human capital in Poland lead to the main conclusion that all mentioned components of human capital improved. However the issue of disparities among particular Voivodeships in Poland should be taken into further consideration as a serious

problem and become an important subject of the future national and EU's support.

## 6. POLISH AGRICULTURE'S POTENTIAL

Poland's location in the zone of moderate, warm climate of transitory type in great measure determines the possibilities of agriculture's development stemming from the arrangement of natural elements. Above the country there are some moist masses of air from west and dry air's masses from east clashing. The consequence of this phenomenon is the climatic differentiation noticeable in both parts of the country, western and eastern. On the west the amplitudes of air temperature are lower, while on the east – greater. On the Pojezierze Suwalskie (north-eastern part of Poland) there are the lowest air temperatures during months of winter (except for mountains).

The weather's changeability, which in the direct way influence the measure of annual crops, is undoubtedly the characteristic feature of Poland's climate . Appearance of relatively often spring ground-frosts, summer draughts and spring, summer floods contributes to the reduction of agricultural production. Plants cultivated in Poland have different climatic requirements. Grains have the best conditions when there are downfalls in May and in the beginning of June (plants' growth) and sunny, warm summer (maturing). Root plants (for example potatoes, beetroots) need great rainfalls during summer. Consequently it occurs often that summers are good for cultivation of grains and worse for root plants' cultivation and vice versa. Therefore when the estimation of agricultural production's potential in particular vegetal potential, is considered, measures of crops in the longer period than only one year must be analyzed.

The thermal differentiation in Poland in correspondent seasons determines the length of vegetative period (a period during a year when the average twenty-four hours' temperature of air is higher than 5 degrees. The length of vegetative period changes decreasingly as the latitude changes, from south-west to north-east (of course except for mountains where the period is short). The longest vegetative period is characteristic for Nizina Śląska (about 230 days), while the shortest is observed in Pojezierze Suwalskie and mountains (about 190 days). What results from the description above is the fact that in the regions of western and south-western Poland (except for mountains) the vegetative period lasts more than one month longer.

In Poland's conditions the soils are considered to be a crucial natural element. In Poland there is a great differentiation of soils' types which are located as mosaic. The estimation of soils' usefulness for agriculture is made in Poland on the grounds of their natural and agrotechnical features. There are 6 classes of soil marked out, from I and II – the

classes of the most fertile soils (4% of all soils), ending on classes V and VI embracing the weakest soils (34%). The soils of VI class are destined to be afforested. In Poland most soils are in the third and fourth class, so they are the soils of average quality (62% of all soils).

Among the genetic types brown soils, which appear mainly in the northern, central parts of the country and podsol soils (southern parts of lake districts, lowlands of central and eastern Poland), are in majority. In the rivers' deltas there are fertile alluvial soils and in the territorial abasement – marshy soils. The best soils' types, i.e. chernozem, calcareous, black soils occupy small areas, particularly in the southern part of the country (Wyżyna Małopolska and Lubelska, Nizina Śląska).

Surface form in Poland, which most characteristic feature is predominance of lowlands (91% of country's area lays below 300 meters above sea level) provides the agricultural development with good natural grounds. The hardest conditions on that score are in mountains – i.e. in Sudety, Karpaty and in the part of uplands (Wyżyna Małopolska). Within lowlands' areas less advantageous to the agricultural development are the regions of lake districts which diversified postglacial sculpture of the earth's surface is characterized by considerable differences in height and big slope of slants. The agricultural management in mountains, on the uplands and in the highest parts of lake districts requires more complex agrotechnical measures. An intensified erosion, reflecting mainly in giving soil's surface a wash by the water of rainfall, is the additional obstacle for agriculture on these areas. It is calculated that about 40% of country's territory is in danger of the negative effects of the process.

### **6.1. Valorization of agricultural productive space**

The estimation of natural potential for the agricultural development is achieved on the grounds of specially designed to that aim indicator of valorization of agricultural productive space. The indicator has a summary character and consists of some fragmentary values: quality of soils, climate, surface features and water and what is worth mentioning the quality of soils is of greatest importance. The indicator theoretically assumes values from 19.5 to 120 points, practically on Poland's area (in communal arrangement) a punctual range amounts between 31 and 111 points and in the arrangement of provinces between 55 and 81.4 points. 66,6 points is the average value of the indicator for the country. The highest natural potential is characteristic for such Voivodeships as: Opolskie (81.4 points), Dolnośląskie (74.9 points) and Lubelskie (74.1 points), and the lowest value is observed in Voivodeships such as: Podlaskie (55 points), Mazowieckie (59.9 points) and Łódzkie (61.9 points).

## 6.2. Non-natural elements of agricultural development

### 6.2.1. Agricultural population

Estimation of number of people employed in agriculture is relatively difficult. There are various possibilities of calculating number of people employed in this sector of economy in Polish statistics. Usually a category "agricultural population" is considered to be the broadest indicator. The agricultural population consists of the all people living in households, in which there is an owner (leaseholder) of a farm. That is why it is assumed that all people earning their livings in one household with its owner are more less so committed in the agricultural production. It is estimated that in some recent years the participation of this category of people in the group of economically active persons reached about 25%.

The number of people employed in agriculture is considered to be the most often used indicator to estimate the economic commitment in the agricultural activity. The group embraces all owners and leaseholders (including members of families helping them) employed in private farms in agriculture and workers in agricultural enterprises. In 2006 in Poland according to that criterion in agriculture there were about 2 millions of people working in agriculture which constituted about 16.5% of all employed. The highest participation of people employed in agriculture (more than 20%) is characteristic for provinces located in the eastern and western parts of Poland, i.e.: Lubelskie – 35.8%, Podlaskie – 29.7%, Świętokrzyskie – 33.9%, Podkarpackie and Łódzkie. The lowest participation of people employed in agriculture (less than 10%) is observed in 5 Voivodeships: Dolnośląskie – 6.9%, Śląskie, Lubelskie, Pomorskie and Zachodniopomorskie.

The size of employment depends on three groups of elements: historical-political, an advancement of processes of urbanization and industrialization and natural. Observed regularities in spatial differentiation of an agricultural employment's scale consist on the lower employment in the regions of more advanced processes of urbanization and industrialization (clear connection in provinces: Śląskie, Dolnośląskie ) and on the areas adjoined to Poland after The Second World War (Voivodeships Pomorskie, Lubelskie, Dolnośląskie, Warmińsko-Mazurskie). Lower employment in agriculture on the areas adjoined to Poland in 1945 resulted from the agriculture's type – one with dominance of great, lucrative, mechanized farms in agriculture. The majority of big farms was at that time nationalized and filled with agricultural workers. Contrary to overpopulated private farms in agriculture in eastern and southern Poland, employment in private and state farms in agriculture of western regions was characterized by fit to production necessities (optimum employment without

hidden unemployment). In consideration of the lower demographic potential of people newly arrived from east (they were mainly repatriates from Poland's eastern lands taken away) with the settling attractiveness of cities' thick net (people's flux to activities non-agricultural), agriculture in social appraisal was not an attractive place of work which quickly led to the growth of roles of industry and services in these areas' economic structure. Natural conditions are an important determinant of employment, although this regularity cannot be displayed in the most rural areas of Poland. Natural potential is crucial for greater employment in agriculture, for instance in Lubelskie Voivodeship and some parts of Opolskie, Małopolskie, Łódzkie Voivodeships.

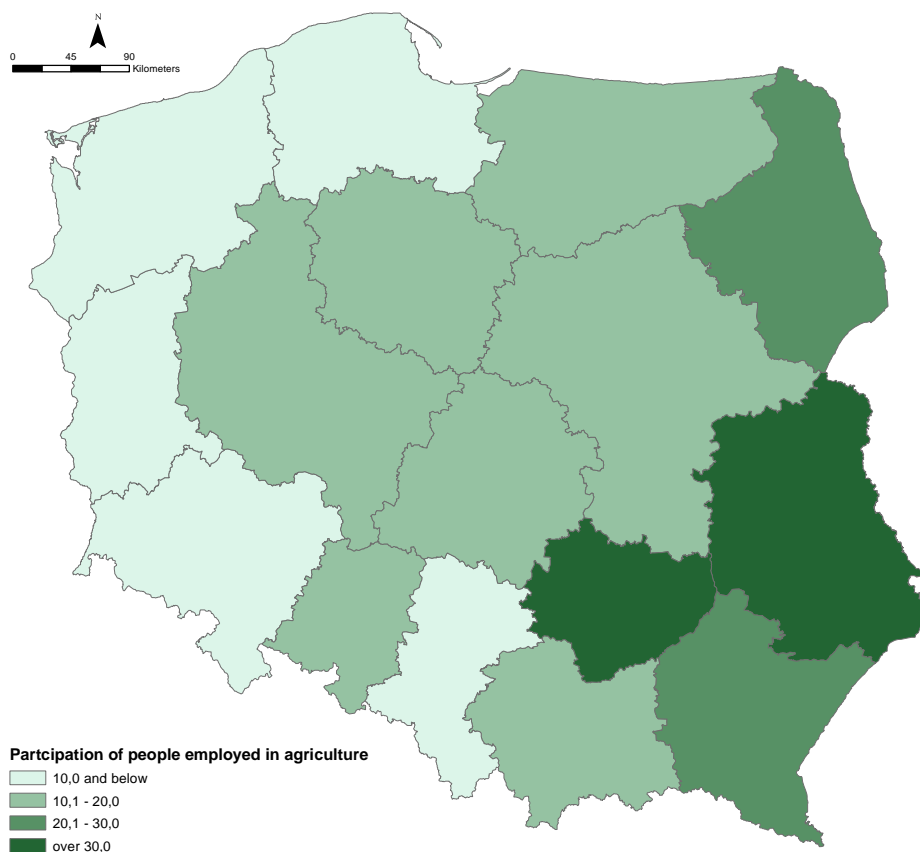


Figure 37. The participation of people employed in agriculture in all employed taken as a whole in Polish Voivodeships

Source: Statistical Yearbook of the Regions – Poland, GUS 2007

An important element of appraisal of agricultural people's potential is its biological and social structure. In Poland agricultural people's age and

related to this age- possibility of adaptation to changing external conditions in agriculture (rapidity of agriculture's modernization) and its education are determinants of production features. In Voivodeships of eastern, central and southern Poland characterized by great participation of employed people in agriculture, there are some deformations of agricultural people's biological structure, i.e. the participation of people in their post-working age and non-mobility working age (45-65 lat) considerably exceeding an average for rural areas and men's surplus over number of women (masculinization). The state particularly stems from the tide of post-war people's migrations from cities (mainly among women). Rural populations' demographic ageing leads to decrease of number of people employed in agriculture and intensification of rural areas' depopulation. The processes cannot be appraised unequivocally. On the one hand they lead to restraint of small and not-market farms in agriculture on these areas, but on the other hand the deformation of people's biological structure becoming more intense causes less social and economic activity having its reflection in small civic mobilization, lower entrepreneurship and quick decline of people and rural areas' spatial degradation.

Polish farmers are characterized by low education level. Only 1% of landowners have tertiary education, and about 6% agricultural secondary level. The majority of farmers does not have agricultural education (about 58%) or only accomplished agricultural course (about 26%). Nowadays' requirements of market, which coerces taking quick decisions, flexibility of actions, knowledge and constant improvement of qualifications cause that only small part of owners of farms in agriculture is able to become entirely engaged in processes which control the market economy. Present-day conditions of agriculture's development make from the farmers adopting to some changes – entrepreneurs, and from their households – agricultural enterprises. Taking into consideration the education and farmers' abilities as an indicator of possibilities of following Polish agriculture's modernization, provinces with predominance of private households, which economic basics were created under influence of foreign dominance (former German annexation) present themselves in positive way. High culture of cultivation of inhabitants of Voivodeships Wielkopolskie, Pomorskie and Opolskie in particular, connected with good educational preparation, has its reflection in better results in production. Positive changes are noticeable within this sphere in the western provinces in which post-state farms in agriculture were bought or leased by agricultural entrepreneurs (Dolnośląskie, Lubelskie, Zachodniopomorskie). On these areas though another problem appeared, namely great number of people, who lost their work after the downfall of state agricultural farms. Former agricultural workers with very miserable



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educational background enlarged the group of so-called structural unemployment, which appeared as a result of unadjustment of farmers' abilities to the market's necessities. The population which resides housing estates beside former agricultural farms is considered to be one of the largest social groups of exclusion in Poland, in which pathological features are becoming in great measure hereditary.

### **6.2.2. Land's proprietary structure**

In 1945-1989 Poland and former Yugoslavia were the sole countries in socialist bloc, where private propriety in agriculture was predominant. Till 1989, which means till the beginning of constitutional transformations in Poland, there were about 24% of agricultural land in country's power. State propriety was located irregularly, i.e. it concentrated mainly on the western and northern areas of Poland, which means on the territories adjoined to Poland in 1945.

At this time from the majority of big post-German estates, state agricultural farms were formed. They were given the privileged position in socialist economy when the redistribution of means of production (for example agricultural equipment, fertilizers) is taken into consideration. The discrimination of individual agriculture, most often of small-scale and low level of agricultural market output and communist authority's intentional actions were supposed to restrain this type of propriety. Authority's projects, which aim was Polish agriculture's transformation according to the Russian model, faced with social defiance in Polish rural regions. It was taken for granted that within 10 years after the Second World War most of farmers will be put together in groups, which will create Agricultural Production Co-operatives (following the example of Russian kolkhoz). Polish country's defiance against any attempts of collectivization given non-investment of agriculture and consequently a delay in processes of modernization, which took place in Western Europe just after the war, led to some negligence in every aspect. Poland entered the path of transformation, and afterwards the path to EU with agriculture small-scaled, with low level of agricultural market output, not very specialized and backwards in social aspect. Poor agriculture's development, infrastructural backwards, absence of alternative sources of income entailed people's escape from rustic areas, particularly young, more creative and better educated.

The transformation also reveals the infirmity of state agriculture. State subsidies for this sector were held until some regulations of market economy were implemented. The lack of bearing the expenses with agricultural market's deregulations in the first phase of transformation changes triggered off the downfall of state agricultural farms. Agencie-

sponsible for administering the state fortune were appointed by the government and began the process of the land's disposal and hire. At the beginning of 21<sup>st</sup> century, after 15 years of transformation, in country's power about 6% of agricultural land remained. Most of the agricultural farms of this type is found on the areas characterized by the least advantageous natural conditions i.e. in Lubuskie and Zachodnio-Pomorskie Voivodeships. Thus the private agriculture's participation increased from about 69% in 1990 to about 94% in 2004. The appearance of new private agriculture's type – farmer type, contributed to the growth of private agricultural farms' economic differentiation in Poland.

### 6.2.3. The size structure of farms in agriculture

In Poland the territory which amounts to at least 1 hectare of agricultural land is considered to be an agricultural farm. In 2006 in country there were about 1,8 millions of farms in agriculture. In the last years the number of the farms was decreasing (in 2000 –1,9 millions), in particular as a result of the farmers' withdrawal from the agricultural activity possessing from 1 to 5 hectares and the lands' transference carried out by their owners in favor of big farms in agriculture.

It is characteristic for Poland that the disadvantageous size structure of farms in agriculture exists. In 2006 the predominant area - group consisted of the agricultural farms from 2 to 5 hectares. In sum the agricultural farms from 1 to 5 hectares composed 57% of all the farms in the country.

Table 6. Agricultural farms' structure according to the area – groups(%)

Area - group (hectares)	2000 r.	2006 r.
1-2	23.8	23.2
2-5	32.5	33.8
5-10	23.8	22.9
10-15	9.9	9.4
15-20	4.5	4.3
20-30	3.3	3.4
30-50	1.4	1.8
50-100	0.5	0.8
>100	0.3	0.4

Source: Bank Danych Regionalnych GUS.

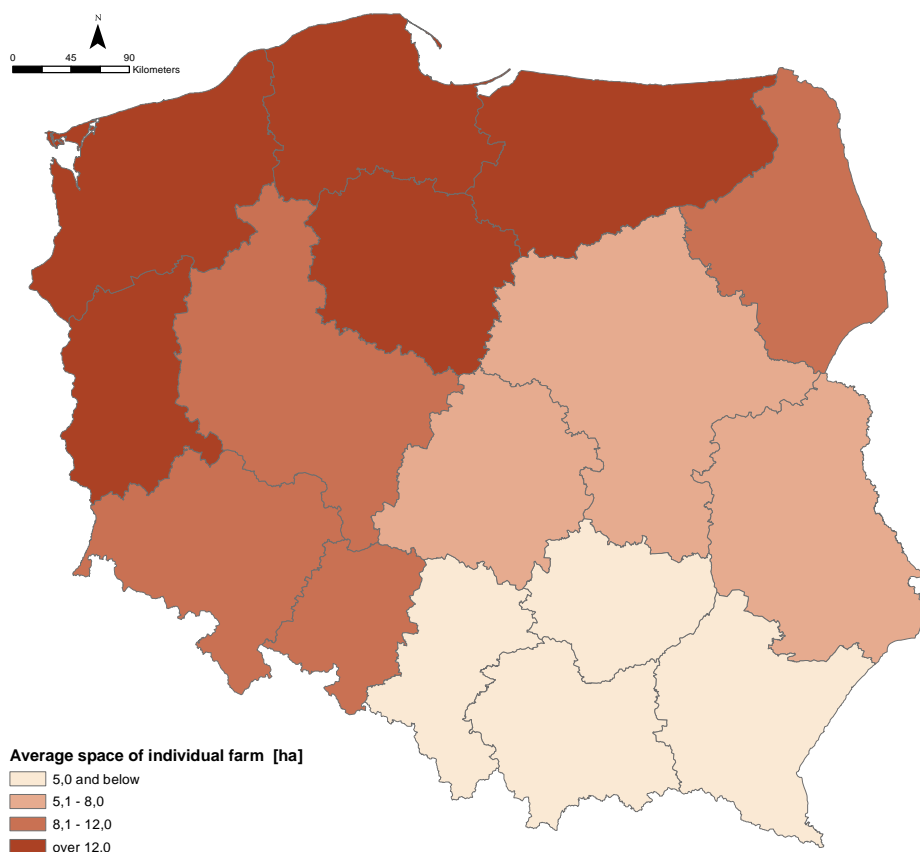


Figure 38. The average space of individual farm (hectares of agricultural lands) in Polish Voivodeships in 2006

Source: Statistical Yearbook of the Regions – Poland, GUS 2007

Big farms in agriculture (bigger than 20 hectares) constituted 6,4%, while very big ones (bigger than 50 hectares) only 1.2%. The changes in the area - groups' structure of farms in agriculture consists mainly in the diminution of middle farms' participation (10-20 hectares). This course of changes is particularly characteristic for the countries, in which the processes of agricultural modernization take place. The main reason is the adoption of one of the two strategies by agriculturists from this group. The first one consists in the decision of agricultural farm's development, acreage's enlargement and its "marketization". The second strategy which is more often undertaken is the gradual withdrawal from agriculture, but agriculturists save for themselves a small part of the production space (1-3 hectares). The agricultural farms' structure according to the area - groups indicates that for more than 50% of farms the agricultural

activity has only complementary rank or is considered to be one of two, three main sources of incomes. Keeping hold of many farms in agriculture performs social duties, i.e. these are the farms owned by pensioners (agricultural pensions are among the lowest in the country) or people who have low incomes, who by their own production supply themselves with the basic food products. Not big acreage has also very often some sentimental value.

The structure of farms in agriculture according to the area - groups has its reflection in the average private farm's area. In 2006 in Poland average private farm's area reached 7.7 hectares of agricultural lands. In this aspect the best area - structure of farms in agriculture had western and northern Voivodeships, i.e. Warmińsko-Mazurskie, Zachodniopomorskie (about 17.5 hectares), Pomorskie, Kujawsko-Pomorskie and lubuskie. The worst area structure was characteristic for the Voivodeships located in the southern and eastern parts of the country, i.e. Małopolskie, Podkarpackie (about 3.5 hectares), Śląskie and Świętokrzyskie.

#### **6.2.4. The structure of lands' use**

The structure of lands' use in Poland is the consequence of natural conditions and processes of colonization's historic development related to the natural conditions mentioned above. Lowland character of the majority of Poland's areas was not an obstacle precluding the permanent agricultural implements, to which some actions of colonization were conducive (for instance a colonization on German law - 14<sup>th</sup> and 15<sup>th</sup> century, Dutch colonies - 17<sup>th</sup> century and actions of villages' regulation - 19<sup>th</sup> century) and constant increase in people's number and agrotechnical progress. The consequence of these processes is the structure of land's use, in which the greatest part have agricultural lands (51%). Among the agricultural lands the predominant role is played by arable lands. (78% of agricultural lands). The participation of forests reaches 29.4%, while the share of other grounds, or occupied by the colonization, communication, waters and fallows - 19.6%. The trait of lands' use in Poland may be small section of meadows and pastures - 10.3%. Most of the meadows and pastures are located in Podlaskie and Warmińsko-Mazurskie provinces (extensive river valleys, short vegetative period) and in Voivodeships of very diversified sculpture of the earth's surface and related to this fact - impeded agricultural farm implements (Małopolskie and Podkarpackie Voivodeships).

Table 7. The structure of lands' use in Poland in 2006

The type of user	The participation in Poland's surface (%)
<i>Agricultural lands including:</i>	51%
<i>arable lands</i>	39.8% (78% of all agricultural lands)
<i>orchards</i>	1.0% (2% of all agricultural lands)
<i>meadows and pastures</i>	10.3% (20% of all agricultural lands)
Forests	29.4%
Rest agricultural lands	19.6%
Total	100%

Source: Agriculture in Poland in 2006, GUS 2007.

The highest share of arable lands appears in the regions of the best natural conditions of agricultural farm implements (Voivodeships: Opolskie 52%, Lubelskie 46%, Dolnośląskie 41%), high culture of cultivation (Wielkopolskie 50%, Kujawsko-Pomorskie 51%) and big density of population on the rural areas in central Poland (Łódzkie 49%, Mazowieckie 41%). Arable lands' small share is connected with big forestage and feeble soils (Lubelskie 26%, Warmińsko-Mazurskie 31%, Zachodniopomorskie 36%), varied sculpture of the earth's surface (Małopolskie 30%, Podkarpackie 30%) and intensified urbanization (Śląskie 29%).

Characteristic process for Poland in the last 20 years is the agricultural lands' diminution, particularly arable lands, which is related to the decreasing significance of agriculture in the economic structure of country, ageing of the resources of the agricultural man power and the extension of colonization areas (mainly suburban one) and communication. The most inferior arable lands, especially on the areas of small density of population in northern and eastern Poland are afforested, which entails the constant growth of forestage's indicator in the country.

The characteristic feature of agriculture, being at the same time the evidence of its role's diminution in economic structure of countries, is the growth of fallow and idle lands' surface. In the country's scale about 8% of arable lands are excluded from the agricultural production. Most of these lands are present in Voivodeships: Zachodniopomorskie and Lubelskie, where some part of land proceeding from the former state agricultural farms is awaiting renewed agricultural farm implements and in the southern Voivodeships: Małopolskie and Podkarpackie (considering hard conditions of farm implements in mountains) and in Śląskie Voivodeship (small resources of man power in agriculture in the most

industrialized country's region and environmental contamination). The smallest quantity of fallows is present in Voivodeships of high cultivation's culture (Wielkopolskie and Kujawsko-Pomorskie Voivodeships) and of big resources of man power in agriculture and advantageous natural conditions (Lublin province).

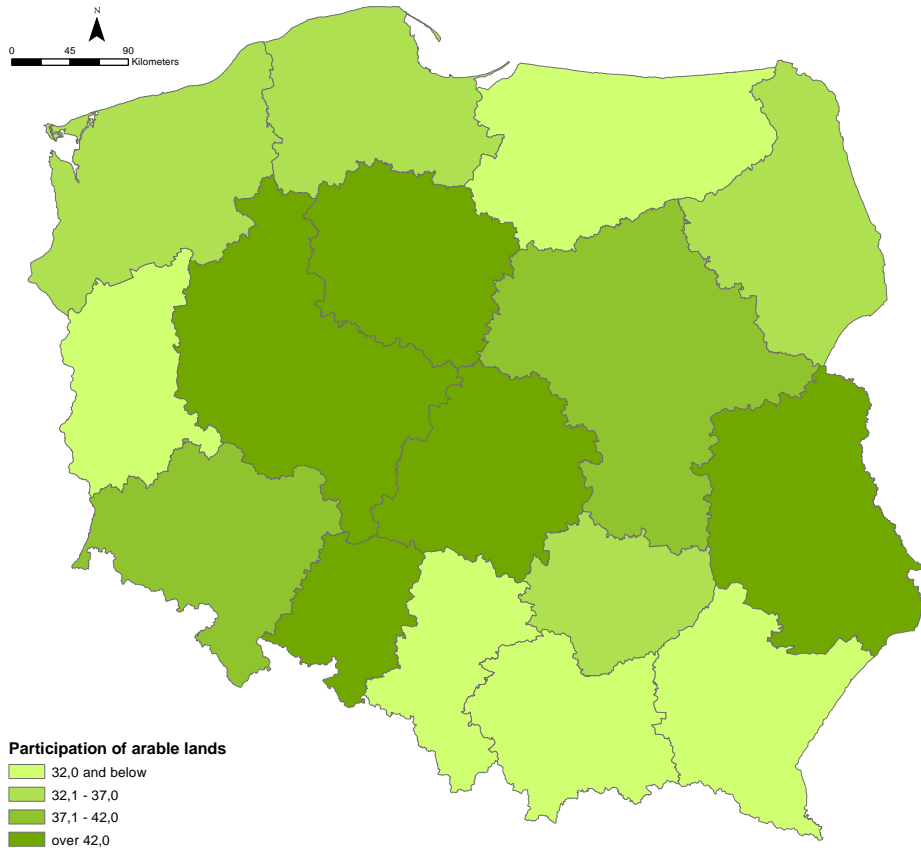


Figure 39. The participation of arable lands in Polish Voivodeships' surface taken as a whole in 2002

Source: The Common Agricultural Register 2002

### 6.2.5. The level of mechanization and fertilization

Polish agriculture is well mechanized, in particular when an outfit of tractors and agricultural machines is taken into consideration. However the age of facilities and machines may be an unadvantageous aspect. The average age of tractors, dependent on country's region oscillates from 10 to 15 years. In 2005 there was one tractor for 11 hectares of agricultural lands. The state of mechanization in agriculture is becoming

better and higher, especially in the group of middle and small agricultural farms (in 2000 – 13.5 hectares for one tractor). The mechanization's standard is connected with the average size of individual farm in agriculture. Higher level of mechanization is observed in the provinces, in which there are many small and middle farms in agriculture (Świętokrzyskie, Małopolskie and Podkarpackie Voivodeships – less than 7 hectares for one tractor). The inferior state of mechanization, but simultaneously more optimum of equipment's use are noticeable in western and northern Voivodeships, i.e. Zachodniopomorskie, Warmińsko-Mazurskie and Lubelskie (more than 20 hectares for 1 tractor).

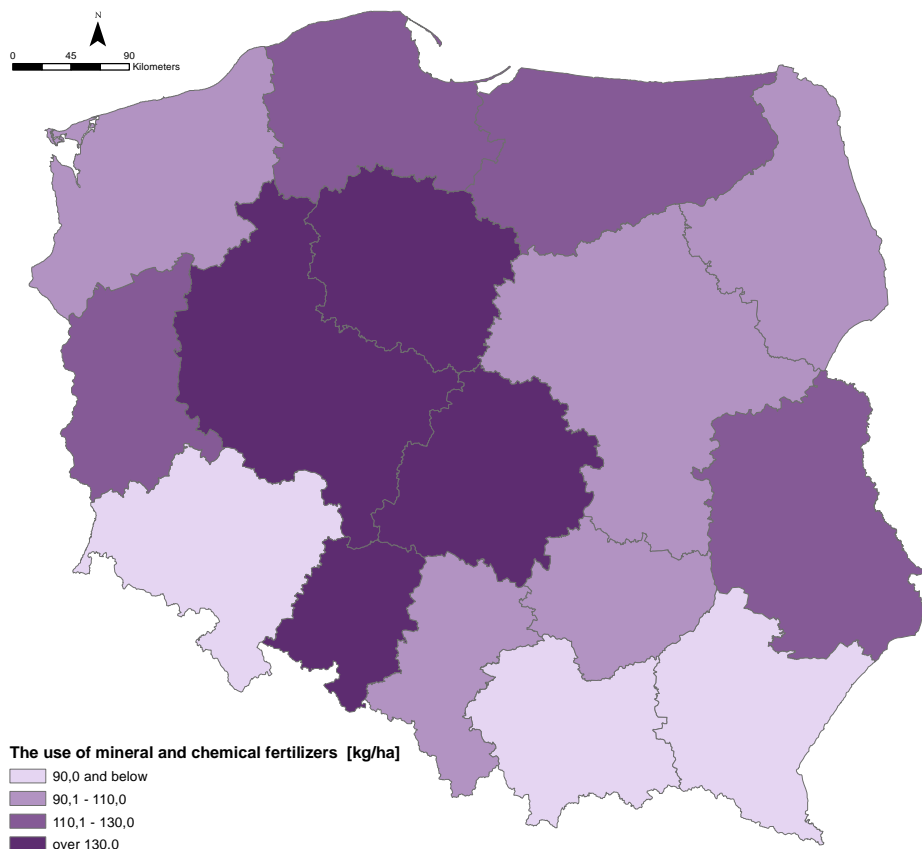


Figure 40. The use of mineral and chemical fertilizers for 1 hectare of agricultural land in kilograms in Poland's Voivodeships in 2006

Source: Statistical Yearbook of the Regions – Poland, GUS 2007

In the first period of agricultural transformation one of the most noticeable effects of the drop in level of farmers' incomes and problems with products' sell was a reduction of mineral and chemical fertilizers' use for

1 hectare of agricultural land. At the beginning of 90s of 20<sup>th</sup> century for 1 hectare of agricultural land more or less about 80 kilograms of fertilizers were used. Today this usage grew to the level of about 125 kilogram for 1 hectare of agricultural land. Most of the fertilizers is used in the commercial agriculture of Wielkopolskie, Kujawsko-Pomorskie, Opolskie and Pomorskie Voivodeships – more than 140 kilogram for 1 hectare of agricultural land. While the least quantity of fertilizers is used in the provinces in which the main agriculture's priority is subsistence, i.e. in Podkarpackie, Małopolskie, Świętokrzyskie Voivodeships (less than 75 kilogram for 1 hectare of agricultural land).

### 6.2.6. The vegetable production

Sown area in Poland amounts to about 11 500 thousands of hectares. In the last 15 years the area diminished by losing about 12% of its territory. In the sown structure cereals: wheat, rye, triticale, barley and oats play the basic role. These cereals constitute nutrition base for people, are often assigned for animals' feed and are used as raw materials in the industry. Among cereals the cultivation of wheat and rye covers the greatest areas. The participation of basic cereals (wheat, rye, triticale, barley, oats) in the sowing areas reaches about 56%.

Table 8. Sowing structure in Poland in 2006 (%)

the crops	The participation (%)
wheat	19.0
rye	11.5
barley	10.6
triticale	10.4
feed	8.7
rape and agrimonies	5.4
potatoes	5.2
oat	4.7
sugar beets	2.3
vegetables	1.9
other crops	20.3

Source: Agriculture in Poland in 2006, GUS, 2007.

Wheat is cultivated in the areas of fertile soils, because this kind of cereal has superior soil-requirements. That is why the greatest fields sowed with wheat are situated in Śląska, Szczecińska lowlands, Żuławy Wiślane, Lubelska upland. In the last years the wheat's share in the



sowing structure is regularly growing. This growth is usually interpreted with higher crops in comparison with other cereals and with higher demand for wheat in the last few years, especially as a product essential for the bread's baking (wheat is richer in proteins than rye). Average wheat's yields in Poland amount to about 32–37 dt per one hectare according to a particular year.

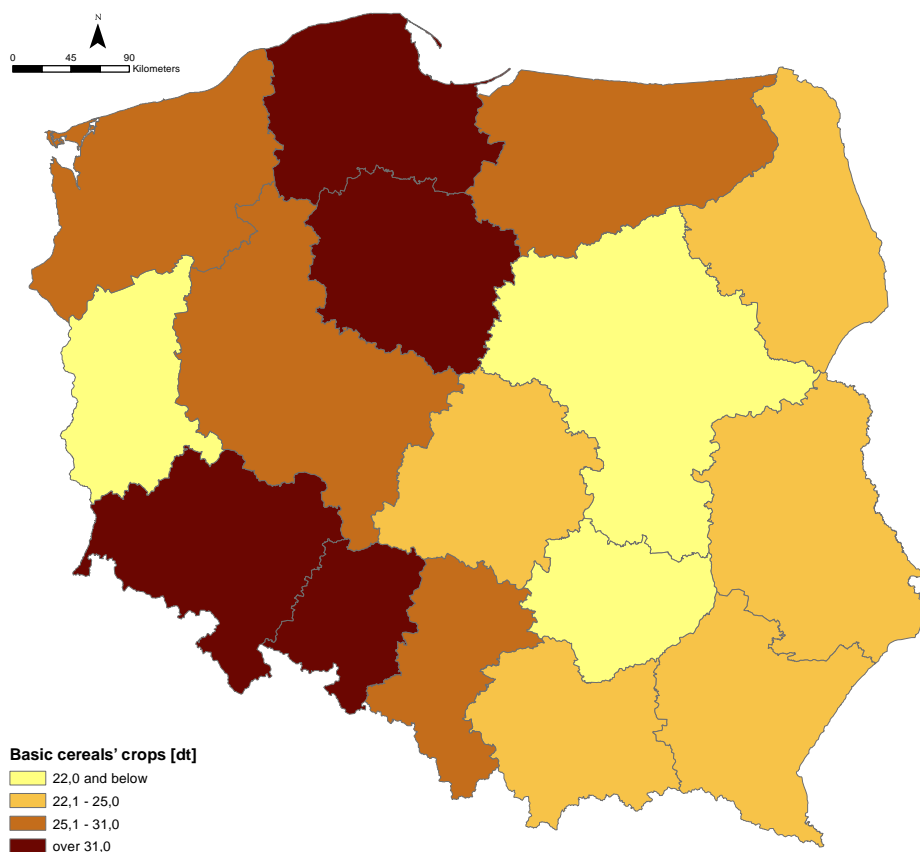


Figure 41. Basic cereals' crops in dt from one hectare in Poland's Voivodeships in 2006

Source: Statistical Yearbook of the Regions – Poland, GUS 2007

Rye, as a cereal less exacting is predominant in the sowing structure on the areas of inferior soils and less advantageous temperature. This cereal is more resistant to droughts and ground-frosts. The greatest amount of rye is sowed in Mazowiecka and Podlaska Lowlands. In the last years the rye's participation in the sowing structure is diminishing, mainly in favor of wheat and triticale. Despite the downfall of its signific-

ance rye remains to be beside wheat the main plant. The average crops of rye in Poland amount to about 22 dt per one hectare.

Lower thermal and soil requirements are possessed also by barley and oat. The greatest areas covered with barley's cultivation are found in the lake districts, on the uplands, in the mountains and in Slaska lowland. Oat is used in production of pasture and food (for example goats) and in brewing industry (the average crops 28 dt per one hectare). Oat is a feeding-plant and its collocation is related to horses' occurrence. Most of oat is sowed in the eastern Poland and in mountains (average crops 22 dt per one hectare).

The best production's results are accomplished in the provinces of western and northern Poland. It is particularly connected with some social and economic conditions, especially with big surface of farms in agriculture, greater outlay of financial resources on production and higher cultivation's culture. Farmers from Opolskie, Dolnośląskie, Pomorskie, Kujawsko-Pomorskie Voivodeships are the leaders in this kind of production (more than 30dt per 1 hectare). Voivodeships: Świętokrzyskie, Lubuskie, Mazowieckie and Lubelskie have the lowest production results.

The second place in sowing structure is taken by the field plants, and among them there is some Polish specialty - potatoes. Potatoes require bigger expenditure of work and agrotechnical exertions, so they matter in provinces characterized by great resources of labor in central, eastern and southern Poland. Potatoes have comprehensive application. They constitute people's and animals' alimentation and together with rye they are used in alcohol-distilling industry. The average crops of potatoes in Poland amount to about 170 dt per 1 hectare. Despite the fact that higher crops are observed in Voivodeships of western and northern Poland, most of potatoes are produced in Voivodeships: Mazowieckie, Łódzkie, Świętokrzyskie, Małopolskie and Podkarpackie.

The cultivation of second important field plant - sugar beets – is accumulated on the same areas where wheat is cultivated. Broad soil requirements similarly to wheat are the reason of this state of affairs. The average crops of sugar beets in Poland amount to about 400 dt per 1 hectare. The greatest crops are achieved in Kujawsko-Pomorskie, Dolnośląskie, Opolskie, Wielkopolskie and Pomorskie Voivodeships. Apart from these regions the plant has big participation in sowings in Lubelskie Voivodeships.

The collocation of vegetables' and fruit's cultivations is connected with zones of food's production for big cities. Therefore vegetables and fruit are cultivated in neighborhoods of Warsaw, Lodz, Cracow, Lublin. The greatest significance in vegetables' cultivation have: cabbage, carrot, onion, cucumber, beets and tomatoes. About 15% of vegetables come from cultivations under covers. Poland is an important fruit producer.

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Apart from apples, pears, plums and cherries directed mainly to internal market, Polish specialty of export are strawberries, raspberries and currants.

### **6.2.7. Animal's production**

Breeding of cattle and pigs is of the greatest significance in animal's production. From the beginning of transformation the number of cattle is systematically decreasing. Today in Poland there are about 5.2 millions heads of cattle, including 2.7 heads of cows. During last 15 years the number of cattle diminished by about 2 millions of heads. The breeding requires great expenditure of work and capital spend on the proper feeding-stuff, adaptation of inventoried buildings, labors' mechanization and genetic material. Regulations of restriction character considering milk and meat production in Poland had far-reaching consequences on the cattle's reduction. Nowadays there are about 35 heads of cattle for 100 hectares of agricultural lands. Most of the cattle is breded in Podlaskie province (about 70 heads/ 100 hectares of agricultural lands), which is connected with great participation of meadows and pastures in the structure of land use. It is also related to the net of big creameries which export their milk to countries of European Union. Moreover the big scale of cattle's breeding is characteristic for provinces where the participation of individual agriculture with great expenditures of work is noticeable (Mazowieckie, Łódzkie, Kujawsko-Pomorskie and Wielkopolskie – about 40 heads/100 hectares of agricultural lands).

In Poland big production of pigs remains (more or less on steady level). It stems from better production effects noticeable in short period of time (quick increase in mass) than in case of cattle, and smaller, less expensive requirements when the herd's maintenance is taken into consideration. Today there are 118 heads of pigs for 100 hectares of agricultural lands. Such Voivodeships as Wielkopolskie (about 300 heads/100 hectares of agricultural lands) and Kujawsko-Pomorskie (about 220 heads/100 hectares) specialized in that kind of production are the leaders in Poland. The considerable production is also present in Łódzkie, Opolskie and Pomorskie Voivodeships (more than 100 heads/100 hectares).

In the period of fast transformations in Polish agriculture after 1990 the number of horses (the growth of mechanization's level) and sheep (scarcity of production profitability) diminished considerably. While more than twice in the last 15 years the production of poultry grew (in 2006 160 000 thousands of heads).

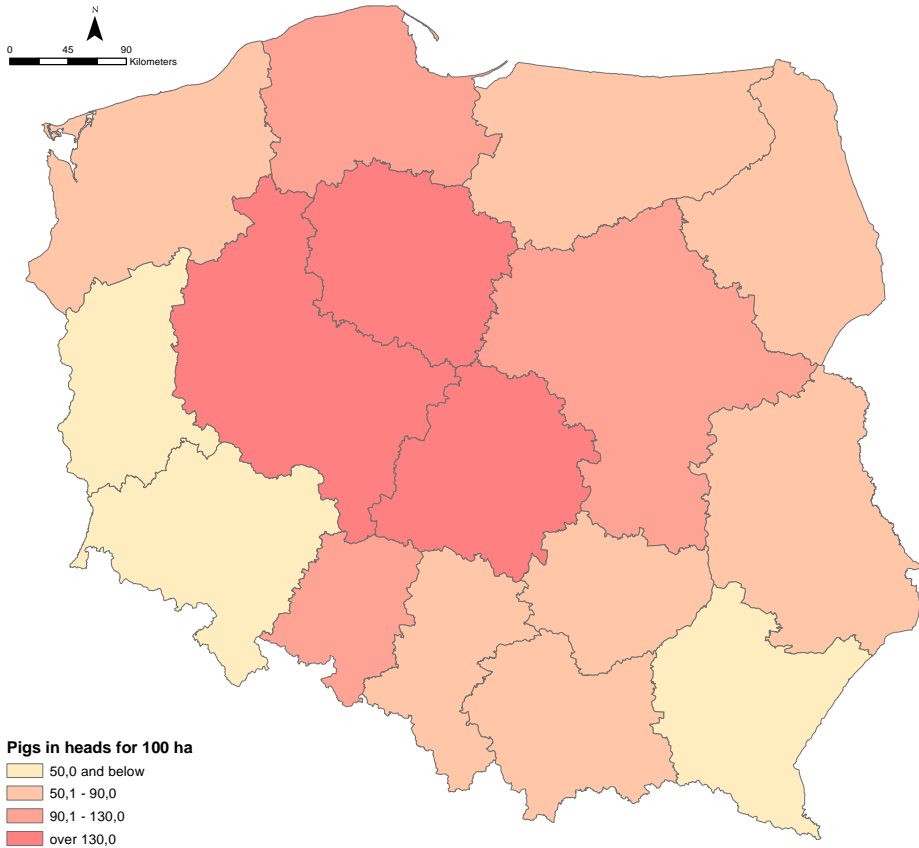


Figure 42. Pigs in heads for 100 hectares of agricultural lands in Poland's Voivodeships in 2006.

Source: Statistical Yearbook of the Regions – Poland, GUS 2007

### 6.2.8. Polish agriculture's productive and commercial

The appraisal of agriculture's productive and commercial is grounded on many indicators. First of them indicates the relation between real plant agricultural production and general production's possibility in the domain of particular area. This indicator illustrates then the use of production's potential in country and in provinces which results from natural conditions and expenditures of work and land. In the last years (2003-2005) the potential of agricultural production's space in the country's scale was used in 72%. The Voivodeships of western and northern Poland are characterized by the highest values of the indicator. Maximum values of the indicator are observed in Voivodeships: Kujawsko-Pomorskie (86,7%), Podlaskie (85%), Pomorskie (84%). The potential of agriculture

space is used inconsiderably in Voivodeships of central and south-eastern Poland (Podkarpackie – 54.9%, Łódzkie – 58.6%, Świętokrzyskie – 60%) and in Lubuskie Voivodeship (58.9%).

Polish agriculture's productive may be measured by other indicator as well – the purchase of agricultural products in terms of cereal units in dt from 1 hectare of agricultural land. The average for Poland reaches 27 dt/100 hectares. In the spearhead of provinces of the highest purchase of agricultural products there are Voivodeships characterized by the lowest level of cultivation's culture - Wielkopolskie, Kujawsko-Pomorskie and Opolskie (more than 32 dt/hectares). The lowest productive measured in this way is characteristic for 4 Voivodeships of southern and eastern Poland, i.e. Podkarpackie, Świętokrzyskie, Małopolskie and Lubelskie (less than 21 dt/hectares).

The level of agricultural development is generally estimated by the indicator of market output. The indicator shows the share of agricultural market output in final agricultural output. In 2006 the commercial of Polish agriculture reached about 85,5%. The highest commercial indicator (more than 90%) was characteristic for Voivodeships of western and northern Poland. The highest values were attained in Voivodeships: Zachodniopomorskie, Pomorskie, Warmińsko-Mazurskie and Opolskie. The lowest level of farmers' participation in market processes was noticeable in Voivodeships: Podkarpackie, Małopolskie, Świętokrzyskie and Lubelskie.

### **6.3. Regions of agricultural potential in Poland**

The description of Poland's agriculture in different aspects – of population, agrarian, proprietary, organizational, production enables to eliminate a few regions where the agricultural potential is used. The agricultural regionalization is a procedure of eliminating more or less homogenous spaces characterized by specific, unique arrangement of agricultural features, which differentiate them one from another. In the elaboration there will be presented a simplified arrangement of agricultural regionalization in Poland, in which the Voivodeships were joined together in larger areas - agricultural regions. In this procedure the method of k-means was used, which makes it possible to eliminate groups from the larger community on the grounds of many features. 9 indicators, by which the spatial differentiation of agricultural features was described became considered to be the variables in the regionalization's procedure. In regionalization 5 regions, including Voivodeships from 1 to 5 were eliminated. In the regions' description the features which determine the regions' dissimilarity are presented.

The first region including such Voivodeships as: Dolnośląskie , Lubelskie, Pomorskie, Warmińsko-Mazurskie and Zachodniopomorskie– is characterized by a very big agricultural farms' commercial, big participation of great-sized farms in agriculture, high crops of cultivation and small participation of people employed in agriculture.

The second region –Voivodeships: Kujawsko-Pomorskie, Opolskie and Wielkopolskie– is characterized by considerable use of mineral fertilizers and natural, economic potential in the process of agriculture's development and big intensity of vegetal, animal (especially pigs) production and great participation of arable lands. The region is characterized by the highest level of cultivation's culture and rich agricultural traditions.

The third region –Voivodeships: Małopolskie, Podkarpackie and Śląskie – embodies the characteristics of small arable lands' participation (mountainous and upland areas) and big contribution of small frames in agriculture, inconsiderable use of mineral fertilizers, little use of agricultural potential and little commercial.

Region 4. –Voivodeships: Lubelskie, Łódzkie, Mazowieckie and Świętokrzyskie – is typified by large participation of arable lands and low quality of agricultural production space, little use of agricultural potential, but relatively big extent of mineral fertilization and high intensity of animal production.

Region 5. comprises only one Voivodeship in which the agricultural structure bears no resemblance to any of those observed in surrounding Voivodeships. Podlaskie Voivodeship is characterized by difficult natural conditions but simultaneously high value of indicator of agricultural potential use. The resources of labor in agriculture are high, mineral fertilization low but at the same time the commercial is relatively high. The region's role is the most important when the cattle's breeding is taken into consideration due to the great participation of meadows and pastures.

Recapitulating there may be two regions in Poland indicated, different in the aspect of agricultural potential. Higher production potential is characteristic for the regions 1., 2. and 5. or western, northern and north-eastern parts of Poland, while lower production potential is characteristic for regions 3. and 4. or central, southern and south-eastern parts of Poland.

#### **6.4. Poland's agriculture in European Union**

Poland's accession to European Union speeded up the process of modernization and agriculture's restructuring. Polish agriculture is undergoing changes related to general economy's transformation, which

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particularly consist on its "marketization", leaving traditional methods of running a farm in agriculture. All changes, which take place in Polish economy, contribute to the agriculture's downfall of significance as an important element of gross domestic product (in the last years the participation was about 4%) and as a source of incomes of people from rural areas. European Union's influence on the Polish agriculture is fulfilled mainly at the instance of agricultural policy common for all member countries and the development of rural areas. Bearing the expenses of actions aiming at raising the level of rural areas' and agriculture's development takes place nowadays within the action "natural resources" and its participation in European Union's expenses amounts to about 45%, the majority of means are allocated to a purpose of agriculture's financing. The common agricultural policy, beside the regional one is the main common area of the community's economic activities.

European Union's agricultural policy is based on three principles:

- Common market of agricultural products (unrestrained flow).
- Preferences, in other words the internal market of the community and its agricultural market's protection from the influx of the competitive products from outside have priority.
- Financial solidarity, that is to say, covering the costs of agricultural policy by all community's countries.
- Owing to the European Union's help Polish agriculture is facing the unique chance for the lasting transformation of economic structure guaranteeing an improvement of the Polish rural areas' backwardness of civilization after long, many hundred years old negligence and preservation of unadvantageous agricultural structure in the period of socialist economy.

#### **6.4.1. Polish agriculture's potential in Europe**

Polish agriculture's potential may be evaluated in various ways according to the assumed vision of its development and the standards of the valuation. Though the decreasing participation of agriculture in gross domestic product's formation and decreasing employment in this sector of economy, each developed country has its own food's production in an appropriate reserve. Poland, in consideration of relatively big, natural and production potential, big number of people earning their livings by being employed in agriculture and its own big market of consumers is the considerable producer of food in Europe.

Table 9. Poland's place in Europe's agricultural production

Type of production	Poland's place in Europe
Crops of wheat	6
Crops of rye	2
Crops of potatoes	4
Crops of sugar beets	6
Heads of cattle	9
Heads of pigs	3
Meat's production from slaughter	7
Cow milk's production	6

Source: Rocznik Statystyczny RP, GUS, 2007

On the other hand Polish agriculture is a far cry from being the modern agriculture present in the Western Europe (Germany, Great Britain, Holland, Denmark). These differences may be appraised by drawing a comparison between some social and economic indicators of Polish agriculture and the countries highly developed. Considering the approximated production potential, natural and socially-cultural conditions Polish agriculture is usually compared to German agriculture. On the grounds, a conclusion that Polish agriculture taken as a whole is on a par of agricultural state with western lands of Germany from the second half of the 20<sup>th</sup> century, is of frequent occurrence. The fundamental comparative statistics is presented in table 10.

Table 10. The comparison of agricultural development's levels in Poland and Germany

Indicator	Germany	Poland
Average size of a farm in agriculture in hectares	31.3	7.7
%age of people employed in agriculture (%)	3.1	16.6
Agriculture's participation in gross domestic product (%)	1.5	4
Crops of basic cereals in dt from 1 hectare	68	27
Crops of potatoes in dt from 1 hectare	425	160
Crops of sugar beets in dt from 1 hectare	600	400
Yield of milk at a milking in liters from one cow in one year	7200	4200

Source: Eurostat and GUS (2004-2006)

#### **6.4.2. Types and dimension of European Union's financial help to Polish agriculture**

European Union's support for Polish agriculture took place even in a period before the accession. Then farmers and inhabitants of rural areas



took an advantage of financial help within some programs directed to potential new members. First programs as SAPARD, PHARE and LEADER were supposed to finance rural areas' development within the agriculture's modernization, the development of rural infra-structure and raising the people's living conditions. Incomparably greater help came together with Poland's accession to European Union. Within Plan of Rural Areas' Development in 2004–2006 agriculture and countries' inhabitants were given some financial help which amounted to about 3,5 billion euro.

Table 11. Implementation of Plan of Rural Areas' Development in 2004-2006

Name of action	Total limit of payments Plan of Rural Areas' Development * (millions EUR)	Number of received and considered applications	The amount of paid means (thousands of zlotys)	Use of the limit (approximately)
Structural pensions	534,88	56 180	2 083 739,3	100%
Support given to farms in agriculture of little commercial	341,30	172 440	1 316 360,0	100%
Supplementary charge on the areas of unadvantageous conditions of running a farm ** - campaign 2006	948,57	717 601	1 294 923,8	100%
Supplementary charge on the areas of unadvantageous conditions of running a farm ** - campaign 2005		706 409	1 268 009,6	
Supplementary charge on the areas of unadvantageous conditions of running a farm ** - campaign 2004		628 762	1 144 900,0	
Support given to agricultural, environmental enterprises and improvement of animals' situation	208,70	207 065	814 460,7	100%
Forestation of agricultural lands	94,90	23 013	364 753,8	99%

The adjustment of farms in agriculture to the standards of European Union	637,00	73 274	2 423 725,5	97%
Groups of agricultural producers	6,40	103	24 197,9	100%
Technical help	21,50	108	14 673,6	14%
National supplementary area payments *** - campaign 2006	679,42	1 433 199	770 776,0	100%
National supplementary area payments *** - campaign 2005		1 450 595	927 851,3	
National supplementary area payments *** - campaign 2004		1 366 042	1 168 139,1	
total	3472,7			

\* Plan of Rural Areas' Development

\*\* Supplementary charge on the areas of unadvantageous conditions of running a farm

\*\*\* National supplementary area payments

Source: System of Managing Information ARiMR, Department of Analysis and ReportingARiMR, 2008

From 2004 a fundamental part of financial support for people employed in agriculture is being realized, i.e. areas payments, which every farm in agriculture leading process of production may apply for. In general in country such applications in 2007 were reported by about 1453 thousands of farmers, which also makes it possible to estimate the number of farms in agriculture committed in some agricultural activity. Most of the applications were given by the farmers from Voivodeships: Mazowieckie, Lubelskie, Małopolskie, Łódzkie, Podkarpackie and Wielkopolskie. Apart from WielkopolskieVoivodeship the regions mentioned above are characterized by the greatest participation of small farms in agriculture. Since 2005 the number of applications is decreasing, as average it is about 15 thousands less per each year, which illustrates the scale of farmers' withdrawal from activity.

Table 12. The number of applications in which a request for area payments is expressed in the following campaigns 2004, 2005, 2006, 2007

Province	Number of applications received and considered in campaign 2004	Number of applications received and considered in campaign 2005	Number of applications received and considered in campaign 2006	Number of applications received and considered in campaign 2007
Dolnośląskie	61 459	63 195	62 160	60 992
Kujawsko-Pomorskie	69 303	70 190	69 491	68 620
Lubelskie	173 373	186 035	185 253	184 377
Lubuskie	20 342	21 516	21 379	21 164
Łódzkie	127 818	134 567	133 175	131 673
Małopolskie	131 907	142 869	140 344	137 964
Mazowieckie	207 851	223 438	221 580	219 791
Opolskie	30 539	30 551	29 860	29 321
Podkarpackie	119 279	131 511	130 110	128 172
Podlaskie	80 675	84 691	84 299	83 572
Pomorskie	39 091	40 668	40 271	39 957
Śląskie	52 978	56 702	55 485	54 455
Świętokrzyskie	92 108	97 212	95 980	94 923
Warmińsko-Mazurskie	41 864	44 093	44 129	43 869
Wielkopolskie	122 592	126 042	125 085	124 171
Zachodniopomorskie	29 191	30 348	30 013	29 644
total	1 400 370	1 483 628	1 468 614	1 452 665

Source: System of Managing Information ARiMR, Department of Analysis and Reporting ARiMR, 2008

In general Polish people employed in agriculture received about 4 billion euro. Within area payments most of the means were given to Wielkopolskie, Mazowieckie and Lubelskie, Kujawsko-Pomorskie, Podlaskie Voivodeships as well.

Plan of Rural Areas' Development was prepared for the years 2007-2013. Within all means of help Poland is supposed to receive for that aim about 13 230 thousands euro from European Union, in other words about 1890 thousands euro per year. The main directions of support are presented below:

- Improvement of agricultural sector's competitiveness (trainings for farmers, facilitation of start for young people employed in agriculture, structural pensions, consultative services for farmers, modernization of farms in agriculture, growth of farms' effectiveness, improvement of agricultural infra-structure, creation of production groups);

- Improvement of natural environment and rural areas (support given to farms in agriculture located on the areas of hard environmental conditions, increase in environment's quality, lands' forestation);
- Quality of life on the rural areas and rural economy's differentiation (diversity of the activities conducted by countries' inhabitants, creation of enterprises, development of services in rural regions, renovation of rustic regions);
- Leader (creation of local strategies of development, formation of local groups of activity, activation of society).

Table 13. Voivodeships' participation in area payments given altogether in years 2004-2007

Province	Participation in area payments given altogether in years 2004-2007 (%)
Dolnośląskie	6.2
Kujawsko-Pomorskie	7.4
Lubelskie	9.4
Lubuskie	2.7
Łódzkie	6.9
Małopolskie	3.6
Mazowieckie	13.4
Opolskie	3.6
Podkarpackie	3.8
Podlaskie	7.2
Pomorskie	5.0
Śląskie	2.4
Świętokrzyskie	3.6
Warmińsko-Mazurskie	6.8
Wielkopolskie	12.2
Zachodniopomorskie	5.7
total	100.0

Source: System of Managing Information ARiMR, Department of Analysis and Reporting ARiMR, 2008

Appraising first effects of program for rural areas and agriculture will be possible after 2013, when all planned means will be administered. The first experiences and steps however carried out by countries' inhabitants enable us to think in the optimistic way about the creation of a country as an environment which is friendly for those people and agricultural producers who are not afraid of undertaking an economic activity.

## 6.5. Forest economy

Forestage of the area, or the participation of forests in the country's surface taken as a whole is dependent on the natural conditions and historic processes of colonization and farm implements in the country. The quick increase in number of people and thus colonization's pressure, gain of new agricultural lands and industry's development were the factors which determined the intense scale of forests' cut down beginning from the second part of 20<sup>th</sup> century. The greatest surface of forests was cut down on the turn of the 19<sup>th</sup> century, which was related to the necessity for trees due to the industrial and energy demands. The I and II World Wars were also of great importance, when German occupants with great ruthlessness carried out the predatory forest economy, especially within the most valuable stand of trees. The least forest cover within present borders of Poland was in 1946 and amounted to about 20%. Since that moment the forests' participation in country's surface taken as a whole is increasing, particularly as a result of the inferior agricultural lands' a forestation and depopulation of considerable areas of the country. At the beginning of 21<sup>st</sup> century the indicator of a forestation in Poland amounted to about 30%. The greatest a forestation is characteristic for the areas of small density of population, unadvantageous conditions of agriculture's development (especially soils created on the sands), not very developed industry and mountainous areas. Among the provinces of the highest values of a forestation indicator there are such Voivodeships as: Lubuskie, Pomorskie, Zachodniopomorskie, Pomorskie, Warmińsko-Mazurskie (the line of lake districts) Podlaskie and Podkarpackie. The lowland Voivodeships of central Poland (Łódzkie, Mazowieckie, Kujawsko-Pomorskie) and Lubelskie Voivodeship are the least arborous areas.

Forest economy in Poland is forced to face many obstacles. The age structure of forests is unadvantageous. More than a half of trees are young, unfit for the fall and the majority of trees in the country is damaged as a result of excessive contamination. The structure of proprietorship is in favor of rational forest economy in Poland. Almost 98% of forests are country's property. That type of proprietorship enables citizens of the country to use freely some part of forests' resources (mushrooms, berries).

Principal economic duty of Polish forests is to gain trees for plank and for the cellulose, paper and furniture industry. In the last 20 years the economic development and connected with it greater demand for the plank and paper triggered off the growth of wood production by 30%. Apart from economic functions the important role of forests is related to the protection of natural environment. Almost half of the forests in Poland

comes within some forms of natural and landscape protection. Forests are also the place of Polish people's recreation and repose.

The country's policy according to forests assumes systematic growth of forests' area, especially where people retreat from agricultural production, preservation of their biological and functional diversity, reconstruction of stands of trees with the aim of increasing the participation of leafy species.

### **6.6. Sea and freshwater catches**

The access to Baltic Sea, its biological resources and developed port and production infrastructure resolved on the development of Sea and freshwater catches. Most of the fishing take place on the area of three-mile limits and in the Baltic Sea's zone of economic exclusivity. Moreover deep-sea fishing are carried out on Ochockie Sea, southern Atlantic and close to seashores of Antarctic. Among the greatest Polish fishing ports there are: Kolobrzeg, Ustka, Wladyslawowo, Jastarnia, Darlowo, Leba, Hel, Swinoujście, Gdansk and Gdynia. Fishing fleet has got about 900 units, but only 3 of them are suitable for deep-sea fishing. Sea catch is becoming quickly modernized. The transformation entailed the privatization of fish manufacture, which caused reduction in production, and decrease in necessity for fish (import of fish from abroad as well). Poland's accession to European Union delivered the encouragement for fishermen to quit their own job and get rid of their smacks in exchange for appropriate financial means assigned to other activity. Poland was also given much smaller sums of fishing by European Union than the quantity of fishing before the country's accession to community. The elongation of protective periods of caught species Baltic fish is of great importance as well.

In 1990 the amount of fishing was trending on the level of about 450 thousand tons and today it is about 150 thousand tons. At the same time the scale of fishing of freshwaters species increased from 30 to about 50 thousand tons per year. In the fishing structure 70% belong to sea fish and 30% to freshwaters. Among the sea fish: sprats, herrings and cods are caught most of all.

### **6.7. Recapitulation**

Bigger influence on the level of agricultural development in Poland have socially-economic conditions than natural ones.

The agriculture's participation in gross domestic product in the last years decreased and today the value is not higher than 5%.

In comparison with agriculture of countries highly developed in European Union, Polish agriculture is backward and needs some support from outside (country and European Union)

Polish agriculture is now undergoing a transformation, which aim is to restructurisation and modernize the production and to eliminate small farms in agriculture, inefficient and redundant labor resources

Agriculture in Poland is regionally diversified, which is determined particularly by historic, politic and social conditions.

Agriculture of western and northern Poland is better prepared to undergo the transformation, more unadvantageous structure of agriculture is characteristic for eastern and southern Poland.

Since a few years Polish agriculture and rural areas receive great support from European Union, which may cause the improvement of living conditions on the rural areas in long-time prospects.

## 7. INFLOW OF FOREIGN CAPITAL TO POLAND – DEPOSITS IN THE FORM OF DIRECT FOREIGN INVESTMENTS (FDI)

In order to reach sustainable growth of each country (region) nowadays economy requires a proper level of capital engagement. The direct investments are a valuable source of such capital – FDI. The separate areas (countries, regions) are then competing for capital i.e. for investments. The capability to attract strategic investors usually belongs to the big international corporations. The enclave that is over average attractive location (special economic zone), is created in order to offer the most convenient conditions for the corporations to invest their capital.

In this study part the following was discussed: theoretical basis of direct foreign investments (definitions and forms of FDI), the size and the structure of the capital inflow to Poland in 1990-2007 and the rules of functioning and arrangement of the special economic zones being particular locations for the capital investment in the form of FDI.

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**The term Direct Foreign Investments (FDI)** – in the economic and legal aspect - direct foreign investments are a type of flow focused on the managerial control take over rather than on the capital transfer, which does not always make it being identical with the investments in the sense of economic or book-keeping; it leads to creation of companies with foreign capital participation (companies with foreign capital participation, 'daughter- companies' of international companies – mother companies); it is an expression of the global expansion activity of the international companies<sup>26</sup>; the capital investment beyond the country borders made in order to take on the economic activity from the scratch by the investor or acquiring the shares in an existing company at a level permitting direct management participation;

**In a pragmatic aspect** – foreign investment as one of the forms of the capital international transfer, defined widely as a capital movement recorded in the balance of payments; foreign investment is divided into 2 categories: direct investment and portfolio investment (the trait distinguishing direct investments and portfolio investment is a way of management of business activity abroad<sup>27</sup>) they are a vertical or horizontal extension of a company beyond the mother country borders<sup>28</sup>.

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<sup>26</sup> Cieślík A; The geography of foreign investments [Geografia inwestycji zagranicznych]; International companies in the worldwide economy [Przedsiębiorstwa międzynarodowe w gospodarce światowej]; Warsaw 2005. pp 23-24.

<sup>27</sup> Weresa M. A; Results of foreign investments for the economy of the country taking Poland's experience [Skutki inwestycji zagranicznych dla gospodarki kraju przyjmującego doświadczenia Polski]; [in]; E. Balcerowicz, ed., The role of



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Considering the form of the direct foreign investment (FDI), first of all two investment types should be differentiated such as 'greenfield' and 'brownfield' ones. 'From the scratch' investment (greenfield type) constitutes one third (37%) of the whole. Nearly half (37%) of all the FDI are mergers and acquisitions (M&As – Mergers and Acquisitions). About 15% of investment is connected with privatization of the national companies property. The most common organizational form of the brownfield activity are the joint undertakings – joint ventures. They are a sort of international direct investments which means that the independent partners from different countries are running a joint activity on the basis of a concluded agreement. In the result of this investment a new economic entity is set-up where the partners contribute appropriate shares' proportion according to the agreement. It is important that the partners remain independent from each other. This independency refers to the legal, economic and administration aspects. Such a model of investing allows to share activity risk between the partners which makes it the safest form of investment on this account.

Inflow of foreign capital to Poland should be analyzed in stages.. The interest in the direct foreign investment problems (FDI) has begun in early 1970s. Only due to the transformation processes in 1990s wider opening of the Polish economy was possible to the foreign investors. The inflow of the foreign capital to Poland in 1991–2001 has shown a changing dynamics.

In the first half of the 1990s of the 20<sup>th</sup> century (1991–1995) the annual average FDI growth rate was 130% however in 1996–2000 the capital inflow dynamics has significantly weakened. This decline was particularly caused by the inhibition of the state property privatization. In the consequence the position of Poland as a FDI location has been belittled. In the 1990s the overall accumulated capital value invested in Poland was around 40 billion USD and it was the outcome of the constant growth trend of the invested FDI.

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foreign investment in the economy [Rola inwestycji zagranicznych w gospodarce], Warsaw 2002, pp. 7-13.

<sup>28</sup>Przybylska K., The determinants of direct foreign investment in the economy theory [Determinanty zagranicznych inwestycji bezpośrednich w teorii ekonomicznej], Academy of Economy Edition, Cracow 2001, pp. 13-15.

Table 14. Value of the direct foreign investments in Poland in 1990-1999.

Year	Capital value invested in a given year (million USD) NBP data* )	Capital value invested in a given year (million USD) PAIZ data **	Accumulated capital value invested in a given year (million USD) NBP data
1990	111	88	111
1991	249	359	360
1992	1236	678	1596
1993	1619	1715	3215
1995	1702	1875	4917
1995	2862	3659	7779
1996	6239	4498	14018
1997	6560	4908	20578
1998	10064	6365	30642
1999	8262	7270	38904

\*NBP data (taken by GUS) relates to the data showing a real foreign investors engagement (noted in the balance of payments)

\*\*PAIZ data relates to the estimation data based on the investors' declarations

Source: Own study on the basis of: PAIZ data (Polish Information and Foreign Investments Agency) and the Ministry of Economy Report (NBP data); Compare: Wołodkiewicz-Donimirski Z., Foreign investments in Poland in 1999–2000 [Inwestycje zagraniczne w Polsce w latach 1999-2000]; the Parliament Chancelery The office of Studies and Expertises, March 2001, p.3

After 2000, in 2004 there was the highest value of FDI inflow recorded – €9,983 (third and the biggest inflow since the political system transformation<sup>29</sup>). In the following year the investments were of €7,668 million and it constituted around ¼ less (by 23,2%) than in 2004. Historically (as till now) the biggest inflow of direct foreign investments of €15,061 million was in 2006. And it was by 81,9% higher than in the previous year. In 2007 the value of the foreign investments made in Poland was lower by 14,8% compared to the previous year and constituted €12,834 million. Table no 15 reflects the investment of foreign capital in Poland as FDI in the particular years of 2000-2007 whereas the chart no 1 shows comparison of data for the period of 1990-2006. Additionally the table 1A – (the annex) presents the inflow of direct foreign investments to Poland in 1992-2006 against other Middle–East European countries.

<sup>29</sup> The conference – Inflow of direct foreign investment to Poland In 2004, 19 April 2005; ww.paiz.pl.

Table 15. Value of the capital investment in Poland in 2000-2007

Year	Value of the capital investment in a particular year (€million)
2000	10 334
2001	6 372
2002	4 371
2003	4 313
2004	9 983
2005	7 668
2006	15 061
2007	12 834

Source: Own study on The basis of NBP data; Direct foreign investments in Poland in 2007 [Zagraniczne inwestycje bezpośrednie w Polsce w 2007 roku]; NBP report; Information about direct foreign investments in Poland in 2006-2007; Statistical Department; p. 1-2; www.nbp.pl and the Balance of Payments 2005; NBP; www.nbp.pl.

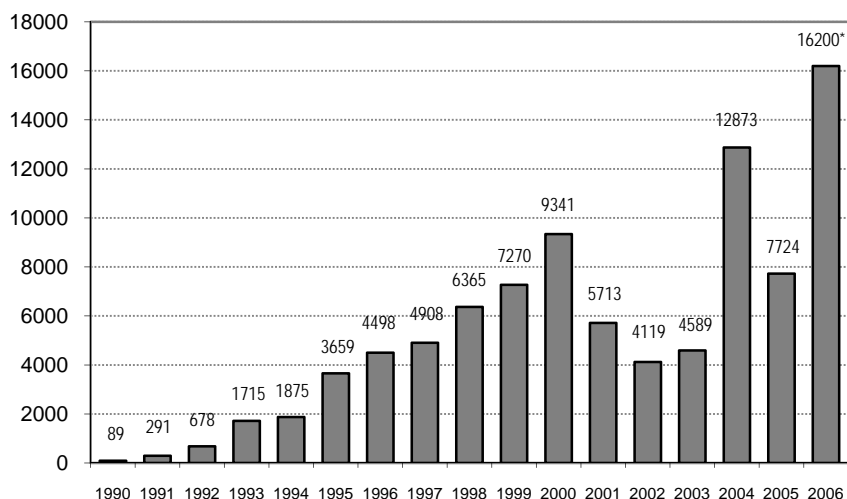


Figure 43. Inflow of direct foreign investments to Poland in 1990-2007 (USD million)

Source: own study on the basis of: *World Investment Report 1991-2006 and Foreign direct investment surged again In 2006*, Unctad Investment Brief, No. 1, 2007 as well as Direct foreign investments in Poland in 2007 [Zagraniczne inwestycje bezpośrednie w Polsce w 2007 roku]; the NBP report; Information about direct foreign investments in Poland in 2006-2007 [Informacja o zagranicznych inwestycjach bezpośrednich w Polsce w 2006-2007 roku]; Statistical Department; pp. 1-2; www.nbp.pl and the Balance of Payments 2005; NBP; www.nbp.pl

Table no 16 reflects the dynamics of the direct foreign investments inflow to Poland in 1990–2007, and it should be noticed that it was only comparable with the records of 1990s in 2003 and 2004.

Table 16. Dynamics of the FDI inflow to Poland in 1990–2007

Years	Dynamics of the FDI inflow
1991/1990	3.27
1992/1991	2.33
1993/1992	2.53
1994/1993	1.09
1995/1994	1.95
1996/1995	1.23
1997/1996	1.09
1998/1997	1.30
1999/1998	1.14
2000/1999	1.28
2001/2000	0.61
2002/2001	0.72
2003/2002	1.11
2004/2003	2.81
2005/2004	0.60
2006/2005	1.96
2007/2006	0.85

Source: own calculation on the basis of: World Investment Report 1991-2006 and Foreign direct investment surged again in 2006, Unctad Investment Brief, No. 1, 2007 as well as Direct foreign investments in Poland in 2007 [Zagraniczne inwestycje bezpośrednie w Polsce w 2007 roku]; the NBP report; Information about direct foreign investments in Poland in 2006-2007 [Informacja o zagranicznych inwestycjach bezpośrednich w Polsce w 2006-2007 roku]; Statistical Department; p. 1-2; www.nbp.pl and the Balance of Payments 2005; NBP; www.nbp.pl.

### **Analyzing the geographical structure of the foreign investments**

in Poland it may be stated that its characteristic feature is an ongoing FDI accumulation coming mostly from a few countries. The Netherlands, Germany, The United States and France are the biggest exporters to Poland. 60-80% of all the direct foreign investments is coming every year from those countries. The domination of the European Union countries should also be highlighted. The EU investors jointly (France, Germany, the Netherlands, Luxembourg, Great Britain, Austria, Finland, Sweden, Italy) share over 80% of FDI coming to Poland. This is not only a result of the geographical proximity but it comes mostly from the development of the economic, social and political connections. In 2007 the majority of the means was arriving from Luxemburg (€3,573 million), Germany (€2,707 million), Italy (€1,353 million), the Netherlands (€1,303 million), Great

Britain (€1,170 million), and Spain (€1.125 million)<sup>30</sup>. Among the outside EU investors the significant role belongs to the transfers from the US as well as from Antilles, South Korea and Japan<sup>31</sup>. Table 2A (the addendum) presents the direct foreign investments in Poland according to the capital country origin and to the economic grouping for the chosen years of the period (1993-2005).

**Analyzing the branch structure of the investments** it should be notified that there are important changes happening in the last years. The so ongoing superiority of the industry processing starts falling for the benefit of widely comprehend services (in 2002-2005 40% of FDI was invested into this category). Also the first sector i.e. raw material-agriculture share growth is interesting ( the importance increase of this sector becomes a worldwide tendency in 2005-2007). In 2007 there was less of interest in financial services (15%) where until now around 20% of FDI was invested. The investments in trade (around 12% of the deposits' whole, with the exception of 2005-2008 at 18%) are relatively stable as well as in the transport and telecommunication (at the level of 15% of the deposits' whole) Table 17 presents the data on the FDI branches' structure in Poland in 2002-2007 (a proportional share of the particular sectors in the overall investment value in a given year).

OECD provides a definition of the term - **direct foreign investor**. This is an every natural person, a private or public company, a government, a group of natural or legal persons possessing a direct investment company. It is taken that in order to have long-lasting influence on a given company a foreign investor should have at least 10% of normal shares or vote rights at a General Meeting.

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<sup>30</sup>In 2006 the biggest investor group was from Germany, second place took the US and the following was for companies from Holland. Fourth position belonged to the French investors, and fifth to the Italy. National Bank of Poland; Information about direct foreign investment in Poland in 2006-2007 [Informacja o zagranicznych inwestycjach bezpośrednich w Polsce w 2006-2007 roku]; Statistical Department; p. 1-2 [www.nbp.pl](http://www.nbp.pl)

<sup>31</sup>Bank of Poland; Information about direct foreign investment in Poland in 2006-2007 [Informacja o zagranicznych inwestycjach bezpośrednich w Polsce w 2006-2007 roku]; Statistical Department; p. 1-2 [www.nbp.pl](http://www.nbp.pl) and Calski P; The participation of the foreign investors in the Polish economy privatization proces in 1990-2002 [Udział inwestorów zagranicznych w procesie prywatyzacji polskiej gospodarki w latach 1990-2002]; [in]: W. Karaszewski (ed); The direct foreing investment in Poland [Bezpośrednie inwestycje zagraniczne w Polsce]; The University of Mikołaj Kopernik; Toruń 2003; p. 210.

Table 17. Branches' structure of FDI in Poland in 2002-2007 (share of the particular sectors in the overall investment value in a given year in%)

Year/ branch	Industry process ing	Non financial servic- es*	Finan- cial services	Trade and ser- vice	Transport and telecommuni- cation	Sector „one” **
2007	20.0	19.8	15.3	11.9	9.4	23.6
2006	33.9	13.7	18.9	17.5	x	16.0
2005	37.0	x	20.0	18.0	8.0	17.0
2004	39.9	14.8	23.4	11.8	9.7	0.4
2003	40.0	14.4	23.3	11.7	10.2	0.4
2002	40.3	9.0	21.8	12.3	10.2	6.4

\* all the services related to running a business activity such as: real estate, hotel trade, catering and food, building, municipal services (water and power supply etc)

\*\* agriculture, mining, raw material, other

„x”- lack of category

Source: own study on the basis of: Inflow of the direct foreign investments to Poland – the barriers and possibilities of growth [Napływ bezpośrednich inwestycji zagranicznych do Polski – Bariery i możliwości wzrostu; www.mg.gov.pl; pp.1-5; Direct foreign investments in Poland according to the 2006 year –end data [Bezpośrednie inwestycje zagraniczne według stanu na koniec 2006 roku]; www.mg.gov.pl pp.19-23; Direct foreign investments in Poland according to the 2005 year –end data [Bezpośrednie inwestycje zagraniczne według stanu na koniec 2005 roku];; www.mg.gov.pl pp.17-19; Direct foreign investments in Poland according to the 2004 year –end data [Bezpośrednie inwestycje zagraniczne według stanu na koniec 2004 roku];; www.mg.gov.pl p.26; Direct foreign investments in Poland according to the 2003 year –end data [Bezpośrednie inwestycje zagraniczne według stanu na koniec 2003 roku]; www.mg.gov.pl .18; Direct foreign investments in Poland according to the 2002 year –end data [Bezpośrednie inwestycje zagraniczne według stanu na koniec 2002 roku]; www.mg.gov.pl p.19.

Among ten leading individual foreign investors in Poland (2006' data) are: the worldwide automotive concerns as Fiat, Toyota, General Motors (Daewoo), Volkswagen, Isuzu, MAN, Michelin, the French telecommunication companies - France Telecom and Vivendi as well as the Russian gas company Gazprom which invests in the building sector. It is remarkable that among the biggest 1101 foreign investors there were up to 258 of German companies. The key German entities acting in Poland are: Metro AG, Bayerische Hypo- und Vereinsbank AG, Volkswagen AG, Commerzbank AG, RWE Plus AG, Deutsche Bank, Siemens AG. The inflow dynamics of Japan investment as regard to electronics, automotive and high-tech technologies is spectacular. The biggest investments are among others: Bridgestone, Sharp, Toyota, Toshiba. In 2007 the priority

investments were the service centers ones (power sector, construction and real estate) and financial services, mining and specialized electronics ones.

**The spatial location of the incoming investments** plays a particular role for the target country. To this extent FDI is more beneficial the more it influences the reduction of disproportion of economy development between separate regions. At the beginning of the 1990s the utmost number of entities was operating in the Voivodeships of the large urban complexes.

Table 18. Companies with foreign capital share registered in the REGON system; the chosen Voivodeships in 1991 and 1996

Voivodeships	1991		1996	
	no of companies	structure in%	no of companies	structure in%
Warszawskie	1565	32.6	2734	24.2
Poznańskie	384	8.0	696	6.2
Gdańskie	375	7.8	663	5.9
Katowickie	291	6.1	806	7.1
Szczecińskie	283	5.9	585	5.2
Łódzkie	203	4.2	471	4.2
Wrocławskie	198	4.1	821	7.3
Krakowskie	192	4.0	510	4.5

Source: Luc S., Foreign direct investments and the structural transformation in the Polish production sector [Zagraniczne inwestycje bezpośrednie a przekształcenia strukturalne w przemyśle polskim]; SGH; Warsaw 2000; p. 80-81.

According to the foreign capital value invested in the particular Voivodeships five of them are predominant: warszawskie, poznańskie, bielskie, wrocławskie and krakowskie. Those five Voivodeships (among 49 in total) have accumulated at the end of 1998 around 72% of the basic capital value of the entities with the foreign capital share operating in Poland where at least half (52.7%) belonged to the Warsaw Voivodeship. In 1999–2005, according to the number of companies with the foreign capital share (among the newly created) the predominant Voivodeships were: Mazowieckie, Dolnośląskie, Śląskie, Wielkopolskie. During this period the Mazowieckie Voivodeship was acquiring around half of the FDI. The Wielkopolskie, Małopolskie, śląskie and Dolnośląskie ones gathered the other 1/3. The remaining parts of Poland gained not more than 3% of the foreign capital investment of the total FDI.

The **special economic zones** (SEZ) have become a fundamental element of the spatial 'investment landscape' in Poland being an antidotes for irregular location of FDI companies' in the country territory. The

investors have been directed towards the less developed regions with the capital needs thanks to the better conditions offered in the specially allocated zones.

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### **Special Economic Zone (SEZ)**

in a legal aspect it is 'an enclave in the country territory' where the regulations regarding country business activity do not apply; in fact it is a specific legal and political construction created on a spot basis as per applicable law in order to offer the companies more attractive conditions than outside the zone;

in an economic aspect it is an instrument of the active governmental policy, in other words, the way of law regulations; establishing (by law) particularly favorable conditions for conducting trade and/or production activity for the local and foreign companies in the chosen location;

in a pragmatic aspect it is an indirect assistance form (determined by law) for the companies and the regions being an uninhabited area where the conditions for conducting business activity are different (preferential) than in the entire country territory<sup>32</sup>.

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A law about Special Economic Zones (SSE) was established in 1994 in order to stimulate economic development in Poland according to which the investors were receiving tax support.

In Poland there are 14 SEZ and they differ as to the area, location, capacity, adaptation conditions, road, technical and telecommunication infrastructure. The first Special Economic Zone was established in Mielec (Euro-Park-Mielec) in 1995. Afterwards in 1996 two next were formed: the katowicka and the suwalska ones. In 1997 the zenith of the zones' creation was achieved when up till 14 of them were set-up. In April the following zones were made up: the legnicka, the łódzka and the wałbrzyska. During autumn successively another nine were established: kostrzyńsko – słubicka, słupska, tarnobrzaska, starachowicka, tczewska, warmińsko – mazurska, częstochowska, żarnowiecka i kamiennogórska. At that time Poland was even accused that the SEZ were formed was incompatible with the association agreement and the WTO regulations. The next zones were not created and two of them were even closed

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<sup>32</sup>According to the World Health Organization estimate there were 850 Special Economic Zones worldwide in 1997. Compare. Majerczyk A, Walica H; Special Economic Zone in Tychy – assessment of the investment stimulants' results [Ocena skutkowania stymulatorów inwestowania na przykładzie tyskiej specjalnej strefy ekonomicznej]; [in]: Karaszewski Wł (edit); The direct foreing investments in Poland [Bezpośrednie inwestycje zagraniczne w Polsce]; University of Mikołaj Kopernik; Toruń 2003; s. 405



down after the SEZ law amendment in 2000. At the new administrative division the special economic zones belong to 11 Voivodeships. The Dolnośląskie Voivodeship has the biggest accumulation i.e. legnicka zone, wałbrzyska zone, kamiennogórska zone. The distribution of the Special Economic Zones as to the Voivodeships is presented on the map

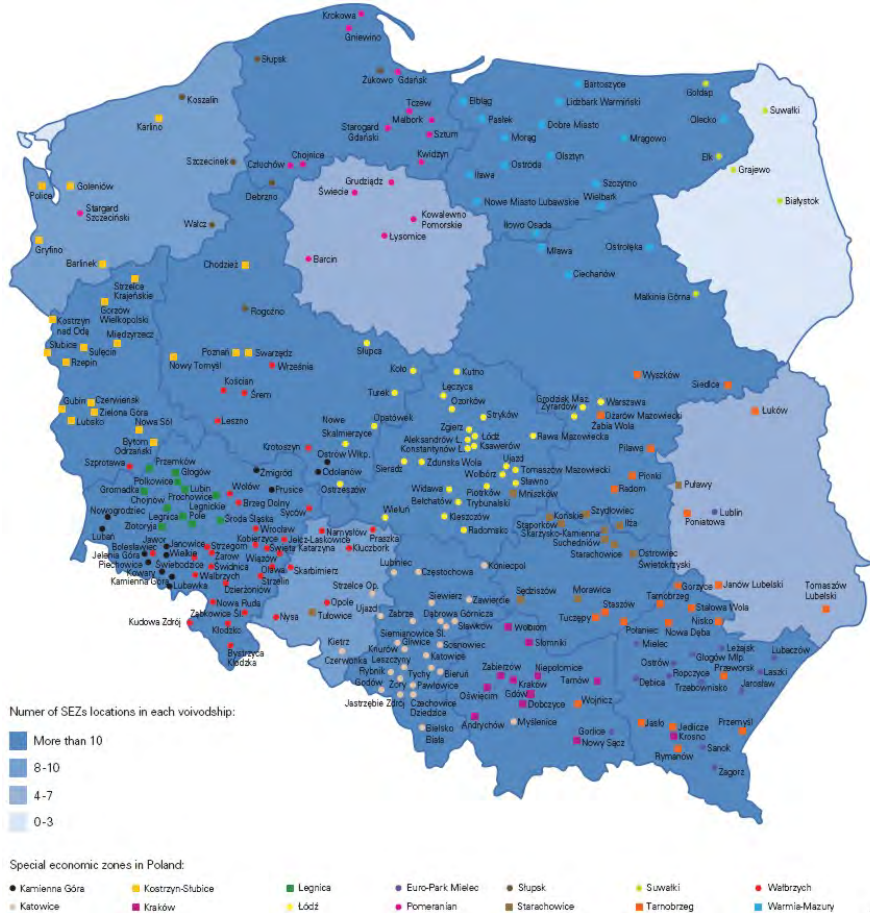


Figure 44. Special Economic Zones in Poland  
Source: PAIiZ data, Economic Promotion Department, 2007

As to the target to be achieved the current zones can be split into 5 groups<sup>33</sup>:

- **restructuring of the former industrial areas** (katowicka, wałbrzyńska, legnicka, łódzka, tarnobrzaska, mielecka, starachowicka, żarnowiecka zone),
- **activating the regions with the low economic development** and its acceleration (suwalska, warmińsko–mazurska, słupska zone);
- developing of the research and science base (technoparks - krakowski and modliński),
- **limiting the high level of the structural unemployment** (częstochowska, tczewska, kamiennogórska zone),
- **benefiting the border location** (kostrzyńsko-słubicka, suwalska zone).

The perception of Poland is still as one of the most investment attractive countries, according to the research (especially in the SEZ) which allows the stable capital inflow in the future. In 2008, after the Polish Information and Foreign Investments Agency (PAIIZ), the inflow of €15bn capital seems to be real at the current FDI structure. The Agency estimates that the foreign capital deposits can rise even by 30-40% in 2009 in the consequence of the changes favorable to the economic promotion system.

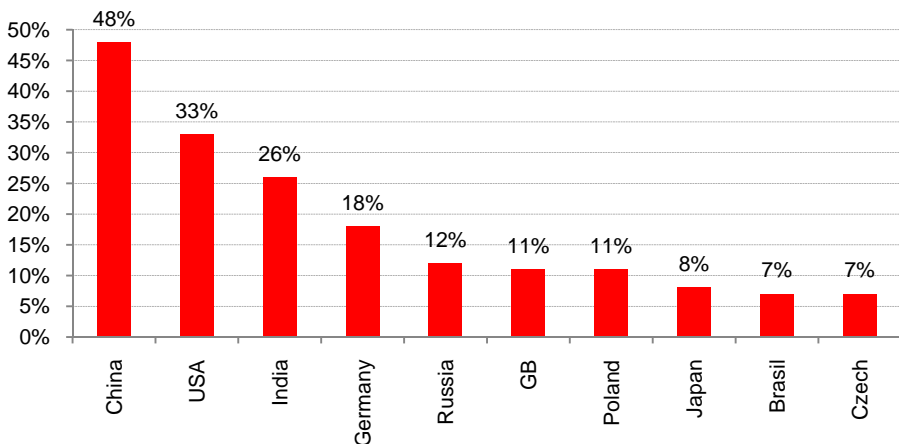


Figure 45. The most attractive worldwide investment locations in 2007

Source: PAIIZ data; www.paiz.gov.pl; 08.07.2008

<sup>33</sup>Bazydło A., Smętowski M; Special Economic Zones – The worldwide differentiation of the instrument [Światowe zróżnicowanie instrumentu]; [in]: E. Kryńska, ed., The Polish Special Economic Zones ; Warsaw 2000; p. 45.

Although Poland has fallen from the 5th (in 2006) to 7th position (see chart no 3) in the rank of the most attractive investment locations. „**The European Attractiveness Survey 2007**” of Ernst & Young still finds Poland being an exceptional place in business and investment conditions offered and the friendly business environment allowing convenient circumstances for achieving success.

## 8. POTENTIAL OF POLISH INDUSTRY

The industry is one of the three sections of the national economy (agriculture, industry, services). It focuses on the extraction of raw materials and their processing by machines and humans. Industrial production has influence on other areas of the national economy and the overall level of development of the country. Industry has several important functions:

- economic- related to the production of various goods and the influence on the development of the country,
- social- related to the creation of new jobs and change of the living conditions,
- spatial- related to many changes occurring in the environment (caused by production activities).

Industry is divided into two branches: the mining and manufacturing. The first one is related to the extraction of raw materials and the other is connected with the processing. Polish Classification of Activities (PKD) has divided industry into sections and subsections.

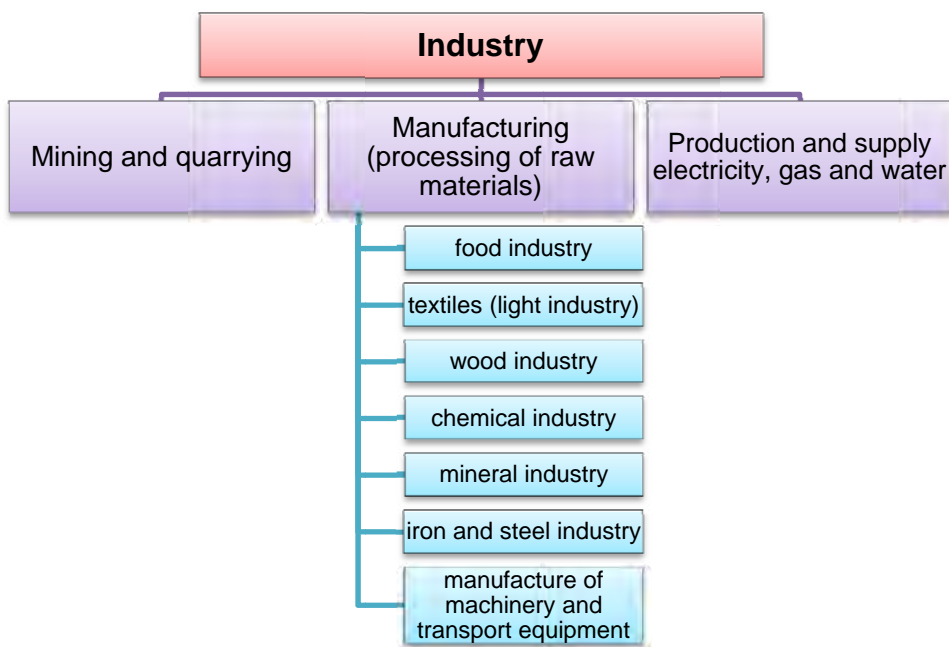


Figure 46. Industry division into sections according to UN

Source: authors' own research

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## 8.1. History

The range of products manufactured in Polish plants increased greatly in the postwar years, mostly through construction of new facilities in the period of accelerated industrialization. By the 1980s, heavy industry produced processed metals (mainly iron, steel, zinc, lead, and copper) and derivative products; chemicals; a wide variety of transportation equipment, including ships and motor vehicles; electrical and nonelectrical machines and equipment; and electronic and computer equipment. The most important light industry was textiles.

Under the central planning system, statistics on production by individual industries and on their relative shares in total industrial production through the communist period were distorted by administrative price fixing and unequal distribution of industrial subsidies. In general, however, between 1960 and 1989 the relative importance of food processing declined steadily while that of the engineering and chemical industries grew steadily. The share of light industry declined early in the period but then increased under the stimulus of expanded Soviet export markets. The relative importance of the metallurgical, mineral, and wood and paper industries remained basically unchanged. Within the engineering group, the machine building, transport equipment, and electrotechnical and electronic industries increased in relative importance between 1960 and 1989.

The engineering and chemical industries received a considerable injection of Western technology, including patents and licenses, under the technology import program of the 1970s. In the late 1980s and early 1990s, however, economic crisis, recession, and post communist reform measures brought a drastic decline in output in those industries. For example, output of the artificial fertilizer industry dropped 32% between 1989 and 1990, mostly because rising fertilizer prices reduced domestic demand. A sharper drop was prevented by quadrupling fertilizer exports. In 1991 output of nitrogenous fertilizers remained stable, but output of phosphoric fertilizers again dropped sharply.

Some existing manufacturing facilities could support expansion of production, but others required modernization before they could be exploited efficiently to meet Poland's new economic priorities. Other facilities offered no possibility of expansion or modernization and were simply closed. In the Polish steel industry, which was second only to that of the Soviet Union in COMECON, only two plants had been built between 1945 and 1982. The Lenin Iron and Steel Plant at Nowa Huta, the largest in the country, was built near Kielce in 1954 with aid from the Soviet Union. Although some plants were modernized in the intervening years, most of the prewar Polish steel plants featured low productivity,

low-quality metal, and poor working conditions, as well as very high pollution levels.

With the help of foreign experts, the Bielecki government undertook a number of sectoral studies. The objective was to draw attention to the existing obstacles to growth and to increase international competitiveness of industrial enterprises in various sectors. Four major restructuring programs were prepared in cooperation with United Nations experts. They included improving the management and modernization of the agricultural machinery industry, restructuring the production of fertilizers, improving management and technology in the pharmaceutical industry, and increasing the degree of automation in various branches of industry.

## **8.2. Mining**

The mining sector employed 271,000 workers in 1999, representing 2.8% of the workforce. Since 1995, however, the employment decreased in this sector by 27.5%. Mining accidents were a constant threat and resulted from gas explosions, gas poisonings, or rock collapsing on miners working underground. Coal mining has been a traditional employer of thousands living in the regions of Upper and Lower Silesia. Poland has long produced in excess of 140 million tons of coal annually. In 1999, the country mined 112 million tons, placing it seventh among the top 10 world coal producers. New coal fields were brought into production in eastern Poland in the 1980s, but the decreasing importance of steel production and coal exports led to the reduction of the number of mines. In 2000 the government offered coal miners an incentive program encouraging early retirement and re-training because of the diminishing profitability and efforts to reduce the environmental degradation in Silesia, the primary coal mining region. Hard coal output in Poland constitutes over 50% of the EU output while in the case of steam coal it accounts for about 59% and in the case of coking coal about 39%. Poland is the second, after Germany, coking coal producer in the European Union.

Poland is also mining lignite, used as a fossil fuel for power generation. The 1999 production was 60.8 million tons, about 10% lower than in 1990. Large lignite deposits have been mined in central Poland around the town of Konin and in the southwestern corner of Poland near Turoszow, where the borders of Poland, Germany, and the Czech Republic come together. Because lignite contains less energy per unit of weight than coal it is chiefly used in the immediate vicinity of the mine for power generation. Poland was the world's fourth largest lignite producer in 1999. Poland's lignite mines are expected to maintain their production capacity of 65–70 million t (17.7–19.0 Mtce) per year, and lignite is

expected to play an important role until about 2035. Lignite production is likely to continue in Lower Silesia and in the Legnica area, where the copper and silver mines currently in operation are expected to close in the 2020s as their reserves become depleted.



Figure 47. The Belchatów coal mine

Source: S. Kobojek

In western Poland, around the town of Lubin, copper is mined. In 1999, the region produced 28.388 million tons of copper ore. High quality copper is smelted there as well as other ores typically found with copper such as silver. Poland was the world's eighth largest copper producer in 1999 and copper is a major export commodity, but the slowing world demand does not encourage further expansion of mines in Poland. In 2012 the KGHM Polish Copper Combine S.A. produced 566 thousand tones of electrolytic copper, 916 kg of gold and 11.63 tones of ammonium perrenate – both from their own and imported concentrates (Polish Geological Institute 2012).

Sulphur mines are located in the area of Tarnobrzeg, northeast of Cracow, near the Vistula river. Poland is the third largest sulphur producer in the world and produced 1.247 million tons in 1999, roughly a quarter



of what was produced in 1990. Sulphur and sulfuric acid are major exported commodities.

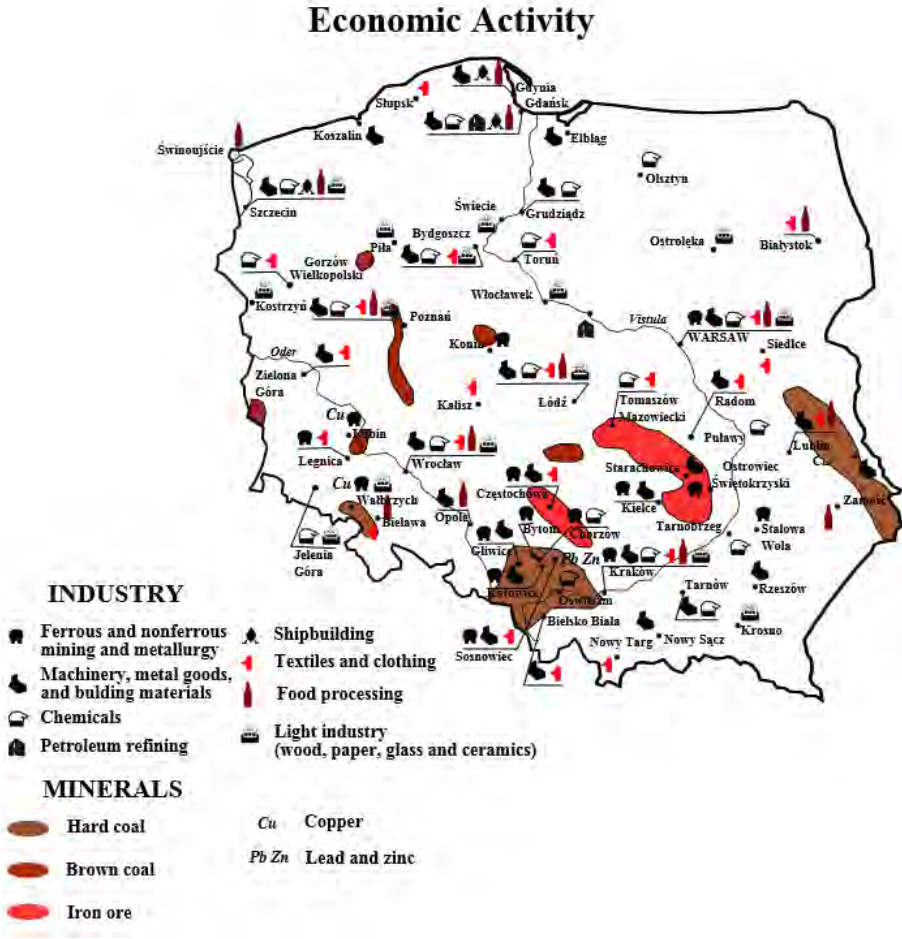


Figure 48. Distribution of mineral resources and plants in Poland.

Source: <http://www.mappery.com>

Sodium chloride, or salt, has been mined for centuries in Poland and some of the world's oldest salt mines can be found in Wieliczka near Cracow. Today Poland continues to mine salt mostly in the central plains. In 1999, Poland produced 4.128 million tons of salt. Natural gas reserves are significant and several fields are being operated on plains in central and western regions. Oil reserves are limited and satisfy only a fraction of the domestic demand.



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### **8.3. Manufacturing**

The manufacturing sector has been undergoing major restructuring since 1990. Following the changes in the political and economic system, many industries were forced to compete on the market rather than having their production and prices set by the government. Many plants found it difficult to compete on the basis of quality and cost-effectiveness. After a period of attempts to adjust, many plants closed because they were using obsolete technology or because they lost their primary markets. The closings most affected the heavy industry producing machinery and equipment for the mining industry, steel mills, smelting, shipbuilding, and railroad equipment.

### **8.4. Automotive Industry**

Steel manufacturing continues at modernized mills near Cracow and in Silesia in southern Poland. Demand for steel comes from the automotive industry and shipbuilding. In 1992 the Polish automotive industry was expecting to modernize through a series of joint ventures with Western firms. In 1992 Fiat Corporation, the pioneer of Western automobile production in Eastern Europe since 1973, invested in Polish production of a new model at its Bielsko-Biala plant. Fiat was to arrange for export of a large part of the output of that model. Also in 1992, General Motors Europe, the European branch of the United States automotive giant, was expected to begin assembling cars in Warsaw by agreement with the Warsaw-based Passenger Car Plant. Volvo of Sweden planned to produce buses, trucks, and tractors at a plant near Wroclaw following the signing of a joint venture agreement in early 1992. Between 1990 and 1999, car production increased by 244%. Besides steel, Poland also produces aluminum, lead, and zinc).

The shipbuilding industry, although considerably smaller than in decades past, continues to build vessels in Szczecin, Gdynia, and Gdansk located on the Baltic Sea. Polish shipbuilding expanded rapidly in the 1960s and 1970s, spurred by the Soviet drive to become a maritime superpower. In the 1980s, the industry included six shipyards, twenty-one equipment factories, and three research and development centers, altogether employing about 57,000 people. In that decade, Poland became the fifth largest producer of ships in the world, exporting most of its products to the Soviet Union. Some 1,000 plants all over the country supplied materials to the shipbuilding industry. At the end of the 1980s, however, the industry suffered greatly from drastic reduction in orders from the Soviet Union and other customers, the loss of government subsidies in the midst of production, and a rapid rise in domestic material

costs for ships already contracted. Nevertheless, the shipbuilding firms were able to attract many Western licenses, and they retained a highly skilled labor force. If modernized and restructured, the industry had the potential to significantly accelerate its production of modern ships, including fishing vessels, factory ships, trawlers, car ferries, container vessels, roll on-roll off ships, and tankers. The well equipped Gdynia Shipyard was capable of building very large bulk cargo ships, but it operated at only 30% of capacity in 1991. Large new contracts were expected to more than double that level of production by 1994, however. In 1992 it seemed probable that the shipyard's very high debt would be eased by a two-step transition, first into a partnership with the State Treasury and ultimately into a private enterprise. In 1991 the Ministry of Industry completed a restructuring program for the entire shipbuilding industry in cooperation with Western experts.

### **8.5. Construction Machinery**

The construction machinery industry, which expanded during the 1970s on the basis of Western licenses, traditionally exported a large proportion of its output to the Soviet Union, with which some joint ventures were established. Under license, with Western firms, Polish machinery plants produced mobile cranes, heavy truck axles, hydraulic equipment, truck-mounted concrete mixers, and other construction machinery. In the 1980s, reduced Western investments in Poland curtailed demand for these products. In the 1990s, the highly centralized, bureaucratic construction machine industry was reorganized into a large number of small- and medium-sized private firms. The reorganization targeted expansion of the housing construction industry, which received high priority in reform planning. The second goal of this reorganization was to revive demand for the relatively modern and sophisticated construction machines that the Polish industry was able to product.

### **8.6. Chemical Industry**

The chemical industry produces a number of goods, including sulfuric acid, synthetic fibers, synthetic organic dyes, fertilizers and caustic soda. The production of plastics increased by about 50% between 1995 and 1999, while synthetic rubber production decreased slightly. Chemical industry plants are located in Silesia and several major cities. Lacquer product production increased substantially during the 1990s. The production of tires for cars more than tripled between 1990 and 1999 in response to the increased demand resulting from increased car ownership. Silesia is also the center for coke produced from coal and crude

petroleum processing. Plock, located in central Poland, refines crude oil imported from Russia, and a refinery in Gdansk processes oil imported by sea from the Middle East and Africa. Fuel oil, gasoline, and lubricants are some of the products produced by the oil processing industry. Fertilizers are produced at several locations. Phosphorus fertilizers are produced near Szczecin, while a plant in the town of Pulawy, southeast of Warsaw, produces nitrogen fertilizers. Another fertilizer plant is in Tarnow, east of Cracow in the southern part of the country. Fertilizer production increased in the late 1990s despite a decrease in the domestic demand for fertilizers caused by the decrease in food consumption and imports of competitively priced feed components.

The chemical industry is one of the most important and profitable industries in the Polish economy with local producers meeting 48% of domestic chemical demand. The industry is currently largely government owned, but privatization plans for 2011 will bring about significant change to this scenario. The chemical industry makes up 10% of all manufacturing companies in Poland with 8% of the total industrial workforce and 14% of total industrial output.

### **8.7. Light Industry**

Lodz and surrounding towns in central Poland have been for more than a century producing high quality yarn, fabrics, and ready-to-wear clothing. However, once price controls were lifted and the large market represented by the Soviet Union disappeared, the industry was forced to reduce production and employment. Many female workers were laid off because, with the outdated technology and relatively high labor costs, some textile factories were unable to compete with goods from Asia and Central America. Textiles are also produced in the city of Bialystok in the northeastern part of Poland. On behalf of the World Bank, United States experts assessed Polish light industry in early 1991. They found the critical difference between Polish and West European manufacturing systems to be computerization; the high degree of computerization utilized by the latter systems enabled them to use short production series and make quick design changes. In textiles, Polish machinery was geared to produce intermediate-quality yarn that could not be made into exportable products. Polish finishing machinery was also outmoded. Although textile enterprises had been privatized quite early, they nevertheless remained too labor-intensive and used materials inefficiently, according to the report. On the other hand, Polish combed woolens and linen products were rated as potentially competitive in the European market.

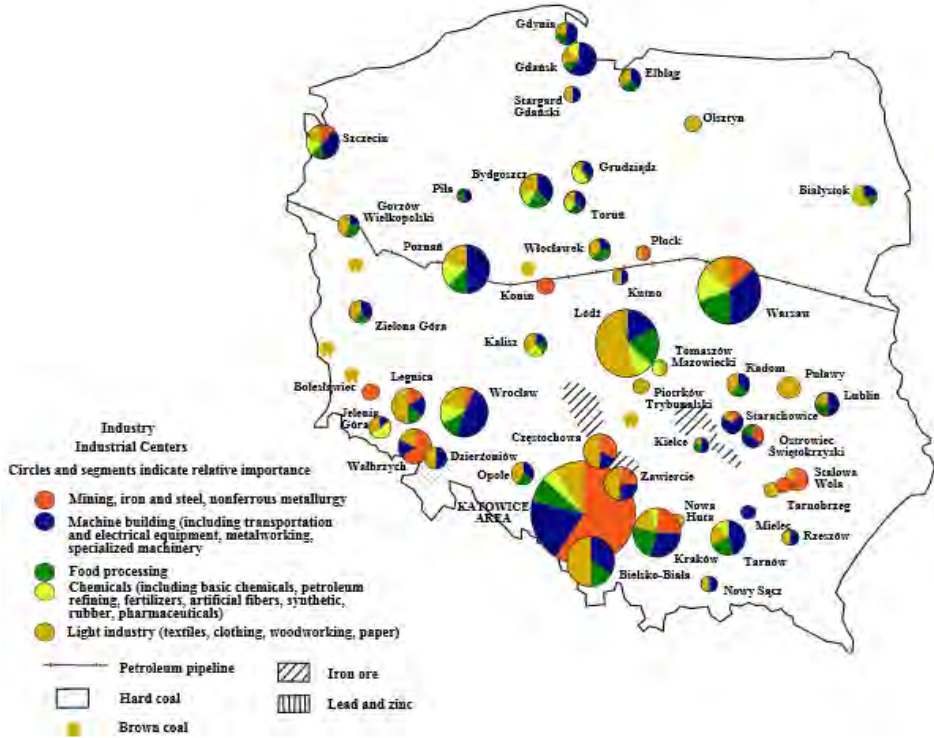


Figure 49. Industrial centers . The structure of industry.  
 Source: Maps of World (<http://www.mapsofworld.com>)

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## 9. THE THIRD SECTOR POTENTIAL

### 9.1. Introduction

In macroeconomic research services are treated as the third sector. The New Zealand economist A.B.G. Fisher (the 1930s), the English economist and statistician C. Clark (the 1940–50s) and the French economist and sociologist J. Fourastie (the 1960–70s) are believed to be the main originators of the three-sector concept of the economy structure, the so-called “three-sector theory.” In their research, those three authors divided the economy into three main sectors: I – agriculture, II – industry and III – services. In the context of such a division, the service sector includes all the economy branches except for agriculture, forestry, fishery, building, mining and industry. In statistics, in the period of controlled economy, there were distinguished: material production area, which forms the national income, and non-material production area. The services were mostly classified as a non-material production group, except for transport, communication, trade and communal economy, which were included into material production.

According to PKWiU (Polish Classification of Goods and Services) (2008), services are understood as: all the activities provided for the business units running production business, i.e. services for the production purposes, directly not producing new material property as well as all the activities provided for the national economy units and for people, intended for the purposes of individual, collective and social wide consumption.

It is questionable to analyze the development of the third sector in Poland, owing, among other things, to: frequent changes in business classification, selective attitude to statistics, domination of statistic data concerning industry and agriculture in People’s Republic of Poland (PRL), and downplaying of service sector. For this reason, it is impossible to characterize exhaustively the service sector in a dynamic depiction. The main, comparable measure in time and area of the development of service sector is the structure of the workers or the employed in this sector.

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**The service sector** includes all the activities provided for different consumers and resulting in no material goods and included in the economy branches, besides: agriculture, forestry, fishery, building, mining and industry.

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The third sector potential consists of the activities classified according to PKD (Polish Classification of Activities) in the following sections:

G – Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods,

H – Hotels and restaurant,

I – Transport, storage and communication land transport; transport via pipelines,

J – Financial intermediation,

K – Real estate, renting and business activities,

L – Public administration and defense; compulsory social security,

M – Education,

N – Health and social work,

O – Other community, social and personal service activities,

P – Activities of households,

Q – Extra-territorial organizations and bodies.

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## 9.2. The interwar era

After regaining independence in 1918, Poland, in the first place, had to rebuild the country after the war and integrate it into one organizational and economic system. The latter required, among other things, construction of railway connections between the two lands of the former annexations, standardizing of money, creation of nationwide economy law in the range of taxes, customs, foreign trade, regulations on establishing and operating of industrial, bank, insurance and transport companies, *etc.* The state authorities' activities, in the range of economy, were mainly focused on agricultural reforms and on the development of individual sectors of industry. The services in this era were mainly developed in terms of their usefulness for the other branches of national economy.

Between 1918 – 1939, in the so-called 'interwar era,' Poland was an agricultural country. In 1931, agriculture was the main livelihood for as much as 61% of the Polish people (professionally active and inactive), and in the case of services, the percentage was only 19,3. In the interwar era, the basic service sectors, by which the biggest percentage of the people made their living, were: trade and insurance (31,6%), communication and transport (18,7%), public service, Church (11,4%), domestic service and other personal services (7,2%), education and culture (5,7%) as well as health service and health care (4,7%).

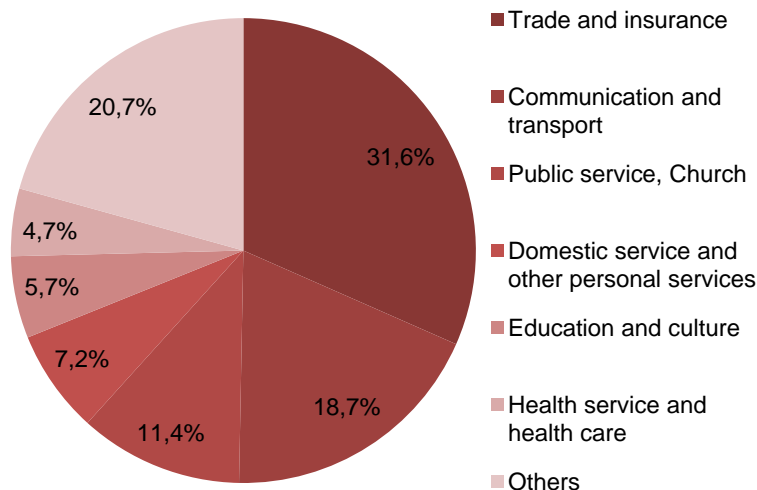


Figure 50. Population by their livelihoods in services (professionally active and inactive) in 1931.

Source: Own study based on "Mały Rocznik Statystyczny 1939" (The Small Yearbook 1939), GUS, Warszawa

In the interwar era, Poland was very diversified as regards its economic development. In the service sector, most people were employed in the area of the former Prussian annexation that is in Silesia province, in Poznań and in Pomerania province. In those provinces about 30% of professionally active people were connected with service sectors. In that period, urban centers were an important, developmental factor of this sector. In Warsaw, the capital, the index was almost 60% in that period. In 1931, the employment in services over the national average, that is 20%, occurred only in two more provinces: in Cracow province, with 21,8% in Cracow and in Łódź province, with 20,4% in Łódź. In other regions the quantities were below the national average. The least employment in services was in agricultural areas of the so-called Kresy Wschodnie (at present the areas mostly beyond the Polish border), in provinces: nowogródzkie, poleskie, wołyńskie, tarnopolskie, stanisławowskie (about 10-15% of population related with services).

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**Do you know** that in 1931 the largest participation of the employed in services was in Warsaw – 57%, and the least one was in Nowogród province – 10,5%.

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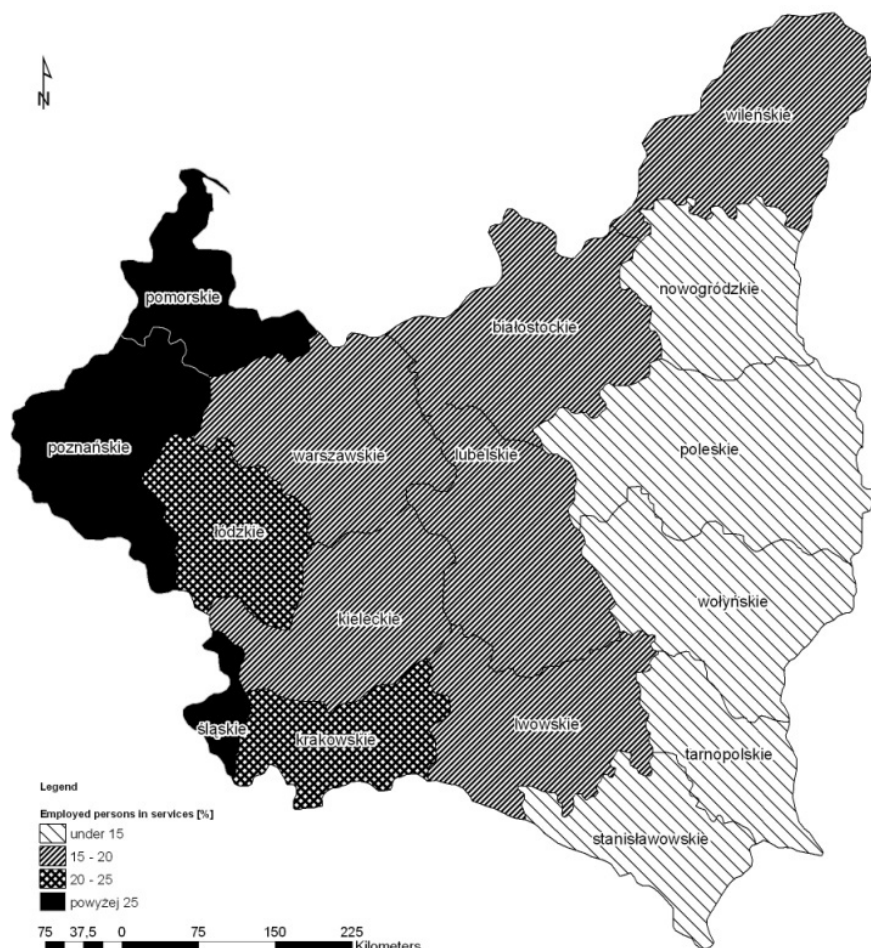


Figure 51. The participation of the employed in services by provinces in 1931

The source: "Historia Polski w liczbach. Ludność. Terytorium" [The History of Poland in numbers. Population. Territory], 1993, GUS, Warszawa

"Trade and insurance" was the main developing service sector in Polish Republic II. According to the census from 1921, 1,6 million of population made their living by trade and insurance (including 1,3 million only by trade), that is 18% of all non-agricultural population. In 1931, this number grew up to 1,9 million of people, which is almost 16% of non-agricultural population. The main source of income (for about 90% of people who made their living by commodity trade) was a small, retail-trade plant, usually family-run. The other sources were: peddlery, door-to-door selling, wholesale trader, large retail trade and trading cooperative. From 1923, commercial establishments have been operating on the basis of the industrial certificates, which had to be bought out by them. At



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that time, among that group, there were numbered the following: trading posts, points of purchase, forwarding trades, catering industries, hotels, credit and insurance institutions as well as people taking up delivery works. In the 1930s (the period of economic crisis), the number of bigger trading companies decreased, however, the number of the smallest plants increased, e.g. stands, small shops. According to the statistical yearbook from 1938, almost 92% out of 448,800 commercial establishments were the property of individuals.

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**Do you know** that in 1918-39, the biggest employment among service activities was in the section "trade and insurance" (about 30%). In 1931, about 2 million people made their living by working in trade and insurance.

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In the discussed period, weekly markets and fairs played a significant role in trading in villages and small towns, where mobile and itinerant trade were dominant. In cities, beside previously enumerated forms of trading, trade was also run in regular bazaars and market sites, where stall trading dominated. About 100,000 people were into this kind of trade.

According to the statistical yearbook, in 1921, trade and insurance were the main source of living for Judaism believers - 41%, and in 1931, it was 36,6% of them. In that period, the prevailing number of shops belonged to the Jewish owners. In 1921, the Jews made up 77% of people making their living by trade (in 1931-58%). In 1938, 222,000 out of 462,000 of commercial establishments (48%) belonged to the Jews.

The characteristic features of Polish domestic trade in 1918-39 were: strong dependence of small merchants from wholesalers (lack of their own capital), the growth of cartels' significance, fragmentation of trading network, a small number of department stores (22 in 1935) and enterprises (2,000) running chains of shops (together 5,000 - 6,000 of points of purchase), a development of factory shops (about 1,000-1,500 in 1935) e.g. Bata, Wedel.

As far as the credit institutions are concerned, in the areas of Polish Republic II, beside Bank Polski S.A. (Polish Bank Ltd), which played the role of a bank of issue, there also operated among others: banks (state, private, people's), savings associations, credit co-operative societies, pawnshops and pledges. The growing role of state banks in the bank system was a characteristic feature of the interwar era. In 1927, deposits in banks in public sector amounted to 45% of the total sum, and in 1938, it was already 74%. The number and significance of private banks decreased, mainly in the 1930s, when many banks and cash-credit

institutions were closed down or liquidated. In the period of 1930-35, in Poland, 111 credit institutions went bankrupt.

Besides trading, transport was a very important service sector in the interwar era. After regaining independence, all the activities were concentrated on rebuilding railway lines, roads and bridges destroyed during the war, and on uniting communication networks. All through that period, railway played a dominant role in Polish transport and communication system, which carried e.g. in 1927, 97% of cargoes and 87% of passengers. The road transport had little significance and its main characteristic was the dominance of horse transport in cargo transportation. According to the traffic measurement, which was done in the state roads, on average 80% of cargoes were transported using a horse, and 20% using lorries. Car transport had more significance in carrying passengers. In 1929, passengers were transported by 1,700 companies, which owned 3,224 intercity buses.

### **9.3. Controlled economy period (1945 – 1989)**

After the Second World War, there was imposed and gradually introduced to Poland an economic system modeled on Soviet solutions, whose main characteristic was conforming economy to political purposes. The change of political system, which affected the economic development of the country, also determined the functioning of the third sector, that is services in general. Two theories have particularly taken root on the economy grounds, and they molded the authorities' attitude towards the services' position. The first one was the "multiple theory of needs," and the second one was the attitude to the services' role in "the nation's enriching," presented in 18<sup>th</sup> century by the English economist A. Smith, and then, introduced to the controlled economy grounds.

The socialist authorities used the "multiple theory of needs," which was expanded by the science about consumption. This theory explained that the upper needs cannot exist at all until the needs situated on lower floors are satisfied. The order of their satisfaction resulted from this concept, each time taking into consideration the country's superior priorities of social-economic development. That being so, in Poland, after the war, those purposes were: firstly, reconstruction of the country from the war damage, then, intensive industrialization and development of the social-economic infrastructure. The development of service infrastructure, at that hierarchy of priorities, receded into the background. Services were, in large measure, treated as the activities satisfying the upper needs, so they could be interesting for the consumers only after the basic needs were satisfied.

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The reflection of introducing the “multiple theory of needs” into the economic life is the investment expenditure structure. All through the controlled economy period, the structure of those expenditures was very similar, the biggest investments were allocated to industry (over 40%), and then, to the communal and housing economy (about 16–24%), agriculture and forestry (about 12–16%), transport and communication (about 9–12%), building industry (about 3–4%) and commodity turnover (about 3–4%). Only about 7–8% of investment expenditures were allocated to the other sections.

Service activities – in A. Smith’s perspective – were the synonym of inactivity, idleness and parasitism. Problems related with service activities were raised mainly in the context of saving and limiting expenditures for the development of this sphere. K. Marks, similarly like A. Smith, claimed that the outcome of business activities are exclusively material goods, and people who are into services live on the cost of people, who add up to the annual national product. The service activities have been excluded from production sphere and numbered among consumption sphere of national wealth. However, some exceptions were allowed – some services, that is trade and transport, were treated as an inseparable part of the material goods production process. Such a concept of services’ function was established in the Marxist economy, and it was transferred to the controlled economy. As a consequence, most fields of service sphere were excluded on the margin of economic life.

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**Do you know** that in socialism most service activities were a synonym of inactivity, idleness, and parasitism? Only transport and communication, trade and communal economy had an influence on adding up to the "national wealth."

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The ownership policy - nationalization or planning of a considerable part of services, including trade, had also an influence on the post war shape of service sector in Poland, on its poor quantity and quality development. Until 1949, in the period of reconstruction, private sector was allowed to operate in industry, services and trade, limiting at the same time the extent of private companies (up to 50 employed). The wage policy of the state had also a great influence on operating of service companies – in services, there were much lower wages than in industry. Because of that, for many people, it was more profitable to employ themselves in state companies, particularly in industry, than opening up their own service businesses.

The situation, which came into existence in services, and the approach towards them in PRL, can be described as “PRL’s vicious circle”. Growing out of the Marxist doctrine, the primacy of material production

and underestimating of the role of services affected the creation of unfavorable atmosphere surrounding services, and it reduced the interest in them, so there was nobody willing to take up work in services.

Polish economy in 1946–1947 was described as a multi-sector one. In services, in general, the private sector included trade and other services, the state sector included, among other things: banks, foreign trade representations, communication and shipping, and cooperative sector consisted of several thousands of agricultural and trade cooperatives, operating on the basis of the pre war market rules (consumer cooperatives in cities and various housing, transport and craft cooperatives). The communal sector was the property of urban communes, that is public transport companies, water and sewage boards, slaughterhouses *etc.*

In the service sector, a good example to demonstrate the process of nationalization are the transformations, which took place in trade, whose network was quite rapidly reconstructed after the Second World War on the model of pre war structures. It resulted, among other things, from the fact that opening e.g. a stall or a shop did not require any special financial investment or qualifications. In 1946, an unquestionable majority of trading units was a private property of 80% of wholesale business establishment and of 89% of retail ones. However, in accordance with the rule, which recognized the state property as the basis of the system, which was being created in Poland, in the middle of 1947, the so-called “battle for trade” was initiated. The main instruments in that battle were: granting concessions to companies (which consisted in giving permission by the economic authorities for the companies to operate, but only after they had paid a high charge), introducing the maximum prices, regulating prices and profits, using different repressive measures against private merchants (including exile to labor camps), establishing universal department stores (PDT) in cities – where state prices were obligatory (they were supposed to be a competition for private business establishments), conforming cooperativeness to state rules.

66% of private wholesalers and 42% of retail business establishments were liquidated in 1947–1949. The state-owned sector was dominated by commodity turnover, which in 1949, took over almost 100% of wholesale and 38% of retail trade. Up to the middle of the 1950s, the state gained the monopolistic position on the market, taking over 100% of wholesale turnovers and 97% of retail ones. Dealer industry as a social group actually stopped existing. A small percentage of private trading was only left in the food, haberdashery, clothing and metal industry. The network of private commercial establishments was limited to small shops and stalls on the markets and bazaars. There were offered foreign origin articles and private craft and cottage industry goods. There were also

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preserved traditional weekly markets, where farmers could offer their agricultural products and purchase craft ones. In a new economic system, there was a permanent, severe insufficiency of goods – it was the salesman's market.

After the Second World War the population's structure by the sources of livelihood changed. Comparing the census from 1931 and 1950, it can be noticed that the percentage of people making their living by agriculture decreased from 60% to 47%, and there was a growth of proportion of people supporting themselves from industry, from 12.7% to 20.9%, from building from 1.3% to 4.8% and from transport and trade from 8% to 10.6%. Those changes were caused, among other things, by: the changes of the country's territory, because farmers were dominant on the areas called Kresy Wschodnie (East Boundaries), which were separated from Poland. However, on the post German area, which was highly urbanized, work different from agriculture was dominant. Moreover, some parts of farmers, who were moved from the areas occupied by the Soviet Union, have settled down in cities and towns of the regained lands.

In the controlled economy, there were distinguished material and non-material production areas. According to the previously mentioned structural paradigms, some services were considered a part of production process affecting the country's economic development – forming its wealth, and these were: transport and communication, trade and communal economy. The other service sectors were classified to non-material production area, that is to a group of "customers of national welfare". Such an attitude to the role of services affected their development in this period.

During the whole period of the controlled economy, there was a gradual growth of the workers' proportion in the third sector. However, it should be emphasized that the formed structure in the 1960s, after the period of intense industrialization of the country, was slightly changing, up to the second half of the 1980s. In this period, in the service sector, there were about 30% of the employed. However, not only the number of the employed in the whole sector says about the level of economic development, but also the number in its individual sections. The biggest number of workers was in the then, dominant sections: in transport and communication – it is the sector, whose share in the workers' structure was systematically decreasing (from 23.7% to 17.2%), as well as in trade (about 25% of people working in services). In the third sector, the following sections had also a significant share in the workers' structure: education and upbringing (about 13–15%), health care (10–13%), as well as communal and housing economy (about 8–11%).

Table 19. Workers' structure by service sectors (%).

Specification	1960	1970	1980	1988	1992
<b>Besides industry, building, agriculture and forestry</b>	23.5	28.0	31.4	35.0	37.9
Transport	23.7	18.9	17.6	14.4	10.2
Communication		3.2	2.9	2.8	2.8
Trade	25.4	24.6	24.0	24.6	28.2
Communal economy	8.3	5.9	7.4	7.3	7.2
Housing economy and non-material communal services		3.4	3.7	3.7	2.9
Science and technology's development	1.2	1.7	2.7	1.9	1.4
Education and upbringing	12.8	14.0	13.7	15.5	17.8
Culture and art	2.2	2.0	1.5	1.5	1.5
Health and social care	10.6	10.0	11.0	13.1	14.4
Physical education, tourism and recreation		0.6	1.9	1.9	1.2
Public service and justice	6.7	5.7	4.2	4.5	4.2
Finance and insurance	2.0	3.2	2.9	2.8	3.0
The others	7.1	6.8	6.5	6.0	5.2

Source: Own calculations based on "Polska 1918-1988" ["Poland 1918-1988"], 1989, GUS, Warszawa and "Zatrudnienie w gospodarce narodowej 1992" ["Employment in national economy 1992"], 1992, GUS, Warszawa.

#### 9.4. Transformation era – after 1989

The result of business economics, which was being done in a socialist country, was the creation of a huge civilization gap in services, manifesting itself with their low supply, small availability and low level of their consumption.

The main characteristics of the service sector in Poland on the verge of transformation were:

- high level of self-service, owing to a small number of business entities providing services; the access to service providers was impeded and because of that many services were done on their own,
- existence of "grey market" – providing services in the so-called "second circulation," beyond the market, where prices were often higher than in the official circulation (it was the result of service providers' shortage),
- low quality of the services supplied,
- dominant position of service provider at the market – service receiver was a petitioner, often "kneeling,"
- passivity of service receivers – without any requirements and their low quality requisites, resulting partly from ignorance of quality standards, mandatory in economically developed countries as well as from not frequent visits in developed countries,

- 
- disruption of continuity of tradition of many craftsmanship services - resulting from destroying of private initiative, what caused disappearance of many kinds of services,
  - lack of qualified experts in service management,
  - little diversified service offer – narrow service offer of individual service providers,
  - lack of many service products or their limited offer, mainly in professional services and in those, based on the advanced technologies,
  - low employment in services (from the 1960s at the level of 30-35%) both comparing with other developed countries and other economy sectors (industry, agriculture),
  - bureaucratic inertia and lack of competition,
  - low service participation in forming national income PKB (Gross Domestic Product) - according to K. Rogoziński, in 1960–1990, services were producing about 35% of PKB.

The basic task of a system transformation was to create a law and institutional system, which would meet the needs of market economy, to carry out an ownership transformation, and to restructure the economy. The market mechanism required an establishment of new financial institutions, especially the ones connected with money and capital market. It was permitted to establish various banks – public, with mixed public and private capital, and private, including foreign capital. Up to 1995, there were already about 70 private banks at the credit market, including seven with foreign capital. Ownership transformation (mainly privatization) was of a deciding significance for returning to the market economy. In the first period, the process of the so-called “small privatization” brought the biggest effects, including the capital purchase of small production, service and business undertakings. Private sector began to develop very rapidly, especially in trade, building and transport. Buyers’ own resources were partly replenished by bank credit. Only in 1990 there were opened 516,000 of private establishments, including 300,000 in trade. In 1995, private companies, mostly the small ones, employed 62% of the workers in national economy.

Domestic turnover was the area of the fastest expansion of the private sector. Only in 1990–1991, the number of organizational units of private trading grew nearly eight times. However, the sale was most frequently done in kiosks, stalls, small shops and in wholesalers. It was common to establish bazaar and street trading as well as market trading was developed. During next years, thanks to the domestic and foreign capital investments, and as a result of privatization of state companies, there was a further, although not so spectacular, development of private trading posts with higher sales culture. As a consequence, in 2000,

almost 99% of retail shops belonged to the private sector, towards which, cooperative activity was also counted. Larger units of trading were often the property of foreign multishop businesses (Metro AG, Geant, Carrefour, Hit).

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**Do you know** that after 1989, 'trade' was subject to the fastest numerical and quality changes? In 1990-91, the number of trading units grew as much as eight times.

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In relation to the quick development of the service sector, which resulted in ever bigger number of traders, who were busy with service business, the number of people working in this sector grew up (almost up to 40%). At the beginning of the transformation era, this growth was mainly related with the development of trading posts. The biggest number of people working in service businesses was in the provinces with big cities, e.g.: Warsaw province (55,3%), Łódź province (48%), Wrocław province (47%), Gdańsk province (50,5%), Szczecin province (50%) and Koszalin province (46,2%). The least number of people was related with services in provinces in central and eastern Poland, where agricultural activities were dominant.

Since 1995, when the European Classification of Activity was introduced in Poland (EKD, since 1997 Polish Classification of Activity - PKD), numerical changes occurring among registered traders, including the service sector, can be checked on. G to Q were ranked among typically service sections. Between 1995–2006, there was a clear growth of service companies from nearly 1,6 million to about 2,8 million, that is about 79%. The biggest numerical growth was in section K – 375,600, G – 270,500, and in section O – 150,700. Section J – Financial intermediation (except for minor section Q) was characterized by the biggest growth of dynamics, and it included, among other things, monetary intermediation, credit granting, insurance and pension funding, in which the number of traders rose by almost 482%. The second group of companies with a high growth of dynamics consisted of companies registered in section L – Public administration and defense; compulsory social security, where the dynamics amounted to over 352%. In four other sections, that is in M – education, K – Real estate, renting and business activities, N – Health and social work and O – Other community, social and personal service activities, the number of traders rose by over 150%.

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**Do you know** that between 1995 – 2006, the number of traders who were into service activities rose from 1,6 to 2,8 million.

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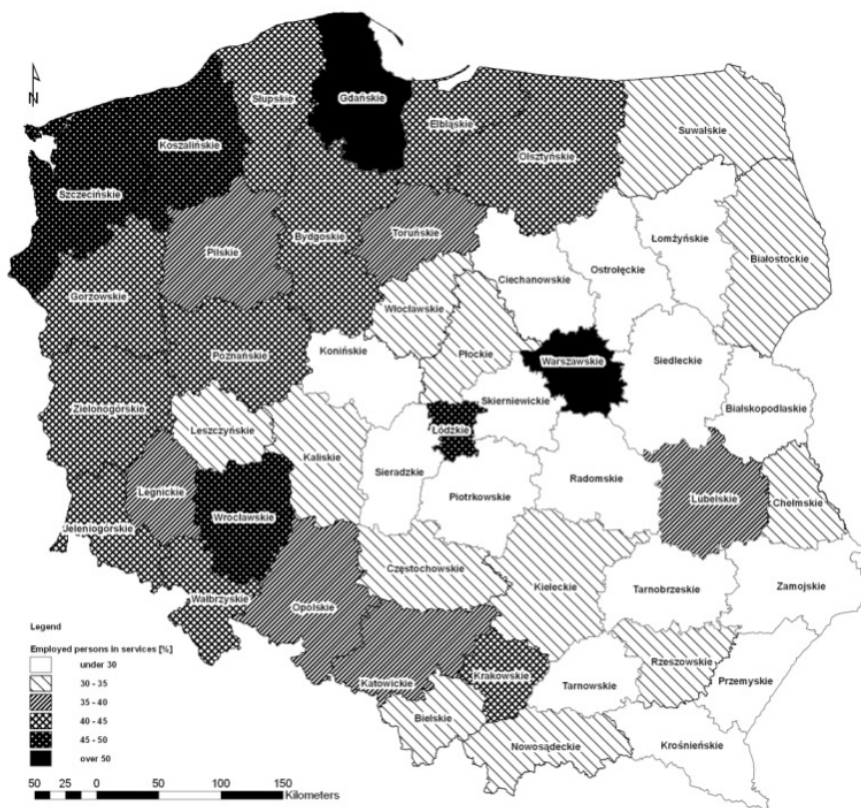


Figure 52. Working in services by provinces in 1991 (on 31 XII).

Source: "Zatrudnienie w gospodarce narodowej 1992: materiały i opracowania [Employment in national economy 1992: materials and elaborations], 1992, GUS, Warszawa

In the discussed period, in a few sections, the number of traders in the public sector's extent has decreased (G – 542; I – 178; J – 124; N – 182; P – 749). In 2006, in all of the sections, the private sector dominated. Since 1995, the biggest ownership changes consisting in a fall of the share of public sector's companies in favor of private sector have occurred in the following sections: L (from 98.7% to 40.5%). M (from 60.1% to 49.5%). N (from 12.3% to 4.8%). Significant changes, but in the opposite direction, have only occurred in section K, in which the share of public sector's companies has increased from 1.7% to 10.1%. In other sections, private companies have over 95% of the structure's share, often reaching the level of around 99%.

In relation with the numerical changes, there has been a change of the individual sections in the service sector's extent, although, generally, the order in large measure has been retained (tab.2):

- G – a fall of the share from 57% to 41,5%,
- K – a growth of the share from 14,6% to 21,6%,
- I – a fall of the share from 10,3% to 9,3%,
- O – a growth of the share from 6,3% to 8,9%,
- N – a growth of the share from 4,1% to 5,7%,
- J – a growth of the share from 1,4% to 4,6%.

The biggest number of companies from service sections is registered in Mazowieckie Voivodeship, about 457,700, and in western Voivodeships in Poland: Śląskie Voivodeship (about 334,200), Wielkopolskie Voivodeship (about 254,500), Dolnośląskie Voivodeship (239,400), Małopolskie Voivodeship (218,900), the next one is Łódzkie Voivodeship, where in 2006, there were registered about 180,500 of companies. The order of Voivodeships by the number of operating service companies since 1995 has not changed, in all of the Voivodeships there has been their rather proportional growth.

Table 20. Changes of the number and the structure of service traders in Poland in 1995 – 2006 by PKD sections.

Section	1995		2006		Change	
	The number of traders	Structure [%]	The number of traders	Structure [%]	The number	1995=100%
G - Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	890439	56.99	1160914	41.52	270475	30.4
H - Hotels and restaurants	61223	3.92	112736	4.03	51513	84.1
I - Transport, storage and communication land transport; transport via pipelines	161302	10.32	259423	9.28	98121	60.8
J - Financial intermediation	22274	1.43	129605	4.64	107331	481.9
K - Real estate, renting and business activities	227588	14.56	603197	21.58	375609	165.0
L - Public administration and defense;	5834	0.37	26420	0.95	20586	352.9

compulsory social security						
M - Education	30906	1.43	93538	3.35	62632	202.7
N - Health and social work	63475	4.06	160374	5.74	96899	152.7
O - Other community, social and personal service activities	98758	6.32	249449	8.92	150691	152.6
P - Activities of households	769	0.05	20	0	-749	-97.4
Q - Extra-territorial organizations and bodies	5	0	64	0	59	1180.0

Source: BDR, [www.stat.gov.pl](http://www.stat.gov.pl).

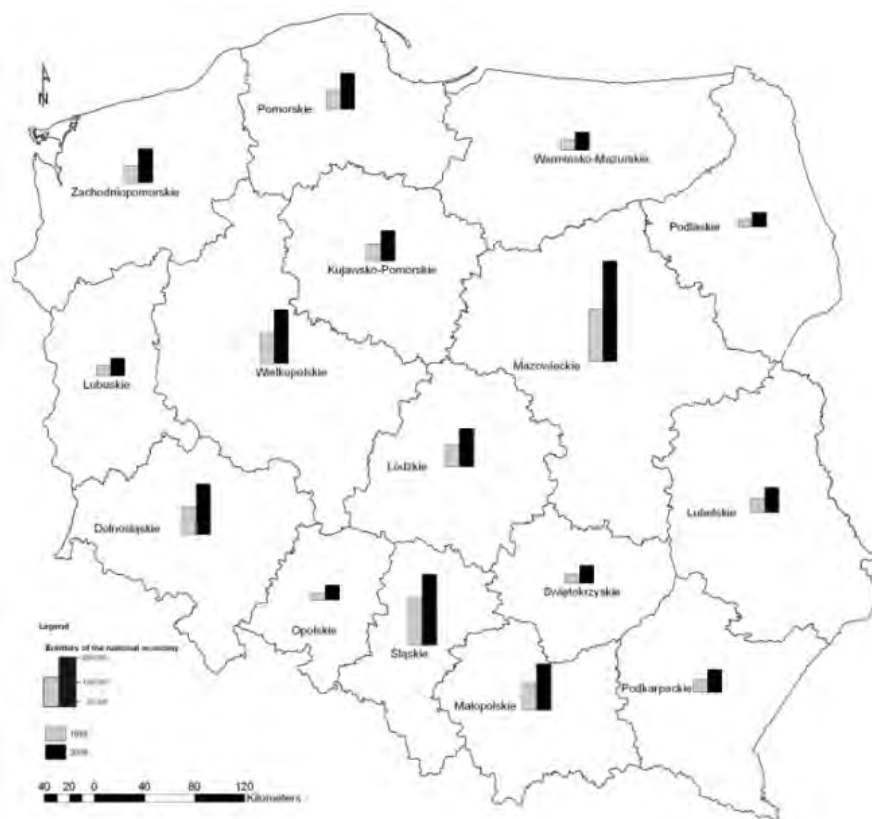


Figure 53. The number of traders registered in PKD (sections G-Q) in 1995 and 2006 by provinces

Source: BDR, [www.stat.gov.pl](http://www.stat.gov.pl)

In relation with a multiple numerical growth of the registered traders from service activities, the employment in services has also increased, up to over 53%. The biggest percentage of the working population in this sector is in the districts and provinces of western, northern, and southern Poland. The central and eastern parts have the least share of the employed in service activities, often much below the national average (below 30%). In Łódź and Mazovia provinces, this percentage is decidedly raised by the companies operating in urban areas. Warsaw, particularly, raises this index, as over 81% of the people working in the country's capital make their living by services. It should be emphasized that, in large measure, the development of service activities and related with that the level of employment in the sector is connected with cities.

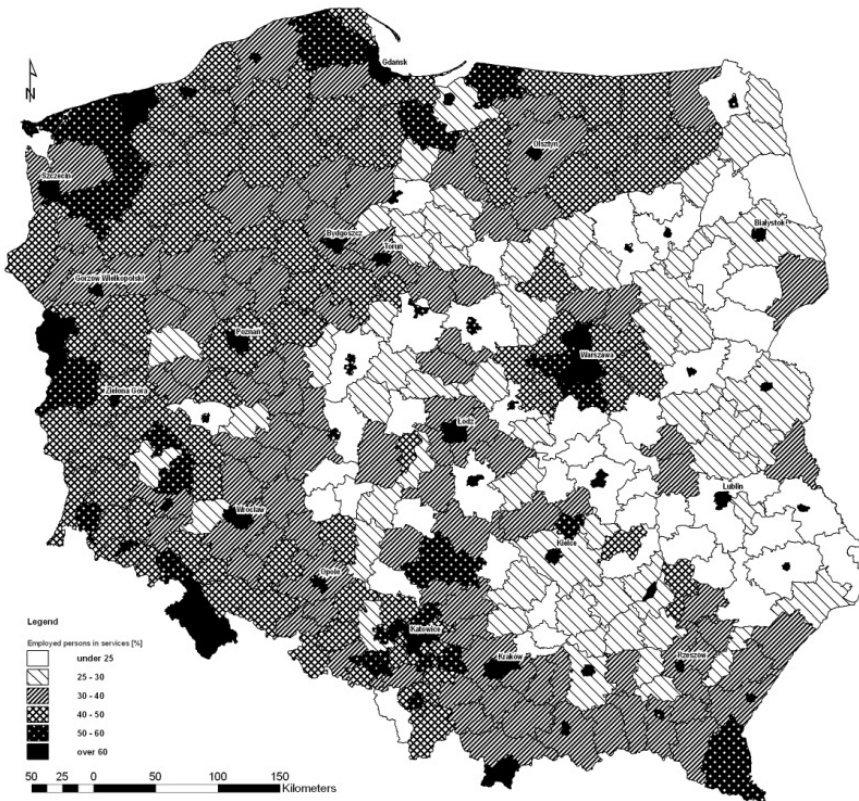


Figure 54. The share of people working in services by districts in 2006  
The source: "Powiaty w Polsce" [Districts in Poland], 2007, GUS, Warszawa

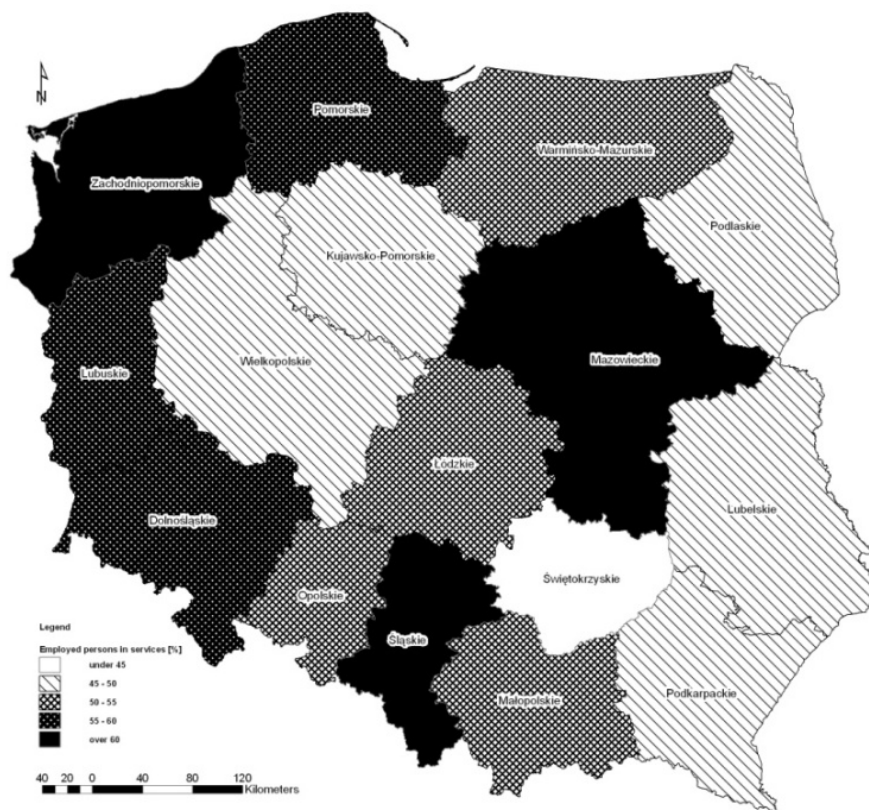


Figure 55. Employed persons (a) in services in 2007 by provinces  
 The source: Regiony Polski [Regions of Poland], 2008, GUS (Central Statistical Office), Warszawa

In the transformation era, there were evident, quantity and quality changes in the service sector in Poland, and, among other things, they were:

- growth of service traders,
- appearance of new services and concepts, e.g. fast food,
- growth of employment in service sector (over 50%),
- ownership changes – a fall of the number of state companies – a growth of the number of private companies,
- appearance of foreign businesses (a growth of competition) - hotel chains, restaurants, western capital e.g. in financial sector (banks, insurance),
- growth of service efficiency, especially, the shortening of waiting time,

- growth of appliance of modern technologies – the Internet, telephone service, computer reservation, *etc.*,
- power leveling, represented by the seller and the customer,
- growth of the number of the offered products,
- specialization in doing business - emerging of specialist companies from the basic activity, the so-called outsourcing.

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**Poland in the 'interwar era'** was an agricultural country, in the period of the controlled economy it became an industrial and agricultural country, and recently it has transformed into a country, where service activities are getting to play a main part.

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### 9.5. Education

When it comes to education, one of the most important problems to solve, in the interwar era, was an increase of the access to education. In 1918, it turned out that in the areas, which were included into Republic of Poland II, a large part of population were illiterate, in the area of Polish Kingdom (the Russian annexation) – 57%, in Galicia (the Austrian annexation) – 40%, in Prussian annexation – 5%. In 1919, school obligation for children at the age 7–14 was introduced. In the school year 1921/1922, this obligation was satisfied by 66% of children, and in 1928/1929 it was already 96,4% of pupils. With relation to popularization of education and introducing of the school obligation for children, in the interwar era, the number of pupils, especially in primary schools, has grown up, from 3,1 million (1922/1923) to 4,7 million (1937/1938). An almost complete elimination of illiteracy among children and teenagers as well as making the education possible for a large number of children from poor, peasant and working families were great achievements of Polish country, at least in regard of primary education. High levels of education were often unavailable for people from lower classes, for whom finance was a barrier. It also should be emphasized that in this period alongside state education, there was a dynamic development of private education. Catholic Church as well as religious organizations and associations had a great participation in running private schools. In 1918 – 1939, Poland was a multinational country, hence, education of racial and religious minorities also developed.

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**Do you know** that in Poland illiteracy was practically eliminated before the Second World War.

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After the Second World War, practically the whole sector of education was subject to the state control, and it was the state that financed it. The education system was based on a few rules. Firstly, the universality of school teaching has been introduced, that is school obligation for children. Secondly, education at all levels was free of charge (financed by the state). Thirdly, a unified system of school and off-school education has been introduced in the whole country. Although the fact that a few reforms have been carried out, general postulates and the rules of system functioning did not change till the 1990s. It also should be observed that in this period, secondary education developed in a dynamic way. In the school year 1950/51 there were 5,600 vocational schools, and in the school year 1980/81, there were almost 11,000 of them. Such an educational policy caused that in the last years of PRL, over 70% of all primary school graduates were being educated in vocational schools.

In 1945–1989, private education practically did not exist. The government of Polish People's Republic (PRL) treated private schools reluctantly, pushing them on the margin of educational system. It was applied to all levels of education, from the lowest to the highest ones. In this period, the access to colleges was limited, due to various reasons, among other things: limited number of state colleges, existing limits of recruitment to particular studies and majors, location of colleges only in a few chosen urban areas.

In the 1990s, there were decisive changes in education, owing to, among other things, accumulation and marketing of education services. At this time, numerous of vital transformations took place, which shaped the present educational system in Poland:

- **rebirth of private education:** After 1989, there was a very rapid growth of the number of private schools at different levels of education. At the level of tertiary education, legal rationale for establishing higher private schools in Poland appeared in 1990 alongside the Act on tertiary education. The first private college was established in 1991. Presently, there is liberty of establishing state and private schools.

- **popularization and increase of the access to education at a higher level:** In the transformation period, there was a first-ever growth of the number of students, owing to, among other things, establishing new colleges (mainly private ones), developing new studies, forming branches of higher colleges in small areas as well as increasing of the meaning of higher education at the Polish labor market.

- **changes in the education structure (1999):** Children at the age from 7 to 13 go to primary school, where learning lasts 6 years. All the primary school graduates continue their learning in three-year middle school – obligatory, first-degree, secondary school. After graduation from

the middle school, students can continue their learning in: three-year grammar or profile schools, four-year technical colleges, or two-three – year vocational schools. The graduates from vocational school can take the Matura exam (secondary school certificate), on condition that they have completed two-year supplementary grammar school or three-year supplementary technical college. After receiving the secondary school certificate, studies can be continued at the unified master's studies or two-degree ones (vocational studies – licentiate and supplementary master's studies). The last level of education is the post-graduate studies, whose end result is receiving a degree: Doctor of Philosophy.

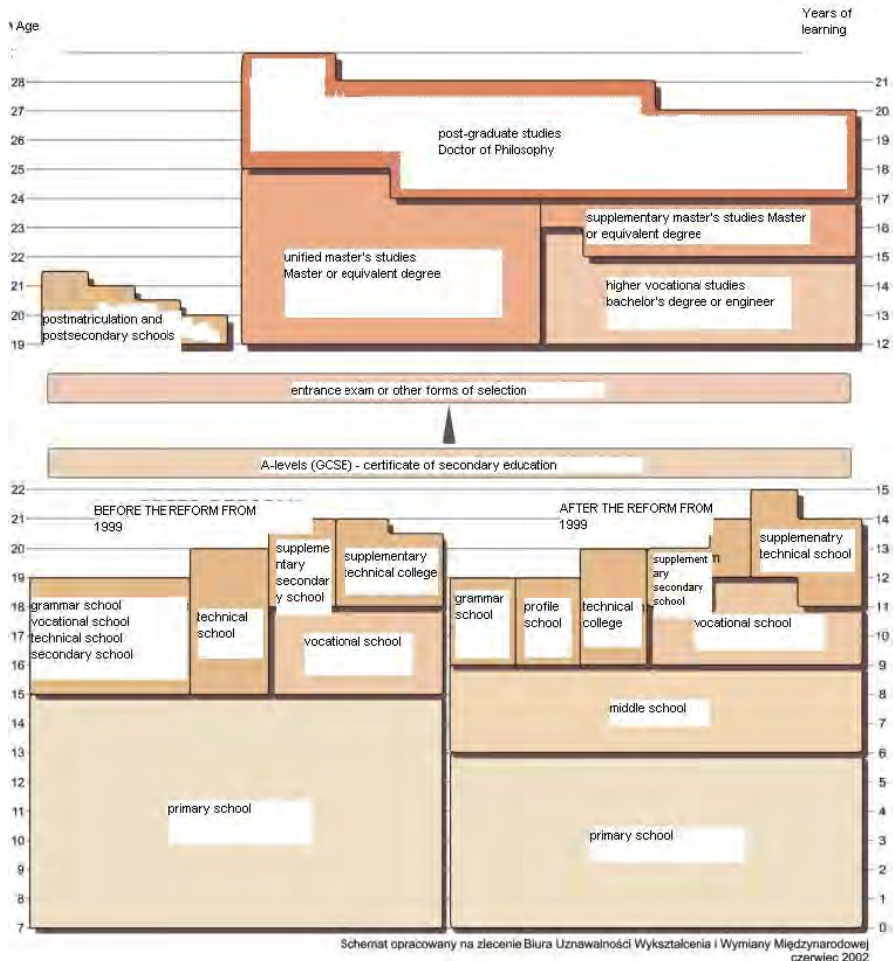


Fig. Educational system in Poland, before and after the reform in 1999

The source: <http://www.buwiwm.edu.pl/sdd/schemat.htm>



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– **changes in management of schools at the primary and secondary level:** Within the confines of education reforms (in 1991 and in 1999) the management of schools, which was in the local government's hands, has been separated from their controlling, which remained in the public's hands (through province departments of education). According to those changes, communal government runs kindergartens, primary schools, and middle schools (since 1999); district government runs secondary schools, among other things: grammar schools and vocational schools; whereas province government runs only regional schools and institutions, indicated by the Cabinet by special regulation.

– **liquidation of factory-run schools:** In school year 1990/91, in Poland, there were still almost 1,000 vocational schools run by factories, in the late 1990s, there was their total liquidation.

– **decreasing number of vocational schools:** In 1990/91, vocational schools made up 45% of the total number of vocational schools, and in school year 2002/2003 they made up only 26% of their total number.

– The above stated changes in the educational system are not the only ones. Essential reforms were also carried out in the programming policy, there were introduced, among other things: programming minimum, thanks to which, an authorship approach to syllabuses is possible at a large extent. Political changes in Poland brought depoliticization of school education. In order to be more objective in evaluating, a system of external evaluating of exams has been introduced.

## **10. THE POTENTIAL OF TRANSPORT AND COMMUNICATION**

The society's function of modern times is considerably determined by transport and communication, that is to say passengers transport, goods transport and sending of information. Its role is becoming every time more significant because life and economy in every corner of the world is becoming dependent on areas surrounding which are regarded as the source of commodities, services and information. The transport of particular commodities let some territories have a high specialization in production, services, which is possible thanks to the import of indispensable commodities.

Present-day transformations in Polish economy accompanies two basic processes among which there should be included the process of globalization and European integration. The not trifling role in these changes is played undoubtedly by the sections of Polish transport and communication. These sections of economy have to face great challenges.

### **10.1. Transport**

Since time immemorial transport had to accomplish many functions. Its infra-structure provided the connections and spatial integrality. Owing to the process many internal bonds and some ties between particular regions appeared. The historic inheritance was strengthening. Today transport has to face equally important challenges, such as: - equalize the disparities in economic development, - development of cooperation, - calling into being the conditions appropriate for investors, - improvement of competitiveness, - ensuring an easy access to various institutions in other parts of the country for the inhabitants.

In each period of our country's development some particular sections of transport were of different consequence. Today the road transport is developing – in particular at the cost of railway, which has fallen into decline. When the international lines are taken into consideration the air transport has deprived the sea transport of their passengers. The last mentioned instead has specialized in transport of bulk goods (dry materials, liquids).

First railways on the present-day Polish lands were planned and built by the contemporary invaders. They started to appear in mid 19<sup>th</sup> century, for instance: Wrocław – Olawa (1842), Warsaw – Szczakowa (1845–1847). As the particular economies were developing the railway system grew, but unequally in several parts of today Poland. Some economic factors and political strategies conducted by the invaders were

decisive in this matter. That is why for example in Russian annexation some areas situated on the border were totally deprived of railways. In 1918 the thickness of railway system on Polish lands was in great measure very differentiated. From only 2,7 km/100 km<sup>2</sup> in former Russian annexation, through 5.1 km/100 km<sup>2</sup> in Galicja to 12,2 km/100 km<sup>2</sup> in former Prussian annexation.

In period between the Wars the main task for the contemporary government of newly-appeared country was to merge all the railways. It triggered off not only the necessity to build many sections connecting existing railway systems but also to unify the system and organize the railway's work (for example the unification of gauge or implementation of common standards of side-tracks and loading platforms). Some strategic lines were also built, such as trunk-line (Gorny Slask – Gdynia), Warsaw – Cracow, Warsaw – Poznan. None the less, considerable disproportions in density of railway system were not liquidated. In the period the process of railways' electrification began as well (Warsaw junction). After the last war country and its railway systems' unification within its new borders was of great significance once more. The great destructions of railways caused by invaders were supposed to disappear.

The imperfections of today road system should be also regarded as the inheritance after the period of annexations. In 1918 on Polish lands there were only about 44 thousands of roads of hard surface (among it only 500 km of surface improved), that is only 11.2 km/100 km<sup>2</sup>. The density of roads was very unequal, from 29.9 km in former Prussian annexation to only 1.5 km/100 km<sup>2</sup> in Russian annexation. Additionally due to the considerable destruction almost 14 thousands km of roads should have been rebuilt immediately. In interwar period an ambitious plan of roads' extension was elaborated. As a result in 1939 on Polish lands there were already 64.5 thousands of roads (among it 3.5 thousands km of roads of improved surface) which gave the average of road system's density – 16.5 km/100 km<sup>2</sup>.

In inland navigation the state of Polish rivers' use is believed to be the most serious problem. It is the consequence of great negligences which have their source in period of annexations, but also in the interwar period. Unfortunately this section of transport was not developed. The system of inland transport which is situated on the western areas and which Poland inherited from the Germans is the only unified (mainly on Odra and its affluents). Unfortunately an ineffective policy, incompetent usage of existing installations, waterway rivers and canals, deficiency in investments led to the regress of this branch of transport.

One of the most important tasks of interwar Poland was to become open to the maritime commercial exchange. However after regaining the independence there was no seaport of greater importance at country's

disposal. That is why during first years of independence the seaport in Gdynia was built "on the rough root" and the city to accompany it. The next task was to join the new seaport with the land road system. After Second World War within Polish borders there were some other big seaports: Szczecin – Swinoujście, Gdansk (additionally the new seaport was built here- Northern), Elbląg (according to the policy led by Union of Soviet Socialist Republics in militarized district of Kaliningrad the seaport lost its link with open sea and fell into decline, there are some plans of its restoration).

The rest sections of transport (especially the transmitting section) in the interwar period were in their infancy. Their progress and usage took place only just within last 60 years. Similarly just within last decades the majority of communication sections was developing. Only the postal system (since the beginning of 19<sup>th</sup> century) and telephony (since the second half of 19<sup>th</sup> century) were already developed in the interwar period. The initiations of Polish radiophone have their source in the same period. On the other hand however the mobile telephony or data transmission have been rapidly developing only just since the last decade.

Poland's area is covered by the system of transport infra-structure, which includes: carriageable roads, rail-tracks, water- and air- lines, airports, railway stations, seaports, logistic centers . Transport plays immeasurably significant role in national economy which consists in translocation of various goods and passengers. Beside final products, which are transported to their consumers, there are also some semi-manufactured articles transferred from the place of their gaining or production to consignees who convert them. Among all kinds of transport in Poland the predominant role is played by motor transport (84,4% of carriages of all goods, 70,4% of total transport-work carried out by all kinds of transport) and railway transport (properly 11,8% and 15,45%) and in a less degree pipeline transport and maritime transport. In the event of passengers' transport in practice only car-transport (570 millions of passengers transported from all 838 million people) and railway transport (261 millions of passengers) enter into account. In Poland the number of passengers of air, sea and inland transport is increasing (as opposed to road transport), however it still remains on the level very low – altogether, these kinds of transport were chosen by about 7 millions of passengers in Poland.

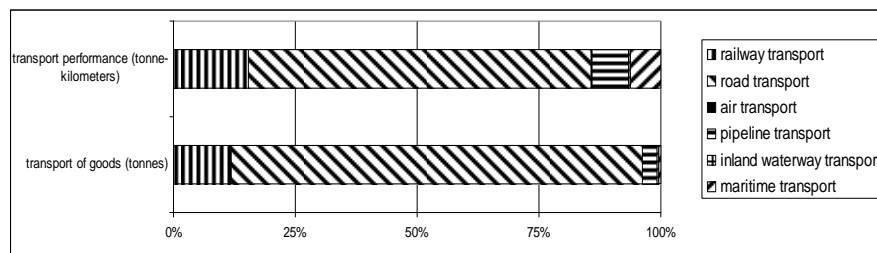


Figure 56. Structure of transport of goods and transport performance in 2010

Source: *Transport – wyniki działalności w 2006 r.*, 2007, GUS, Warszawa.

In some elaborations relating to transport the problems of so-called transmitting transport is described as well (which here will not be discussed thoroughly). It contains transfer of products usually by means of various kinds of pipelines (especially used in petroleum, natural gas and water forwarding) and belt conveyors (granular materials) or the transfer of electric energy. In 2010 in Poland there were about 2362 km of main pipelines used to pump the petroleum and other petroleum products. The greatest role is played by the pipeline called “Friendship” (running from Russia to Germany through Plock where there are its numerous branches) and pipeline linking Northern Port in Gdansk with Plock. Whereas the net of gas mains is more extended, it distributes raw material extracted in Podkarpackie district (the main junction is in Jaroslaw) and in southern Wielkopolska, coal gas in Gorny Slask and gas imported from Russia and Ukraine. The Polish electric-energetic system consists of transmitting lines of high tension (mainly 400, 220 and 110 kilovolts) and the distributive systems (less than 60 kilovolts). They connect power plants with the transformer - stations which distribute the current to some local transformer – stations and particular consumers.

Polish transport is functioning today within conditions co-originated on the arena of European Union. The aim of European transport policy is to provide the balanced development of transport with assurance of high standards of environment’s protection and general security. The development is supposed to be carried out by means of restricting the carriag-es of car transport in favor of the increase in number of carriag-es of railway, inland waterways transport and coastal shipping and combined transport. The preference given to some sections of transport stems from high external costs of road transport, restraints in roads’ extension which are emerging more vividly now and the possibility to decrease the costs of commodities’ carriage in multimodal transport.

### 10.1.1. The road transport

Road transport is considered to be the most developed branch of transport nowadays not only in Poland but also in all Europe. It was determined by many factors among which crucial are those determining high competitiveness of this means of transport: for example growing demand for the carriage of some commodities' parts characterized by rather small size, decrease in distance between the source of commodity's registration and its destination, general increase in spatial mobility and necessities connected with it, motor transport's development. Additionally the road transport has such qualities as: accessibility, flexibility, rapidity, disposition and competitive level of prices of services.

The system of Polish carriageable roads is relatively dense (almost 88 km/km<sup>2</sup>), and its intensity indicates far-reaching connection with people's arrangement in country. Total length of public roads in 2010 amounted to 406,1 thousands km (from which 67,4% that is more than 273 thousands km are the roads of hard surface and rest of them – unsurfaced roads). Most roads of hard surface are found in Voivodeship s: Śląskie (172 km/km<sup>2</sup>), Małopolskie (156), Świętokrzyskie (112) and Łódzkie (102), whereas the least amount of such roads are in Warmińsko-Mazurskie (52), Podlaskie (59), Zachodniopomorskie (59) and Lubelskie (58) (fig. 2). In structure of Polish roads characterized by hard surface national roads (18.6 thousands km), Voivodeship roads (28.5 thousands km), district (126.2 thousands km) and communal roads (232.9 thousands km) are distinguishable. Unfortunately motor-ways (we have only 857.4 km of them) and expressways (674,7 km) both contribute to rather weak and miserable image of Poland. That is why not the length of road system but its quality is regarded as the main problem in Poland. The building intensity of the best roads has become even deeper after 2000, nevertheless it is still too low in comparison with the demand and plans. Today only three longer lines of motor-ways are functioning: A1 on the route Gdansk - Torun, A2 on the route Swiecko - Strykow and A4 on the section Zgorzelec – Wieliczka and three short sections close to Piotrkow Trybunalski, Szczecin, Wroclaw and Gliwice.

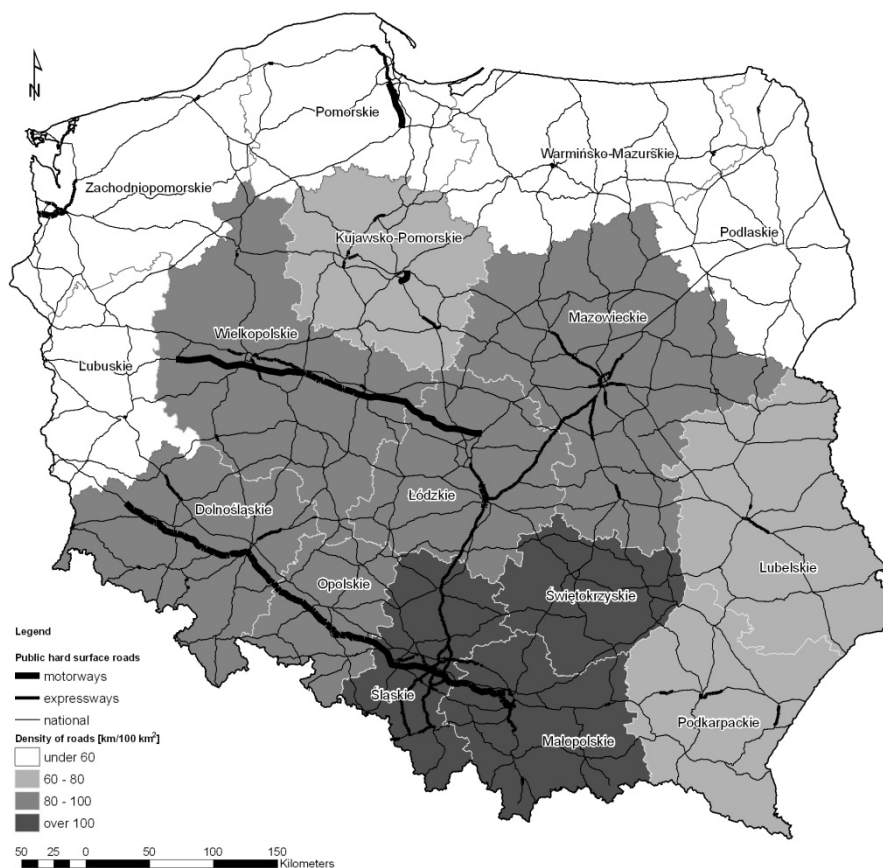


Figure 57. The system of national roads (as of early 2012) with the density of hard surface roads in Poland (2010)

Source: *Transport – wyniki działalności w 2006 r., 2007*, GUS, Warszawa.; <http://www.gddkia.gov.pl/>; elaborated by K. Dmochowska-Dudek

Therefore the creation of integrated and compact with European system motor-way and expressway system as soon as possible is certainly a big challenge for Poland. Interregional connections, especially those between big agglomerations in country need also some improvements. Except for those mentioned above among main disadvantages of Polish road infra-structure there should be also: adaptation of few routes to the highest capacities, many routes traversing areas of buildings and weak security of mobility (high rate of accidents and high mortality of accidents' victims). The priorities of approved Program of building of national roads (for the period 2007–2020) relate to: leveling the disadvantages mentioned earlier and solving all the problems. The plan's aim is to create before 2015 the system of roads of fast traffic including motor-ways (A1 –

Gdansk – Lodz - Gorzyczki, A2 – Swiecko – Lodz – Minsk Maz., A4 – Zgorzelec – Katowice – Krakow - Korczowa) and expressways (S3, S5, S7, S8, S17, S19, S69).

On the grounds of researches of road traffic it was ascertained that the average twenty-four hours' car traffic in 2010 amounted to 9888 vehicles per day and night and was higher by about 19% in comparison with 2005. There was also noticed higher traffic on the international roads where the average twenty-four hours' traffic amounted to more than 16,7 thousands vehicles per day and night. Regional diversity in roads' load was also stated. The greatest roads' load was observed in Śląskie Voivodeship (18,262 vehicles per day and night). Małopolskie and Łódzkie are the Voivodeships also characterized by big load of traffic. In Voivodeships: Warmińsko-Mazurskie, Podlaskie and Lubelskie there was the least traffic load of road systems. The greatest concentration of road traffic was characteristic of gornoslaska agglomeration and neighbourhoods of Warsaw, Cracow, Poznan, Wroclaw and Lodz. In 2010 among the most loaded roads there were roads E-40(25,1 thousands vehicles per day and night) E-75 (21,5 thousands), E-77, E-67 and E-30. In 2005-2010 an increase in vehicle traffic's load on every kind of roads and in all regions of the country was noticeable. The greatest traffic's increase, even up to 49% applied to lorries with truck trailers, motor cycles (121%) and passenger cars (22%).

In the end of 2010 in Poland there were more than 23 millions of road motor vehicles and mopeds registered. Most of them were passenger cars (17.2 million), but Polish indicator of number of cars per 1000 inhabitants is considered to be one of the lowest in European Union (for Poland 432 and for 25 countries of European Union – 473 cars per 1000 inhabitants). Moreover there were registered 2,8 millions of lorries, 215 thousands of road tractors and 97 thousands of buses. The number of all kinds of vehicles mentioned above is growing but unfortunately in the same time their average age is increasing as well.

In 2010 1552 million tonnes of goods were carried by car transport. It was more than the year before by 8.9%. The transport performance (in tone-kilometers) increased even more, because by 16,5%. In structure of general carriages (in tones) there was noticed higher, because by 51% participation of transport for hire or reward than transport on own account.

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**Polish car transport** occupies 3<sup>rd</sup> position in European Union, just after Germany and Spain but before France. Whereas in international carriages Poland has about 19% share and occupies 1<sup>st</sup> place before Germany, Spain and Holland.

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In structure of goods' carriages according to the groups of goods (in tones) the greatest role is played by metal ores and other mining products and quarrying products (34,8%), other non metallic mineral products (12,6%), secondary raw materials, municipal wastes (9,6%) and food products, beverages and tobacco.

In 2010 569,7 millions of passengers were carried by bus transport which meant the decrease compared with the year before by almost 7.1%. In 2005 bus transport was realized on almost 25 thousands of national lines which gave total length- 1.25 millions km, and on about 3000 international lines of total length reaching 583 thousands km. A tendency to decrease the quality and shorten the length of national lines is now distinguishable (suburban carriages are becoming more and more predominant), in contrary to the international lines.

Urban transport in 2006 was present in 259 Polish cities. More than 3905 millions of passengers took advantage of its services. The only one in the country line of metro (of 23 km of length) is located in Warsaw. The number of carried passengers (140,2 million) increased by 3.9% in comparison with 2009.

### **10.1.2. Railway transport**

The potential of Polish railway includes infra-structure (areas, railway lines, buildings, etc.), rolling-stock and property which is expressed in particular elements of material potential. Differentiated railway infra-structure, the inheritance of various policies conducted by invaders became thoroughly rebuilt and improved in the third decade of 20<sup>th</sup> century. Its next extension and modernization took place in the second half of last century (60s and 70s.). Its changes noticeable today, after 1989 relate mainly to some chosen lines' liquidation, electrification and modernization of strategic sections which shorten the time and improve the travels' comfort.

The apogee of railway system's development in Poland took place at the beginning of 80. when about 27 thousands railways were functioning. The time of constitutional transformation in Poland was the period of Polish railway's regress. In the period 1985-99 6.2 thousands km of railways were closed and in the period 2000-2004 the next 2,2 thousands km of railways were closed as well. The greatest diminution in railway system was observed in western Poland, where it was the most dense. Today 20228 km of railways are being utilized which gives the density of 6.5 km/100 km<sup>2</sup> (which means one of the lowest densities in our part of Europe). The lines include: 20089 km of standard-gauged lines, 543

km of large-gauged lines<sup>34</sup> and 139 km of narrow-gauged lines (the level of electrification is regarded as the highest in Europe and amounts to about 60%). The principal problem of the system is its total adjustment to velocity of 120 km/h, which was a standard but 40 years ago. Nowadays it is perceived as an obstacle in railway transport's development, because reaching velocity up to 160 km/h is now required. Therefore modernization of even fundamental arrangement is desirable. Following the example of other countries, railway system's restructurisation in domain of building new lines of high velocities between big agglomerations, modernization of the rest important connections and creation of railway system designed to railway transport (entirely or in some part) are necessary. Especially the creation of new lines of high velocities will let Polish railway regain the considerable commercial position, which will be to society's and national economy's advantage.

The greatest density of railways (fig. 3) is observed in southern Voivodeships (Śląskie 17,5; Opolskie 9,2; Dolnośląskie 8,9 km/100 km<sup>2</sup>) and it becomes less in northern and eastern directions (in Podlasie the system's density amounts only to 3,8 km/100 km<sup>2</sup>). The main owner of railways is Polish State Railways (PKP). The rest subjects have only 387 km of normal-gauged lines and all the narrow-gauged lines at their disposal. It is said that the bad situation of Polish railways mainly stems from the PKP enterprise's bad functioning which does not create real conditions of competitiveness on the market of railway's carriages. The overgrowth of employment and allocation of state donations for the payment fund are the main problems of this enterprise.

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<sup>34</sup>The longest large gauge railway line in Poland is Broad Gauge Metallurgy Line (Linia Hutnicza Szerokotorowa often known by its acronym LHS). The line runs as a single track line for 394,6 km from Hrubieszów (on the Polish-Ukrainian border) to Sławków Południowy in Zagłębie (25 km from Katowice). It is used only for freight traffic, mainly iron ore and coal. It is the westernmost large (broad) gauge railway line in Europe (distance between the rails is 1520 mm). The previous name of the line was Metallurgy - Sulphur Line (Linia Hutniczo Siarkowa), but after sulphur ceased to be transported on the line its name had been changed, keeping the initials the same.

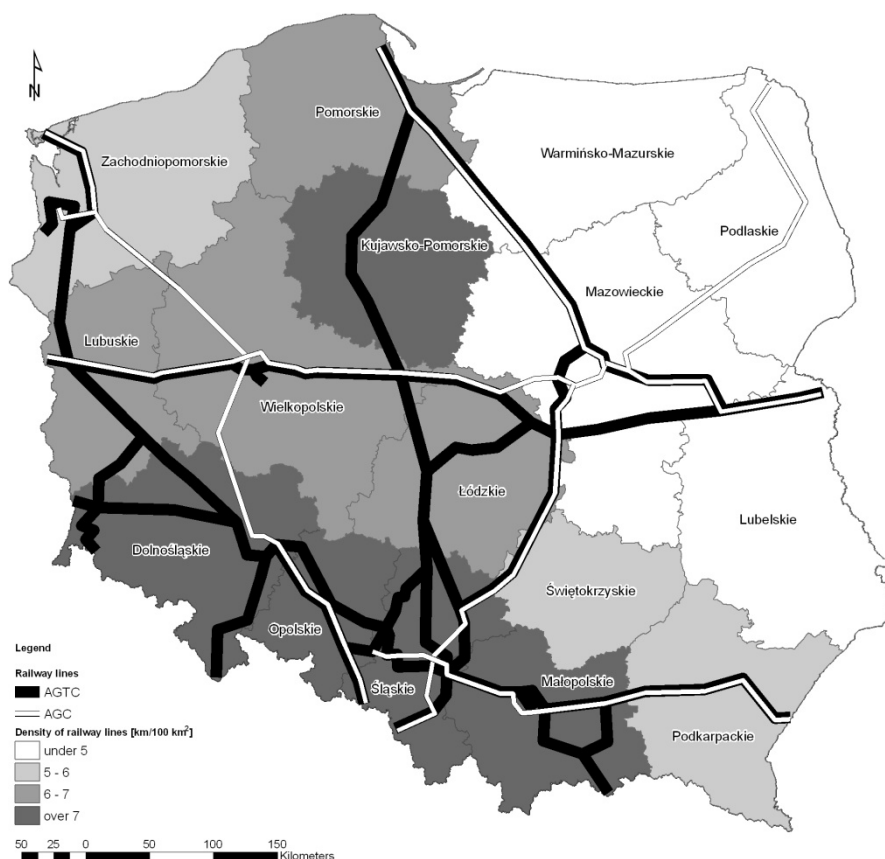


Figure 58. The main international railway lines with the density of railway system in Poland

Source: *Transport – wyniki działalności...* 2011; [http://www.pkp.pl/files/mapa\\_KDP\\_AGTC.pdf](http://www.pkp.pl/files/mapa_KDP_AGTC.pdf); elaborated by K. Dmochowska-Dudek)

All Polish railway system was divided into lines of state and local significance which is regulated by appropriate Disposition of Cabinet<sup>35</sup>. Moreover some lines have importance for international railway transits. These lines come within some international agreements about lines AGC and AGTC<sup>36</sup> (fig. 3). The lines which are not mentioned in the settlements are modernized in stages with a view to attain the compatibility of Polish

<sup>35</sup> *Dziennik Ustaw*, nr 273/poz. 2704 in 2004.

<sup>36</sup> AGC – European Agreement on Main International Railway Lines; AGTC – European Agreement on Important International Combined Transport Lines and Related Installations.

railway system with European one. The lines' modernization is realized with use of budget resources (about 25%) and European Union's funds.

Polish rolling-stock (except for narrow-gauged) in 2010 included: 1905 electric and 2358 diesel locomotives (in 2005 still 20 steam-engine locomotives were functioning), more than 89 thousands of freight wagons and almost 7,9 thousands of passenger rail coaches and others.

Polish railways performed the greatest work at the beginning and in the middle of 80. of 20<sup>th</sup> century when almost 140 milliards tkm (goods) and 50 milliards pkm (passengers) were carried. In 2010 this work amounted to 48,7 milliards tkm and 17,9 pkm, with appearing tendencies of growth in the last years. Among the most important commodities carried by railway in 2010 there were: hard coal and briquettes (43,7% tones of all goods), stone, sand, gravel, clay (20,5%) and liquid refined petroleum products (9,7%). In international exchange in export the most important role is played by such goods as: hard coal, coke, briquettes and refined petroleum products, chemicals, chemical products, man-made fibers, rubber and plastic products, and basic metals, fabricated metal products; whereas in import: hard coal, iron ore, Coke, briquettes and refined petroleum products. The majority of commodities transported by railway is received from Poland by Germany, Czech Republic, Austria and Slovakia; while to Poland by this means of transport the majority of goods comes from Russia, Ukraine, Germany, Czech Republic and Belarus.

Furthermore the railway is an important passenger means of transport. In 2010 more than 261 millions of passengers were carried (on average distance of 69 km) from which about 1,8 millions of passengers in international communication (304 km). The destination of travels by Polish railway was most of all Germany, Belarus and Ukraine, and to Poland the majority of people came from Germany, Belarus and Czech Republic.

The railway transport is a strategic sector, which will be decisive for success of all national economy. According to the today's strategy of European Union in railway transport the markets' opening not only for international commodities' carriages but also for international passenger carriages is the priority.

### **10.1.3. Inland waterways transport**

The amount of goods' carriages by means of inland waterways transport in Poland is considerably different from the tendencies present in other countries of European Union. The average participation of inland waterways transport in European Union's transport of all commodities amounts to 7.1%, here are some countries mentioned as an example to

make a comparison with Poland: Holland (about 50%), Belgium (more than 40%), Germany (more than 20%), France (about 12%). In Poland the participation in 2010 amounted to only 0,4%, that is less by a dozen or so than European average described above. Fundamental problem of this branch of transport in Poland is scarcity of the navigation's infrastructure, especially there is a deficiency in canals' systems, which are indispensable when the navigation of modern units floating is taken into consideration. The length of Polish inland waterways (rivers, canals which have their sewer systems, lakes) includes officially more than 3,6 thousands km. With reference to their poor usage only a few separated sections of total length –214 km are of the transport significance (i.e. waterways that are of international significance). Among them the most important are: Odra with canal Gliwicki, road Wisla – Odra (through Brda, Bydgoski canal, Notec and Warta) and Warta close to Poznan. Practically however greater role is played only by lower Odra (from Schwedt to Szczecin), which is used in traffic between Berlin and Szczecin/Swinoujscie. The process of decreasing amount of carriages on this section in the last few years may be stopped or even the amount may increase by means of existing plans of modernization and keeping the transport function. The most important river ports on Odra are located in Kedzierzyn-Kozle, Opole, Wroclaw, Poznan (on Warta) and Kostrzyn. Among five boundary entrances the most significant is in Widuchowa which is responsible for the traffic from Germany to Szczecin. Whereas the significance of route Wisla – Odra, which additionally does not have any chances for investments in the proximate future is disappearing.

The second serious problem of described waterways transport is shrinking supply column and its decapitalization. In 2010 it included 222 tugs and pushers (compared to 425 in 1980), 597 barges (1,570 in 1980) and 93 passenger ships (from 1980 there are seven less). The next impediments in the development of Polish inland waterways transport are: high annual fluctuations of water's level, scarcity of the biggest rivers' regulations, long period of icing, undergrowth of ports' hinterland, diversified navigational parameters of routes (depth, breadth, sizes of sluices).

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In the largest in Europe **inland port** in Duisburg there are about 50 millions tones of goods trans-shipped per year, that is 10 times more than in Poland.

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In 2010 there were carried 5.1 millions tones of goods by the inland waterways transport, i.e. 9.1% less than in 2009. Till 2005 year the carriages were growing incessantly since 2002, moreover the process was more rapid than the carriages taken as a whole by all means of

transport. It was mainly possible due to the growing participation of carriages within international communication (it already constitutes about 70% of general carriages by inland road) and even more due to the increasing number of carriages of goods on Polish waters between external ports. But the general decrease in national freight (after 2005) had the biggest influence on the fall of the total carriage of goods. The greatest enterprise organizing waterways transport carriages is Odra-trans S.A. from Wroclaw, which within market's consolidation took over in 2004 the greatest competitor: Bydgoska Zegluga S.A. After the unification the ship-owner accomplishes about 75% of all goods' carriages.

In internal transport the most often goods are metal ores and other mining products (i.e. sand and gravel) (38.3%) as well as mineral fuel (21.3%) the rough minerals and those converted.

In 2010 the most important directions of carriages of goods by means of inland waterways transport in the international exchange were Germany, Holland and Belgium. This route is used to export mainly: hard coal and briquettes, chemicals and secondary raw materials. Basic metals and fabricated metal products are those mainly imported.

It is also worth mentioning that inland waterways transport is of great importance when the tourism (for instance Elblaski canal) and passenger's carriage (in 2010 about 879 thousands of passengers were carried, on the average distance of 15 km) are taken into consideration.

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The identification of **European transport policy** within so-called balanced development by European Union is considered to be the chance for Polish inland waterways transport. The support is given mainly to those branches of transport which are environmentally-friendly and the negative influence of inland waterways transport on environment is imperceptible.

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#### **10.1.4. Maritime transport**

Poland's location at the Baltic Sea may be regarded as rather disadvantageous but on the other hand it entails some chances of development for all economy. The Baltic is a sea of internal character, through which some main navigation routes do not pass. That is why Baltic seaports are inferior to seaports of Northern Sea. While the advantages of our region are a developing economy of Baltic countries and considerable commercial exchange between them. The Baltic Sea is also one of the most important areas of ferry navigation in Europe. Unfortunately so far Polish ship-owners have not taken advantage of this potential.

The maritime transport operates particularly the carriages of bulk goods in an international exchange. It is often also used in operating

regional carriages, especially in countries, which economic activity is accumulated along extensive coastal zone. Maritime transport's activity in this domain is defined as coasting shipping.

After 1989 Polish maritime transport, envisaging general economic transformations, to which the competitiveness of road transport and western European ports should be added as well, undoubtedly lost its significance. To the factors of negative influence there ought to be also mentioned: deficiency in compact maritime policy realized by the country and lack in making the strategic decisions favoring the development of this branch. The considerable decline in number of carriages of goods was observed. The situation became normalized just after 2000, when the decrease in reloading was stopped, and since 2004 even relatively high increase in some greatest ports is noticeable. The regress in maritime economy was suppressed thanks to modernization of Polish seaports. They succeeded both in adjusting their own infra-structure to the new structure and commercial directions and modernizing the connections with road infra-structure in country as well (including the building of container terminals).

In 2010 Polish maritime transport fleet contained 121 ships, which in total had the deadweight exceeding 2,9 millions tones DTW, and average age of ships amounted to 19 years. It is certainly worse situation than that from the beginning of constitutional transformations. In 1990 the fleet had 247 ships of deadweight surpassing 4 millions tones DTW and average age of 12 years at its disposal. Nevertheless the situation has been gradually improving since 2002. Among 121 Polish ships 107 are the merchant ships (69 dry bulk carriers, 5 ro-ro, 12 tankers and 21 other general cargo ships), 11 are ferries and 3 – passenger ships. The interesting phenomenon of our times is the fact that only 15 ships sail under the Polish flag and almost 106 chose so-called cheap flags as: Bahamian (35), Cyprian (22), Maltese (22), Liberian (13), Vanuatuan (9), Panamanian (2) and others.

In 2010 the maritime transport carried more than 8 million tones of goods, while just in the early 21<sup>st</sup> century the quantity was twice higher. The transport performance decreased more rapidly. Still in 2003 there were more than 100 millions tkm, and seven years later only 19.7 millions tkm. When the division into groups of loads is taken into consideration, general cargo (72% of all goods; esp. roll-on) and dry bulk (25%; for example hard coal and coke, cereals); whereas among reloadings there were such important commodities as: coal and coke, petroleum and petroleum products. By stages however the amount of reloadings realized in Polish trade seaports is getting smaller and in 2010 59.5 millions tones were surpassed. Among the most important Polish trade seaports there are seaports in Gdansk, Gdynia, Szczecin (it is even of

the greater significance as the seaport closest to Berlin) and Swinoujscie. Moreover in the local aspect the seaports in Police, Nowe Warpno, Miedzyzdroje, Darlowo, Elblag, Kolobrzeg, Stepnica, Trzebiez, Ustka and Wladyslawowo are also important. Through the trade seaports 760 thousands passengers coming to Poland and 782 thousands departing passed as well (mainly from and to Sweden).

The maritime transport in Poland is underestimated. Anyway much the same was in European Union. Just in 2002 the program which aim is to promote and develop the maritime transport appeared, other priorities of the plan relate to create "sea ways" and improve the exchange of goods in seaports. The more so as the maritime transport was regarded as the safe one (not many accidents), economical one (it consumes small amounts of petroleum) and environmentally-friendly.

## **10.2. Air transport**

The basic advantage of air transport is its highest velocity in comparison with other kinds of carriages. However there are also some drawbacks which include: high costs of air conveyance, rather weak ports' accessibility and weak infallibility (for example in consideration of weather conditions). The Polish potential of air transport is based on its infra-structure and aerial fleet. The infra-structure of air transport contains some elements of linear character (marked airlines equipped with terrestrial appliances guaranteeing safe flights) and punctual character, that is to say airfields, ports, airstrips and other buildings performing airfield functions.

In 2010 in Poland there were 11 working airports: 1 national (Warszawa – Okęcie) and 10 regional (Cracow – Balice, Katowice – Pyrzowice, Gdansk – Rebiechowo, Wroclaw – Strachowice, Poznan – Lawica, Szczecin – Goleniow, Rzeszow – Jasionka, Bydgoszcz – Szwederowo, Lodz – Lublinek, Zielona Gora – Babimost). The system of these airports is far from being sufficient, it is by six times less rare than the average of other developed European countries.

According to a register of the Department of Civilian Aviation the national civilian aviation was using 1,118 aircrafts (83 jet planes, 37 turbo propeller-engine planes and 998 helicopters), among which the time-tabled transport had 56 aero planes at its disposal (5,611 passenger seats).

Everywhere in the world, in air transport the predominant object of activity is the passenger transport. A goods-transport which has not developed yet for good constitutes to some extent the additional and complementary activity. The carriers of passengers noticed that they had free space in holds of airplanes and decided to take advantage of the



fact. Since the half of 90. the dynamics of air conveyances in Poland has been considerably rising. It is the result of liberalization of the access to market for new carriers (especially so-called 'cheap lines' from European Union), and also general improvement of economic situation, appearance of greater competitiveness, prices' drop. Despite the fact that in consideration of the size of operated passenger and goods traffic Poland is far behind other countries in the world, it is nowadays the market of air conveyance of passengers which is developing in the quickest way in the world.

The operated traffic by Polish airports is performed mainly on short-distance connections with other ports in Europe and less so on the national connections. The long-distance connections are discharged only by airports in Warsaw and Cracow, which are of minor importance when the conveyance of passengers is taken into consideration.

The regular air transport was being performed on 173 routes – 8 national and 165 foreign. The system of national routes included only 2292 km and was used only between Warsaw and Bydgoszcz, Gdansk, Katowice, Krakow, Poznan, Rzeszow, Szczecin and Wroclaw. Therefore no direct scheduled flights between regional airports were functioning. Whereas international routes were preserved with 88 cities in 46 countries on the distance of 340,7 thousands km.

In 2010 in Poland airlines carried about 5 millions of passengers. The number for several years remains at a similar level. However the passenger traffic in airports was considerably greater, considering their service performed by foreign carriers. In total to Poland came nearly 9.2 millions of passenger and 100 thousands more people flew from the country. The majority of passengers in international air transport Poland exchanged with Great Britain (21,3% of all people), Germany (15.3%), Italy (5.9%), Egypt (4.6%), Ireland and France (4.2% each)

In 2010 the predominant role in passenger traffic's service was played by airports in Warsaw (42% of all traffic), Cracow (14%), Katowice (12%) and Gdansk (11%). Just now greater increase in regional airports' contribution is observed and it is predicted that before 2020 the participation of passenger conveyances in Okecie will fall to 40% (at the same time the number of passengers will increase twice). Therefore gradually the decentralization of passenger traffic will become commonplace.

In spite of rapid development of cheap airlines, Polish Airlines 'LOT' still remains the carrier of greatest importance (with total number of about 30 traditional carriers and 9 so-called low-cost). In 2010 'LOT' serviced more than 29% of all passengers in Polish airports, however low-cost carriers attend for about 52% of passengers at Polish airports.

In 2010 81 thousands tones of goods were carried. The majority, because almost 66.4 thousands tones was carried on international routes.

### 10.3. The logisticscenters

The logisticscenters are nowadays regarded as an important element of transport system. In today's economy there exists a considerable demand for services operated by the centers . Various subjects (of industrial, transport, trading and service character) prefer entrusting centers with some logistic activities to employing themselves because it is more worth-while. Backwardness in building of such centers and rising necessity for them entail the great development of every time bigger and more modern centers of logistic service. Poland, in consideration of its geographic location has some chances for rebuilding of systems of logistic centers operating not only the regional Polish market but also performing the significant role in Europe.

Buildings erected before 1990 which perform functions attributed to nowadays' logistic centers are out of date in domains of technology and informatics. Modern subjects of that kind appeared in Poland just after 1991. Their localization is rather characteristic because they emerge most often within the bounds of big cities, in their neighborhoods (up to 50 km), on the area of seaports, frontier entrances. In Poland in spite of matters of financial (deficiency in important investors), administrative character and those connected with detail localization (lands' gain) the greatest problems in development of logistic centers were the scarcity in PKP's involvement and delays in building of systems of motorways and expressways. Only after 2002 together with PKP Cargo's commitment in building of its own system of centers the situation changed in the positive way. Today's logistic centers have to perform many functions: warehouse, reloading, sorting, complementing, distributive, terminal of combined transport, service of means of transport and others (of social and packing aspect and the like).

In Poland we have now only four focused logistics centers corresponding to European standards: Śląskie Centrum Logistyki S.A. (in Gliwice), Euroterminal Sławków (in Sławków), Centrum Logistyczne Inwestycyjne Poznań CLIP (in Swarzędz-Jasina) and Wielkopolskie Centrum Logistyczne Konin-Stare Miasto S.A. (in Modła Królewska near. Konin). The existing logistics centers do not work together and do not take initiatives to create a national intermodal logistics network. In the near future the Polish sea ports (of Szczecin, Gdańsk and Gdynia) hopes a new logistics centers will bolster their strong position as regional transport hubs.

In addition to logistics centers an important part of the logistics system are warehouse centers. They usually operate only with access to car transport. The largest warehouse centers are located in the large agglomeration as Warszawa (Warszawa, Mszczonów, Teresin, Błonie,

Ożarów Mazowiecki, Nadarzyn), Górny Śląsk (Będzin, Chorzów, Dąbrowa Górnicza, Sosnowiec, Czeladź, Gliwice, Tychy), Poznań (Poznań, Komorniki, Gądko), Łódź (Łódź, Stryków, Pabianice, Piotrków Trybunalski, Wola Bukowska) and Wrocław (Wrocław, Kobierzyce, Bielany Wrocławskie, Wojkowice, Pietrzykowice). Centers in this five agglomerations cover 93% of the entire Polish warehouse – 6.9 million m<sup>2</sup>.

#### 10.4. Communication

Communication belongs to the zone of material services, due to it constitutes the prolongation of production processes. In economy and private life of citizens it performs more and more important role. It accompanies all economic processes, contributing to their acceleration and coordination, saving of time, it also influences in the positive way on the increase in work's efficiency. Nowadays the communication has become a condition making the development of cooperation between people and institutions possible. Many governments in the world care for the communication's development which is regarded as the fundamental incentive for all economy's progress.

The effect of communication services' activities are not the new products but the change of postal matter's and information's place. These services' peculiarity relates generally to:

- personal and confidential character (secret of correspondence),
- immediate consumption of service,
- service quality (regularity, rapidity, preciseness of information's circulation,
- seasonal character of demand (postal services tend to increase rapidly in periods preceding the holidays and phone calls are made generally during a day).

In consideration of the way of information's sending the communication may be divided into postal services, telecommunication and satellite communication. The post is responsible for consignment of material things (for example letters, parcels) and remittance. Consignments and information send by wire-way or non-wire lines are the telecommunication's domain. Among the group there are such sections as: telephony (fixed-line and mobile), tele-informatics (data transmission) and radio communication (radiophone, television, radio) and of minor importance nowadays: telegraphy, telex, telematics (fax).

### **10.4.1. The post**

The post is a fundamental and the most traditional section of communication which is its oldest form. In Poland it has been functioning since 1764, that is to say since Stanislaw August Poniatowski published the proclamation.

The most important element of postal infra-structure includes the post offices which in 2010 amounted to 8365 (they were only owned by public postal operator: Poczta Polska) and 2541 offices owned by private operators (in the end of 2010 there were 152 operators of this kind functioning in the country). Furthermore Poczta Polska has more than 46 thousands postal boxes at its disposal.

The Polish Post recorded in 2010 the decrease in the size of operated services. Less postal transfers paid (51.2 millions – 27.9%) were realized, payments to the bank accounts (201.8 million), less parcels were sent (19.8 millions – 14.1%) and less standard letters posted as well (958.6 millions– 21.7%). Only the number of posted registered letters increased (407.7 millions – 5.3%). While private operators provided mainly services in domain of: letters' delivery (153 millions of the national services and 153 thousands of the cross-border services), parcels' delivery (378 thousands and 69 thousands) and express mail (51.8 million and 2.5 millions).

### **10.4.2. Telecommunication**

At present stage of civilization's progress the telecommunication constitutes one of the basic sections of national economy. National system of telecommunication is numbered among the general indispensable necessities of inhabitants, institutions, and especially banking system and stock market, trade, education, tourism systems and other sections of services. The development of cooperation and international exchange considerably depend on modernity and the range of telecommunication infra-structure. The economic and social significance of telecommunication also relates to the ability of fast absorption, promotion and implementation of innovations.

The infra-structure of telecommunication is the system with aim to satisfy and create necessities connected with messages transfer, data transformation and information retrieval. The infra-structure includes: telegraph infra-structure, telephone, telex, tele-informatics infra-structure. The punctual infra-structure includes: telephone and telegraph exchanges; and telecommunication networks (cable, overhead line, radio, fiber optic and digital networks) as a linear infra-structure.

The access to cheap communication in Poland is still confined in greater measure than in European Union. Moreover some considerable disproportions in this domain in particular regions of the country still exist. Although it is commonly said that the telecommunication services are the fundament indispensable for the creation of information society, which is able to use all the chances stemming from the processes of integration and globalization.

Network of fixed telephone lines. In the world where the information is a commercial commodity the telephony became the economy's sector which develops in the fastest way. Nowadays telephony systems, except for voice transmission, enable also an interactive cooperation with many bases of computer systems and ensure some additional services, which aim is to support the business sector. The improvement of access of telephone communication was observed in Poland just in 90s of the last century. At that time the number of subscribers increased almost by three times. Today the increase in number of fixed-line telephony was impeded. Today the development of traditional telephony is rather of quality character (the improvement of quality and broadening of services' choice) than quantity. In 2010 in Poland there were 126 operators offering the services (local, national and international connections) in domain of fixed networks. In the country there were 8.2 millions of main telephone lines (including 7 millions standard main telephone lines and 1.2 million lines in ISDN access), and the greatest density (per 100 people) was observed in Voivodeship s: Mazowieckie (31.5 per 100 people), Dolnośląskie (23.5) and Pomorskie (22.6). The least advantageous situation was found in Podkarpackie (17.1) and in Warmińsko-Mazurskie (17.5). Decrease in the number of subscribers was observed from a few years. The main reason for this was the rapidly growing segment of mobile telephony, which is a substitute for services at a fixed location. It is important also had a wide range of Internet services, including VoIP (Voice over IP).

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Among the countries of European Union (where the average is more than 43 connections per 100 inhabitants) one of the lowest indicators of **subscription density** of constant connections is characteristic for Poland (with almost 22 connections per 100 people). Lower value of indicator is found only in Czech Republic and Lithuania. In domain of mobile telephony Poland with its indicator of 118 subscribers (per 100 inhabitants) takes 18th place among the European Union countries (in 2006 it was the last place in U-27).

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The mobile telephony. At the beginning of 90s of 20<sup>th</sup> century Poland started to build its own system of mobile telephony, alternative to the

conventional one (wire). To begin with PTK Centertel, quite quickly put the out of date analogue system NMT into service. In 1996 Ministerstwo Łączności decided about two tenders for the building of modern digital systems of second generation: GSM, which were won by the firms such as: Polkomtel and PTC. Since 2004 the services of telephony of third generation – UMTS have been being offered.

Currently there are in Poland seven mobile operators: PTK Centertel (brand *Orange*; 30,5% of subscribers), Polkomtel (*Plus*; 29.9%), PTC (*T-Mobile*; 27.6%), P4 (*Play*; 11%), CenterNet, Mobyland and Aero2 (and 15th virtual operators). At the end of 2009 the number of subscribers of mobile telephony amounted to 47,5 millions, during the year the number increased by about 5.5%. Polish market of this telephony is numbered among those which develop in the fastest way in Europe. The surface of Poland is covered by the system of 122 centrals and more than 26 thousands base stations cooperating with one another.

Internet. In Poland the number of people using the Internet, which is already operated by 1 886 Internet service providers, is growing in the very dynamic way. In 2010 there were over 7.5 millions of subscribers (consumers and business) using the Internet, that is by about 15,6% more than the year before.

The most common forms of access to Internet chosen by subscribers were: modems in mobile network (moreover – 3.5 million of users), xDSL lines (more than 2.5 million users), cable modems (1.8 million), local area network LAN – Ethernet and wireless local area network WLAN. Other technologies, including the once very popular dial-up access, played a lesser role.

Approximately 99.8% of the total lines were broadband lines (of which half was characterized transmission equal to or greater than 2 Mbps – their number increased by more than 0.9 million). Therefore recipients of services had greater opportunity to take advantage of offers faster access to the Internet. According to consumer research conducted in 2010 on behalf of Urząd Komunikacji Elektronicznej, more than 52.8% of users surveyed had access with data rates of 2 Mbps or more.

The largest Internet operator in Poland is TP S.A. (22.4% of users), but its advantage in the market from year to year declines. The subsequent major operators are: PTK (13.1%), Polkomtel (10.6%), PTC (7.4%), P4 (6.8%) and UPC (6%).

#### **10.4.3. The satellite communication**

The satellite communication is numbered among the youngest and at the same time most advanced in technological aspect sections of

communication. For the first time it was used in 1962 when satellite Telstar transmitted the television signal. However the quick development of satellite communication services took place in 90. of last century. Today owing to thousands of satellites going round the Earth, satellite services are almost commonplace and are becoming accessible for everyone, and the only one confinement may be unfortunately still high costs of exploitation. Nevertheless it is believed that satellite communication is in many cases the best, and sometimes also the cheapest solution. It is observed on the areas, where the development of ground-systems is insufficient or impeded by the shape of surface. Other advantages of this kind of communication are short period of equipments' installation, initiating transmission, security or certainty of the transmission's continuity. Satellite communication proves correct in firms having numerous agencies and branches, for instance in offices, banks, insurance companies, nets of shops, or TV and radio stations. The deliverers of services connected with the Internet should also be interested in satellite platform.

The satellite communication in Poland has been functioning for more than 30 years. The first satellite systems were installed in Świętokrzyskie mountains in the Centre of Satellite Service TP SA. In 1974 the first satellite station appeared in Poland, it was working within the system Intersputnik. In a few years later other stations emerged, among others in 1993 in Poreby Lesne close to Warsaw the central station of system VSAT (*Very Small Aperture Terminal*) was opened.

Today in Poland a few types of ground-satellite stations function. The SCPC (*Single Channel Per Carrier*) stations are possessed by all the radio, TV and telecommunication broadcasters (PAGI, TP S.A., AB Space); VSAT central stations serviced by the operators of this system (Grytek, Tel-Energo, TTcom, PAGI, TP S.A.); VSAT final stations; sending stations of satellite radio difusion serviced by the operators of satellite digital platforms (Canal+, Polsat Cyfrowy, TVN, Lux Veritas, TVP); reportorial stations SNG (*Satellite News Gathering*) are owned by such senders as: TVP, TVN, Polsat, Lux Veritas, Radio Maryja, France Telecom, British Telecom.

The satellite communication has various kinds of services in offer. The stationary services FSS (Fixed Satellite Systems) relate to radiodifusion (transmission of TV programs), telephone connections, transmission of data VSAT, occasional transmissions, quick access to the Internet. While the mobile services MSS (Mobile Satellite Systems) include: connection with the mobile objects Inmarsat (ships, planes), satellite systems of mobile telephony (Iridium, Globalstar, Thuraya, ACeS), the systems of short messages' transmission (quick Internet, interactive, broadband and multimedia systems).

Poland has 2 orbital positions 15,2°E and 50°E. In case of the position 15,2°E the coverage is confined only to national surface, which makes the usage of satellite in the international communication impossible. The position could be possibly used if some attempts to place the national satellite, designed to the necessities of Polish subjects and institutions, were undertaken. The system could serve also the necessities of country's security or accomplishment of national strategy of broad-lined communication development. While the position 50°E is commercially more attractive. The possibility of its sale or leasing in favor of big satellite operator exists.

### **10.5. Recapitulation**

Today transport in Poland is not the ideal origination. We have still many problems to solve. They relate both to transport which is already functioning and which still needs to be modernized and improved, and to the tasks which have not been started yet as well (or barely begun such as the plan of building of motorways). Among the most important problems of transport, which should be solved, there is an unequal arrangement in transport structure, with clear predominance of road transport. The next problems are: the existence of congestion and so-called "narrow throats" of goods and passengers conveyance, endangered security, noise or surface absorption. Moreover all tasks must be realized with maintenance of high proecological standards and with use of environmentally-friendly technologies. The globalization of world economy gives Polish transport another duties, which are the integration of all transport system and elimination of missing links in transport system.

The accomplishment of even such generally indicated tasks would be for Polish economy a burden too great. Fortunately, the plans of Polish transport's development and modernization are coherent with the aims of the economic development of European Union. That is why Poland may count on co-financing the majority of investments. In "National Program of Development for 2007-2013" financing Operational Program "Transport competitiveness" was accepted on the level exceeding 5,8 milliards euro. In this sum of money 3,6 milliards are supposed to come from the European Fund of Coherence (ISPA), and the next 300 million euro from European Fund of Regional Development (SPOT) and from the fund PHARE and less known TEN. TEN or Trans-European Network is a special budget of European Union which aim is to support the development of pan-European transport systems (TEN-T), energetic (TEN-E) and telecommunication (e-TEN). Within the program the chosen plans important from the European point of view are financed. The point is to equalize the level of transport infra-structure development, accomplish its



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coherence and protect environment and improve the security. Within this program 30 plans of priority importance were outlined. In Poland there are four such plans: 1) railway line: Gdansk – Warsaw – Bratislava – Wieden; 2) motorway: Gdansk – Bratislava – Wieden; 3) railway line: „Rail Baltica” Warsaw – Kowno – Ryga – Tallin – Helsinki; 4) the maritime motorway on the Baltic Sea. Moreover the national plans are co-financed, their list is available on the website of GDDKiA.

In modern Poland communication experiences deep structural changes of consumption and services delivery. The most important is expansion of data transition. The main trends, which one can observe on Polish market are: decrease of prices and widening of services access. Additionally free market, i.e. competitively, gives potential users whole range of products prepared 'only' for them. It is good stimulus for increasing of telecommunication services, particularly in mobile telecommunication and the Internet. It seems to be unchanged in next years. Another important phenomenon is continuing conversation of services delivered with various electronic technologies. We will witness diminishing importance of traditional diversification of voice connections, video transition and data transition.

## 11. TOURIST POTENTIAL

### 11.1. Introduction

Poland is a country of a unique and diverse landscape which is very attractive from touristic point of view. The country stretches from the mountainous areas in the south (including alpine terrain), through foothills, highlands, lowlands belt, vast swampy areas with peat deposits, Lakelands to the seacoast with cliffs and sandy beaches. The most beautiful and naturally valuable areas in Poland in terms of landscape are protected by law as national parks. Their tourist attractiveness is determined not only by natural features but also anthropologic features (material and spiritual). Particular attention has to be given to castles (including royal and Teutonic Order castles), palaces, manor houses, museums, technical sites, folk customs and events. The value of some areas and sites is acknowledged by their presence on the world cultural or natural heritage list.

### 11.2. The most valuable areas and sites protected by law

At the end of 2007, due to very valuable natural features 32,3% of Poland's area was protected by law (excluding the areas of Natura 2000 Network<sup>37</sup>). The most important among the forms of legal protection of natural habitat are the national parks. There are 23 national parks in Poland, which take up the area of 3167,5 km<sup>2</sup>, which is about 1% of country's area. A national park "comprises protected areas with particularly outstanding scientific, natural, social, cultural and educational characteristics, not smaller than 1000 hectares where the environment as a whole, including landscape characteristics, is protected" (art. 8)<sup>38</sup>.

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<sup>37</sup>Natura 2000 Network is a consistent in terms of functionality ecological network created in order to preserve nature habitats and important species in the European Community. The obligation to carry out such action results from the provisions of the convention on biological diversity (co-called Rio Convention, prepared in Rio de Janeiro in 1992). The legal basis for Natura 2000 Network has been stipulated in two legal acts: Council Directive on the conservation of wild birds, called the birds directive (Council Directive 79/409/EEC of 2 April 1979) and council directive on the conservation of natural habitats and of wild fauna and flora, called a habitats directive (92/43/EEC. of 21 May 1992) (Ochrona... 2008).

<sup>38</sup>Legal Act of 16th April 2004 r. Protection of Nature, Journal of Laws no. 92, item. 880 with further changes

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**National park** comprises protected areas with particularly outstanding scientific, natural, social, cultural and educational characteristics, not smaller than 1000 hectares where the environment as a whole, including landscape characteristics, is protected. A national park is established to preserve biodiversity, resources, formations and elements of inanimate nature and landscape values, restoration of a proper state of resources and elements of nature as well as reconstruction of distorted habitats: of plants, animals and fungi species (art.8).

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Poland adopted the definition of a national park specified during meeting of International Union for the Conservation of Nature and Natural Resources (IUCN – WCU). Thus, since all the Polish national parks comply with IUCN requirements, have been put on the list. In addition, 6 national parks (Babiogórski, Białowiecki, Bieszczadzki, Karkonoski, Słowiński, Tatrzański) have been acknowledged by UNESCO as biosphere reserves<sup>39</sup>, whereas Białowieża National Park has been recognized as world heritage site. Moreover 6 parks (Biebrzański, Słowiński and Narwiański, Poleski, a part of Karkonoski and Wigierski) have been covered by RAMSAR convention (a convention on wetlands of international significance, especially the ones which fulfill the role of a living environment for waterfowl).

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**The smallest national park** is Ojcowski NP – 21.5 km<sup>2</sup>, and the largest – Biebrzański NP (59.22 km<sup>2</sup>).

**The oldest national park** in the world is Yellowstone (USA), which was founded in 1872. The oldest national park in Poland is Białowiecki NP – it was formally founded in 1947, but it actually already existed in 1932

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National parks in their modern form began to develop in Poland after World War II. Białowiecki NP was the first to be founded (1947) and the youngest national park in Poland is Ujście Warty NP founded in 2001. The largest amount of parks was created in the mountain areas (8), lowlands (5) and Lakelands (5).

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<sup>39</sup> In 1971 “Man and Biosphere” (MAB) International Program was launched by UNESCO. The program is carried out through creating international Biosphere Reserves Network, whose aim is mainly to protect biological diversity. In 2008, the network contained 531 such objects, from which 9 is located within the Polish borders ([www.unesco.pl](http://www.unesco.pl)).

Table 21. National Parks in Poland

No.	Name	Date of creation	Area [km <sup>2</sup> ]	Landscape type
1	Woliński	1960	109.4	seacoast
2	Słowiński	1967	215.7	seacoast
3	Wigierski	1989	150.0	lakeland
4	Wielkopolski	1957	75.8	lakeland
5	Borów Tucholskich	1996	46.1	lakeland
6	Drawieński	1990	113.4	lakeland
7	Poleski	1990	97.6	lakeland
8	Biebrzański	1993	592.2	lowland
9	Narwiański	1996	73.5	lowland
10	Białowiecki	1947	105.2	lowland
11	Kampinoski	1959	385.5	lowland
12	Ujście Warty	2001	80.4	lowland
13	Ojcowski	1956	21.5	highland
14	Świętokrzyski	1950	76.3	highland
15	Roztoczański	1974	84.8	highland
16	Karkonoski	1959	55.8	mountain
17	Gór Stołowych	1993	63.4	mountain
18	Babiogórski	1954	33.9	mountain
19	Gorczański	1981	70.3	mountain
20	Tatrzański	1954	211.6	mountain
21	Pieniński	1954	23.5	mountain
22	Magurski	1994	194.4	mountain
23	Bieszczadzki	1973	292.0	mountain

Source: authors' own elaboration based on T. Lijewski, B. Mikułowski, J. Wyrzykowski, 2008, *Geografia turystyki Polski*, PWE, Warsaw

National parks in Poland are mostly a forest type as almost 62% of their area is covered by forests. The exception is Ujście Warty National Park, where forests take up only 1% of the Park and the protected areas include mostly open meadow formations, networks of channels and oxbow lakes, which are the most important sanctuaries for waterfowl in Poland. Narwiański NP is only covered by forest in 3% and its most important natural feature is the unique character of the Narew River which flows through different channels within the Park's boundaries. The forest coverage of the remaining national parks ranges from 26% in Biebrzański NP to 96% in Roztoczański NP and Magurski NP. Almost every national park contains a museum or information center. The annual amount of visitors in Polish national parks reaches 11 million ([www.mos.gov.pl](http://www.mos.gov.pl)). The protected areas, especially national parks, are areas of particular tourist attractiveness. Landmarks, such as natural

forests (Białowiecki NP), swamps and peatlands (Biebrzański NP), coastal moving dunes (Słowiński NP), cliff coast (Woliński NP), alpine scenery (Tatrzański NP), interesting rock formations (Gór Stołowych NP, Ojcowski NP (tab. 2). All the parks are accessible for tourists via a dense network of tourist trails.

Table 22. Polish sites on the UNESCO list of World Network of Biosphere Reserves

No.	Name	Year	Description
1.	Białowieża Biosphere Reserve	1976	Bilateral (Poland/Belarus). Protects the best preserved part of Białowieża Forest – the last natural, primeval forest situated on European lowlands, which has stretched for centuries in the area of mixed and deciduous forest
2.	Babia Góra Biosphere Reserve	1976	The most valuable natural features include fragments of the ancient Carpathian Forest with its rich fauna and flora as well as altitudinal vegetation belts
3.	Łuknajno Lake	1976	Animal reserve; protects one of the largest habitats of Mute Swan in Poland. From spring to autumn, there is a couple hundred swans (up to 2500) located there. One can observe over 175 bird species, from which 95 is nesting.
4.	Słowiński Biosphere Reserve	1996	The area protects seaside Aeolian processes and moving dunes
5.	Karpaty Wschodnie Biosphere Reserve	1992	Located within the borders of Poland, Slovakia and Ukraine. The most valuable sites include: the largest natural beech forest in Europe, subalpine mountain meadows ("połoniny"), landscape, geomorphology, specific altitudinal vegetation belts
6.	Karkonosze Biosphere Reserve	1992	Bilateral (Poland/Czech Republic); contains the highest mountain range of Sudetian mountains; consists of unique mountain landscape with interesting geomorphologic features (ex. flat ridges, cirques, rock formations) and its unique fauna and flora
7.	Tatra Biosphere Reserve	1992	Bilateral (Poland/Slovakia); the only alpine area in Poland with altitudinal vegetation belts; High Tatras cover numerous lakes, while Western Tatras - caves
8.	Puszcza Kampinoska Biosphere Reserve	2000	This area contains inland dunes created by postglacial sands, pine forests and swamps
9.	Polesie Zachodnie Biosphere Reserve	2002	Within the borders of Poland, Belarus and Ukraine; The most famous natural features include vast plains, swamp areas, peatlands and natural endorheic lakes

Source: authors' own elaboration based on [www.unesco.pl](http://www.unesco.pl)

Since 1972 UNESCO maintains a list of sites particularly valuable for culture, history and global nature, a so-called World Heritage List. In 2008 there were 878 sites on the list, including 12 within the boundaries of Poland. Among the Polish sites, only two of them, Białowieża Forest and Mużakowski Park are natural sites. The rest of them belong to the cultural category.

The list contains four cities, including two of medieval origin (Cracow and Toruń), one renaissance (Zamość) and Warsaw as an example of a city rebuilt accurately after it had been destroyed during the war. Apart from urban areas, several sites received recognition, inter alia castle of the Teutonic Order in Malbork, salt mine in Wieliczka, concentration camp in Auschwitz-Birkenau, sacral complex in Kalwaria Zebrzydowska, protestant churches in Jawor and Świdnica, 6 wooden churches in the south of Little Poland and Centennial Hall in Wrocław (tab. 3).

Table 23. Polish sites on the UNESCO World Heritage List

No.	Name	Year of inscription	Category	Description
1.	Cracow Historical Centre	1978	city	Includes: two medieval cities Cracow and Kazimierz (13 <sup>th</sup> century), Stradom – outskirts of Kazimierz and royal castle at Wawel
2	Medieval Town of Toruń	1997	city	Includes: two medieval towns, Old Town and New Town (13 <sup>th</sup> century) as well as ruins of the Teutonic Order castle (13 <sup>th</sup> century)
3.	Old City of Zamość	1992	city	The city retained original renaissance layout (16 <sup>th</sup> century) and a large number of buildings that combine Italian and central European architectural traditions.
4.	Historic Centre of Warsaw	1980	city	During World War II, almost 90% of Warsaw's historic centre was destroyed; It has been rebuilt 1947-55; It is an outstanding example of a near-total reconstruction of a span of history covering the 13 <sup>th</sup> to the 20 <sup>th</sup> century.
5.	Castle of the Teutonic Order in Malbork	1997	castle	Largest medieval brick castle in Europe; Former Teutonic Knights' stronghold (13 <sup>th</sup> century)
6.	Kalwaria Zebrzydowska	1999	sacral complex	It is one of the most important pilgrimage sites; Mannerist Architectural and Park Landscape Complex and Pilgrimage Park built in 17 <sup>th</sup> century, based on the Jerusalem layout. The most valuable elements include: monastery, church with

				a wondrous painting of Virgin Mary as well as 42 baroque chapels. The site is famous for its annual staging of the Stations of the Cross.
7.	Churches of Peace in Jawor and Świdnica	2001	churches	Two Evangelical-Augsburg churches; the largest timber-framed religious buildings in Europe (17 <sup>th</sup> century)
8.	Wooden churches of southern Little Poland	2003	churches	6 churches were placed under protection: Binarowa, Bliżne, Dębno, Haczów, Lipnica Murowana, Sękowa. The churches represent outstanding examples of the different aspects of medieval church-building traditions in Roman Catholic culture. They hold a great artistic and architectural value.
9.	Auschwitz Birkenau German Nazi Concentration and Extermination Camp	1979	death camp	Nazi Concentration and Extermination Camp (1940-1945); Largest Nazi camp in the Third Reich, where 1,5 million people (mostly Jews) were starved, tortured and annihilated.
10.	Wieliczka Salt Mine	1978	mine	This deposit of rock salt in Wieliczka-Bochnia has been mined since the 13 <sup>th</sup> century. Spread over nine levels, it has 300 km of galleries with works of art, altars, and statues sculpted in the salt.
11.	Centennial Hall in Wrocław	2006	recreational hall	A recreational hall that can seat up to 6000 people, erected in 1911-1913 is a landmark in the history of reinforced concrete architecture.
12.	Białowieża Forest	1992	natural site	Multinational site belonging to both Poland and Belarus; A largest natural, primeval forest in this part of Europe with typical flora and fauna (including European Bison).
13.	Mużakowski Park / Muskauer Park	2004	natural site	Multinational site belonging to both Poland and Germany. The greatest achievement in European garden architecture in 19 <sup>th</sup> . The park pioneered new approaches to landscape design and influenced the development of landscape architecture in Europe and America.

Source: authors' own elaboration based on [www.unesco.pl](http://www.unesco.pl)

### 11.3. Tourist regions

Seven large tourist regions have been distinguished in Poland: sea-side region (Baltic Coast), 3 lakeland regions (Pomeranian Lake District, Masurian Lake District, Greater Poland Lake District), highlands region (Little Poland Uplands) and 2 mountain regions (Sudetes and Carpathian Mountains). This division takes into account mainly tourist facilities and actual layout of the tourist movement.

The coast is a tourist region, where the land is used most intensively for recreational purposes and the largest concentration of tourists per areal unit is observed. Polish Baltic coast is an ideal place for recreation due to the existence of wide, sandy beaches, dunes and nearby forests. Polish sea coast stretches for 524 km and not many European countries feature a coast with such conditions. Tourist facilities are located unevenly with recreational facilities focused in about 60 seaside towns, 34 municipalities, 10 counties and 4 cities with county rights. The coast is divided into three littoral zones: Szczecin, Koszalin and Gdańsk.

Szczecin Littoral Zone is situated in the western part of Polish coast, within the West Pomerania Voivodeship. The geomorphology is dominated by lowlands with the exception of moraine hills, which reach up to 149 m AMSL and on the isle of Wolin they reach up to 115 m AMSL. Among the main tourist features of the Szczecin Littoral Zone, except for the sea and beaches, there are also inland bodies of water such as: Szczecin Lagoon, Lake Dąbie and Lake Miedwie. The area is covered by large forest complexes, including Wkrzańska Forest, Goleniowska Forest, Bukowa Forest and forests of Woliński National Park. Other important tourist attractions of the region include numerous monuments situated in the cities, for example Szczecin, Stargard Szczeciński, Kamień Pomorski, Goleniów, Gryfice, Trzebiatów, Maszew and Pyrzyce.

The longest part of Polish coast is situated within Koszalin Littoral Zone and stretches from Kołobrzeg to Cape Rozewie. This part of the coast provides the best conditions for recreation; it is covered by sandy beaches, it lacks heavy industry and mouths of large rivers that can carry pollution from inland parts of the country. Undoubtedly, the most attractive part of Koszalin Littoral Zone is Słowiński National Park, where the largest moving dunes in Poland can be found. The cities of the region (Słupsk, Sławno, Koszalin, Białogard and Lębork) are frequently visited by the tourists because of their monuments.

The eastern part of Polish coast is formed by the Gdańsk Littoral Zone, which contains the Bay of Gdańsk, Żuławy Wiślane, Elbląg Plateau and Warmia Plain. This area contains different types of landscapes – cliff coast (nearby Cape Rozewie, Kępa Redłowska), lowland coast with dune belt (west of Rozewie, Żuławy Wiślane), sandy spits (Hel Peninsula,



Vistula Spit) and overgrowing coast at the Bay of Puck. The largest concentration of tourist movement is observed in three regions of the Gdańsk Littoral Zone: Hel Peninsula, Tri-city area and Vistula Spit. Deeper inland the most important tourist sites include Malbork, Elbląg and Frombork.



Figure 59. Open-air museum in Kluki (Pomeranian Voivodeship)

Source: S. Kobojek

Pomeranian Lake District stretches south of the coastal belt. Its western boundary is formed by the Oder River, eastern – by the Vistula River and from the south it is bordered by Toruń-Eberswalde Ice Marginal Valley. The lake district area covers 11% of Poland and its main tourist features consist of forests and lakes. The average forest coverage of the Pomeranian Lake District is 36% and is higher than national average (28,9% in 2007 – *Statistical Yearbook of the Republic of Poland 2008*). Among the large forest areas one can find Bory Tucholskie and Piławskie as well as as Gorzowska and Drawska Forest. Their area is protected as within their borders two national parks were formed: Drawieński NP and Borów Tucholskich NP as well as many landscape parks. The natural environment in the region has not been altered by civilization which has a positive influence on the tourist attractiveness. The cities are situated on the outskirts of the district and the most valuable monuments are located in Bydgoszcz, Świecie, Nowy Gniew, Pelplin, Starogard Gdański and

Gorzów Wielkopolski. Only part of the lake district, including Drawskie Lake District, Kaszuby Lake District and Bory Tucholskie, has tourist facilities located on its premises. The area most frequently visited by tourists is Kaszuby with its hilly landmarks – moraine hills are the highest in northern Poland (Wieżyca – 329 m AMSL). Ribbon lakes (long and narrow) are predominant within the Kaszuby Lake District, for example Lake Raduńskie and Lake Ostrzyckie.

Masurian Lake District stretches between the lower Vistula River and the eastern border of Poland. The main tourist features of the region are the lakes including 2 largest lakes in Poland – Śniardwy and Mamry. Other than the lakes, the tourist attractiveness is also determined by rivers, which form interesting kayak trails as well as forests and hills. The largest forest complex in the Masuria includes Piska Forest and Augustowska Forest. Masurian Lake District covers areas suitable for skiing, including downhill (Garb Lubawski, Szerskie Hills, northern Suwałki Region). In order to protect the environmental features of the region, in 1989 Wigierski National Park was founded as well as many landscape parks (Mazurski, Suwalski, Iława Lake District, Brodnicki, Górznieńsko-Lidzbarski and Dylewskie Hills). The anthropogenic features include numerous monuments, especially impressive castles, museums, open air museum in Olsztynek, Grunwald (Tannenberg) battlefield historic monument. The most famous and most frequently visited part of the Masurian Lake District is the Great Masurian Lakes Land. It contains the maximum density of lakes connected by channels which enables sailing and kayak excursions. This part of the Masurian Lake District is most popular among the tourists, especially during the summer season, which leads to the overexploitation of tourist facilities and devastation of the environment.

Greater Poland Lake District is a third lake area in Poland. Comparing to Pomeranian and Masurian Districts, this region has less lakes which take up less area. The percentage of forest coverage is also lower with larger forest complexes situated in the western and northern parts of the region – Notecka Forest and Rzepińska forest. This lake district is famous for its cultural features. This area is the cradle of Polish nation, which is confirmed by the archeological excavations (Biskupin, Ostrów Lednicki, Giecz) as well as the oldest Romanesque buildings (Gniezno, Poznań). The Greater Poland Lake District is an area serving for holiday and vacation recreation of region's inhabitants as well as for the citizens of neighboring agglomerations (Wrocław, Łódź). The level of tourist facilities distribution is uneven and the facilities mostly focus around lakes and forest complexes (Lubuskie, Międzychodzko-Sierakowskie, Leszczyńskie, Gnieźnieńskie, Włocławsko-Gostynińskie Lake Districts and Poznań area).

Another very attractive tourist region of Poland is the highlands belt, including Little Poland Uplands. Within this area, the tourist movement is mainly concentrated in the Świętokrzyskie Mountains and Kraków-Częstochowa Jurassic Upland; other regions are not so popular among the tourists. One of the most important tourist features of Little Poland Uplands is its terrain shape which is a result of the region's geological past. Other elements which influence the area's attractiveness include the rock formations and caves which are also a result of region's geology. Anthropological features are also an important factor for tourists visiting the area. Holiday recreation and sightseeing are the predominant forms of tourism within the region.

Kraków-Częstochowa Jurassic Upland is built of limestone. Rocky landscape and caves are the elements which attract tourist. The Jurassic Upland is visited mostly by the inhabitants of neighboring agglomerations – Cracow, Częstochowa and Upper Silesian cities. The attractiveness of the region is largely influenced by two cities – Cracow and Czestochowa, which are frequently visited by domestic and foreign tourists. The area frequented by tourists is the Prądnik Valley in Ojcowski National Park. At the same time, the environment of this area is largely endangered due to the intensity of the tourist movement.



Figure 60. Ruins of the medieval Ogródzieniec Castle

Source: S. Kobojeck

Częstochowa is one of the most important centers of religious tourism in Poland. The Pauline monastery on Jasna Góra (historical landmark) with the famous painting of Virgin Mary is a most popular site of religious

pilgrimages in Poland. Tourists visiting Jasna Góra can also admire works of art gathered in the treasury. Częstochowa is the starting point of Eagles' Nest Trail, a hiking trail through hills with ruins of castles and interesting rock formations. Cracow is situated on the other side of Jurassic Upland. It is a city visited by millions of tourists from Poland and abroad every year. The city contains a large number of monuments and works of art and therefore it has been enlisted on the UNESCO World Heritage List (see table 3). The most valuable monuments include: the Royal Castle and cathedral complex at Wawel, St. Mary's Basilica with its famous altar sculpted by Wit Stwosz, Sukiennice, Collegium Maius, Barbican, St Florian's Gate and others. Cracow has over 30 museums and holds various art and folk events every year.

The Świętokrzyskie Mountains, the oldest mountains in Poland, are another region located on the Little Poland Uplands with a high density of tourist movement. It is built of Precambrian and Paleozoic rocks (in the central part) and Mesozoic and younger sediments (in the outer part). The mountains form a series of smooth, parallel ridges running from northwest to southeast. The highest ridge is called Łysogóry with the highest peak – Łysica (612 m AMSL). Within this part of the mountains the Świętokrzyski National Park was formed. Distinctive features of the Świętokrzyskie Mountains include quartzite stone runs covering mountain slopes. It is a resting place for the inhabitants of nearby Kielce.



Figure 61. Świętokrzyskie Mountains

Source: S. Koboжек

The Sudetes, next to the Carpathian Mountains, are the most important mountainous tourist region of Poland. Their land shape is much diversified with average mountain ranges whose height mostly does not exceed 1000 m above sea level. The geological composition of the Sudetes is very diverse – it ranges from Precambrian to Cretaceous rocks. The highest range is the Karkonosze with the highest peak – Śnieżka (1602 m AMSL). The mountain ranges surround mountain valleys. The Jelenia Góra Valley is surrounded by Izerskie Mountains, Karkonosze, Rudawy Janowickie and Kaczawskie Mountains. The Kłodzko Valley is surrounded by Sowie Mountains, Stołowe Mountains, Bystrzyckie Mountains and Śnieżnik Massive. Because of natural features of the region two national parks were established in Sudetes: Karkonoski and Gór Stołowych.

The Sudetes are a leading region in Poland in the development of tourist facilities. It is a result of a rich tourist tradition of the region – many guest houses, hostels and other accommodations have been established. The tourist movement in Sudetes is located evenly with a little higher density in the vicinity of Jelenia Góra and Kłodzko.

The Jelenia Góra Valley and Karkonosze are the most important tourist region in Sudetes and at the same time, a cradle of mountain tourism in Poland. Tourists are attracted mostly by the highest mountain range – Karkonosze, built mainly from granite. Mass tourist movement is directed into two largest cities located at the foothills of Karkonosze – Karpacz and Szklarska Poremba, where ski chairlifts are located. The region is rich in mineral waters – radon-active ferruginous carbonic acid waters (Świeradów Zdrój), warmest sulfate waters in Poland (Cieplice Zdrój, 44°C), alkaline ground carbonic acid waters (Czerniawa Zdrój) which enable these cities to function as health resorts. Another important part of Sudetes is the Kłodzko Valley surrounded by mountains from all sides. As far as sightseeing is concerned, the most interesting parts include Stołowe Mountains and neighboring health resorts: Polanica Zdrój, Duszniki Zdrój and Kudowa Zdrój.

The largest and most important mountain tourist region of Poland is the Carpathian Mountains. It is the only region with high-mountain landscape. Geologically, the Carpathians are not as diverse as the Sudetes. They are almost entirely located in flysch area and built of sandstone, shale and limestone. The Carpathians feature mainly smooth, round shapes with the exception of Tatra Mountains and Pieniny Mountains which are shaped in a different way. Among numerous valleys and gorges, the Dunajec River Gorge in Pieniny is world-famous. To preserve unique natural features of the Carpathians, six national parks were created: Babiogórski, Tatrzański, Gorczański, Pieniński, Magurski and Bieszczadzki.





Figure 62. The Jelenia Góra Valley

Source: K. Dmochowska-Dudek

The cultural environment of the Carpathians is different from the Sudetian. It features more wooden folk architecture and authentic folklore. Only in the Carpathians people wearing traditional folk dress on everyday basis can still be found. The Carpathians are a more rural land with industry and technical investments developed on a much lower scale than in the Sudetes. The tourist movement is focused mainly on Podhale and in the Tatras as well as Żywiec Beskids, Gorce Mountains, Poprad Valley and Krynica. The Bieszczady Mountains are also frequently visited by tourists.

The Tatras are the only fragment of high-mountain alpine scenery in Poland. Three types of land formations occur: lower mountains, Western Tatras built mainly from limestone, with steep, undercut slopes and Eastern Tatras built from granite, with sharp, hardly accessible crests and rocky slopes. In the Western Tatras, the most interesting sites include the Kościeliska Valley, Kasprowy Wierch (1985 m above sea level) and Giewont (1909 m). In the High Tatras, the most visited places include the Morskie Oko Lake, Hala Gąsiennicowa and Roztoka Valley with the largest waterfalls in Poland (Wielka Siklawa, Wodogrzmoty

Mickiewicza). The highest peak of Poland – Rysy (2499 m AMSL) is not visited so frequently due to difficult access.

Bieszczady are the easternmost mountains in Poland, which makes them popular due to their original landscape and primeval nature. Bieszczady are the only mountain range in the Beskids, where main ridges are covered by vast meadows called “połoniny”. The most frequently visited parts include the highest areas of Halicz and Tarnica (1346 m AMSL), Połonina Caryńska, Połonina Wetlińska and Wielka Rawka, where borders of Poland, Ukraine and Slovakia meet.

The aforementioned tourist regions cover about 52% of Poland's area. The remaining area is covered by lowlands, less attractive highlands and Carpathian foothills and depressions. These areas also attract tourists and include mostly large cities and their outskirts (Warsaw, Łódź, Upper Silesian agglomeration, Wrocław, Lublin).



Figure 63. Poznań Town Hall

Source: S. Kobojek

Warsaw, due to its function, size and central location, is a most frequently visited city in Poland. The city contains many old monuments, mostly rebuilt or reconstructed after World War II. Among them, there is the Old Town which has been included in UNESCO World Heritage List as an example of successful reconstruction of city's historic quarter.



Figure 64. Castle Square in Warsaw

Source: S. Koboжек

#### **11.4. Accommodation and tourist movement**

According to Central Statistical Office, in 2007 there have been 6718 accommodation facilities registered, with 582.1 thousand beds. Accommodation facilities in Poland are average in size and hold an average of 87 beds. Among all facilities, the most numerous ones include hotels (1,370) which offered 141.1 thousand beds. Although a total share of hotels in the supply of tourist accommodations is not overwhelming as far as the number of hotels (36.4%) or number of beds (32.7%) is concerned, the hotels still serve more than half of all the tourists using accommodation in Poland (71.2%).



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The distribution of tourist accommodations is not evenly placed. Almost half of all the resources is located in four Voivodeships with a large amount of attractive tourist features:

- West Pomerania – 848 (12.6%),
- Lesser Poland – 843 (12.5%),
- Pomerania – 807 (12%),
- Lower Silesia – 720 (10.7%).

Voivodeship capitals have a significant share in the supply of beds for tourism. In the Masovian Voivodeship, Warsaw contains 82.2% of all hotel beds. A significant percentage of hotel accommodation is also observed in Cracow (67.9% of all hotel beds in the Lesser Poland Voivodeship) and Wrocław (32.6% of all hotel beds in the Lower Silesian Voivodeship).

In 2007 accommodation facilities were used by 18.9 million tourists, including 4.4 million visitors from abroad. Over a half of all the tourists staying overnight stayed in hotels (10.3 million). The foreigners constituted 23.2% of all the tourists using tourist accommodation. Over 50% of all the accommodations was served within the following Voivodeships: West Pomeranian (17.4%), Lesser Poland (14.6%), Lower Silesian (9.6%) and Masovian (8.8%).

According to the estimates of the Institute of Tourism, in 2007 Polish people participated in 34,9 million domestic tourist trips of which 15.8 million (45%) was long term and 19.1 million (55%) – short term. The biggest number of arrivals was observed within four Voivodeships: Masovian (4.4 million), Pomeranian (3,7 million), Lesser Poland (3.6 million) and West Pomeranian (3.3 million). Leading destinations for the Polish people included seaside (39%), mountains (25%), lakes (18%), cities (19%) and other areas (17%). Due to this fact, the majority of typical Polish tourists visited seaside Voivodeships: Pomeranian (1,85 million) and West Pomeranian (1.5 million); mountain Voivodeships: Lesser Poland (1.6 million), Subcarpathian (1.35 million) and Lower Silesian (0.95 million) and the land of lakes – Warmian-Masurian Voivodeship (1.15 million).

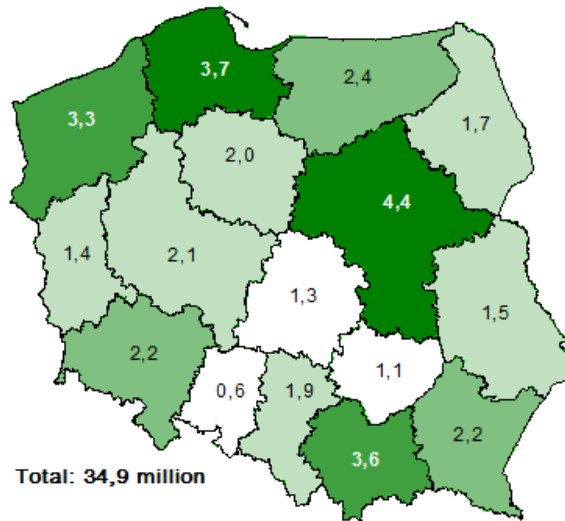


Figure 65. Density of domestic tourist movement in 2007 in relation to Voivodeships and the total amount of domestic tourist trips (in millions)

Source: Institute of Tourism, [www.intur.com.pl](http://www.intur.com.pl)

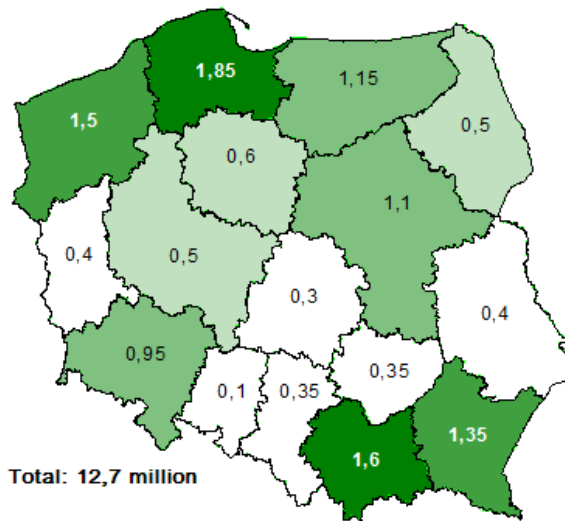


Figure 66. Tourist domestic trips of Polish people in 2007 in relation to Voivodeships (in millions)

Source: Institute of Tourism, [www.intur.com.pl](http://www.intur.com.pl)

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## 12. POLAND IN INTERNATIONAL ORGANIZATIONS

Poland is a member of all major economic and political international organizations at the global level and regional level (Europe, Central Europe). After 1989 Poland began an intensive period of economic development, supported by its membership in various international organizations. This helped to accelerate development, promote Polish economy globally and enabled collaboration with other countries. The most important are:

- The United Nations (UN),
  - North Atlantic Treaty Organization (NATO),
  - General Agreement on Tariffs and Trade (GATT)  
/ World Trade Organization (WTO),
  - World Bank Group (WB),
  - International Monetary Fund (IMF),
  - The Organization for Economic Cooperation and Development (OECD),
  - The European Union (EU)
- and the other for example: The Council of Europe, The Council of Baltic Sea States, The Visegrad Group, The Weimar Triangle, The Organization for Security and Cooperation in Europe (OSCE).

### 12.1. Poland in The United Nations (UN)

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Poland is one of the founding members of the UN. It is so-called member of the original. Though not invited to the founding conference in San Francisco, however, after the art. 3 of the UN Charter had been changed, Poland was admitted among those countries.

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This allowed a representative of the Provisional Government of National Unity, Minister of Foreign Affairs Vincent Rzymowski, to sign the Charter – 15 October 1945. Poland from the beginning took an active part in the UN. A manifestation of this commitment was the occurrence of numerous initiatives in the General Assembly. The most important Polish proposals for disarmament include: the so-called “Rapacki’s Plan” in 1957, to establish a nuclear-free zone in Central Europe, and in 1964 “Gomulka Plan” concerning the freezing of arms in Central Europe. Poland also proposed in 1964 a conference on Security and Cooperation in Europe. In the field of social initiative of Poland, “Declaration of Rights of the Child” was proposed in 1959 and “Convention on Rights of the Child” in 1990. “International Year of the Family” was declared in 1994.

In the field of law in 1996, the “Convention against Transnational Organized Crime”.

Poland took and takes part in UN peacekeeping missions. As a country has been participating actively in peacekeeping operations since 1953, such as: participation in peacekeeping observer mission in the Neutral Nations Supervisory Commission in Korea, during the years 1954–1975 Polish soldiers participated in similar operations in Vietnam, Laos, Cambodia. Since 1973, Poland took part in UN peacekeeping operations in the Sinai Peninsula and the following year became a part of the UN Observer Force in the Golan Heights. Our soldiers also participated in Operation "Desert Storm" in the years 1990–1991, resulting from UN Security Council resolution authorizing the use of force against Iraq, in case of they did not withdraw from occupied Kuwait in time. The United States led this operation in which took part a coalition of 25 countries. In the years 1994–1995 Poland took part in the operation in Haiti (Polish unit "Grom" in fact protected the democratically elected government of Haiti). In early 2001, nearly 2,000 Polish soldiers and civilian personnel served in 15 peacekeeping operations around the world, including eight conducted by the UN.

## **12.2. Poland in selected UN-Agencies**

### **12.2.1. The United Nations for Educational, Scientific and Cultural (UNESCO)**

UNESCO was founded on November 16<sup>th</sup>, 1945 in London as a specialized UN organization. Paris is headquarters of UNESCO. UNESCO is an organization coordinating multilateral action for the development of international cultural cooperation, education and research.

Poland has been a member of UNESCO since the inception of this organization. Poland has had permanent representative at UNESCO headquarters in Paris since 1949. Polish Committee for UNESCO has worked at the Ministry of Foreign Affairs since 1946. is a Polish liaison with UNESCO. It is composed of representatives of government institutions cooperating with UNESCO and persons representing the scientific and creative. The Committee is an institution financed from the budget allocated by the Ministry of Foreign Affairs. Individual projects can also count on financial support from UNESCO.

Under the auspices of UNESCO's work in Poland: International Network for Cell Biology, The National Node of the European Molecular Biology Network, The program “Memory of the World”, The program “Man and Environment”, The “Art in Hospital”, The HUGO, UTWIN Program. UNESCO has given Poland many times financial and technical

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assistance including patronage of the International Piano Competition. Frederic Chopin International Book Fair in Warsaw. Many Polish libraries and schools have received financial support from the organization.

### **12.2.2. United Nations International Children's Emergency Fund (UNICEF)**

United Nations Fund for Children UNICEF was founded over 60 years ago and is the largest organization in the world, whose activity is entirely dedicated to children. UNICEF works in over 190 countries fight hunger and malnutrition by providing access to clean water, protecting the rights of children to learn and live free from violence. UNICEF organizes medical care, medicines, and supplies leads vaccination programs. Years of experience and effectiveness of UNICEF puts the head of the organization have immediate assistance in situations of humanitarian disaster.

UNICEF origins date back to 1943. Then, anticipating the destruction of the war the Allies decided to establish UNRRA (Organization of the United Nations Relief and Rehabilitation). Later, however, there was need for an organization that would handle a child regardless of where the future of the world. This suggestion, put forward by the Polish delegate - Ludwig Rajchman in 1946, served as the basis for the creation of UNICEF - United Nations Fund for Children.

UNICEF's mission in Poland started in 1947, and its task was to improve the living conditions of children in a country ravaged by war. The operation officially ended in 1950. At the same time the Ministry of Health established the Committee for Cooperation with UNICEF, the aim was to continue the projects launched by the fund. For many years, UNICEF purchased supplies for health centers, modernized and brought the dairy raw materials to manufacture products for children. In 1962 he formed Polish National Committee of UNICEF, acting on behalf of Polish children. In 2002 Profile of the committee was changed.

Today, Polish National Committee of UNICEF, is an association, and since 2008 has had the status of public benefit organizations. Currently, the main objective of UNICEF in Poland is to collect funds for programs of health and save children's lives in developing countries. An important part of UNICEF's activities in Poland is also the sale of products and charity, of which the income is transferred to programs helping children in the poorest countries in the world. In addition, UNICEF conducts education projects for school children, and works closely with student organizations.

### **12.2.3. The United Nations for Industrial Development Organization (UNIDO)**

UNIDO was established in 1966. It has been operating, as a specialized agency acting within the UN system since 1985. It unites 172 countries. The organization's headquarters is in Vienna. UNIDO has 40 field offices and three offices in: Brussels (EU), Geneva (UN), New York (UN). UNIDO is aimed to promote industrial development, supporting the processes of industrialization in developing countries and are in the process of economic transformation and the promotion of international industrial cooperation. After 1989, UNIDO activities orient to work for sustainable development. The reform package entitled "Business Plan on the Future Role and Functions of UNIDO" was agreed among the Member States and approved in 1997. It intended to increase efficiency and productivity by streamlining the UNIDO activities and management structures and narrowing of the merits of the organization of industrial development.

Poland joined UNIDO under the resolution of the State Council in 1985 as a result of issuance of Governmental Statement on 11.10.1985 which covered the entry into force of the Constitution of UNIDO, signed in Vienna 08.04.1979. Coordinating role in matters relating to cooperation with the government plays in the Ministry of Economy.

Poland has been actively participating in the work of UNIDO since the very beginning of its existence, including through multiple membership in political bodies of UNIDO: Industrial Development Council (Industrial Development Board, IDB), the Program and Budget Committee (Program and Budget Committee, PBC) and the participation of high-level national delegations in the General Conferences. Now Poland is a member of both the IDB and PBC, which gives it an opportunity to actively influence the policies of the Organization.

Poland joining the European Union, lost the status of the recipient country's official development assistance (ODA) to the status of donor of official development assistance. UNIDO membership allows Polish companies and experts to be included in the programs initiated by the organization and implementation of selected political and economic Polish purposes in countries and regions, where, on account of geopolitical conditions, achieve them is difficult. In July 2008, Ordinance of the Minister of Economy Waldemar Pawlak appoints UNIDO interministerial team, whose mission is to improve the efficiency of the existing cooperation with the organization.

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#### **12.2.4. The United Nations Conference on Trade Development (UNCTAD)**

United Nations Conference on Trade Development - UN agency for the first time was convened in 1964 with the participation of 120 countries. In 1968 the second conference in New Delhi, UNCTAD was transformed into a permanent program of the UN secretariat in Geneva.

UNCTAD gradually evolve towards a scientific institution, whose activities aim to participate in the debates over the shape of contemporary development policy, with particular emphasis on coordination at national and international levels to ensure sustainable development. Organization perform its mandate through three primary functions: intergovernmental forum for debate, supported by expert meetings and exchange of experiences in order to build consensus, research and analysis in various areas, as well as the collection of statistics for the discussions between representatives of governments and experts and providing technical and substantive for developing countries.

An important objective of UNCTAD is to coordinate international activities in the field of economic cooperation and regional development policy. The members of UNCTAD are 192 countries, including Poland.

#### **12.2.5. The World Health Organization (WHO)**

World Health Organization was established under the Convention signed on July 22<sup>th</sup>1946 and entered into force on July 4<sup>th</sup>1948. WHO is an international operating unit to the UN, its seat is in Geneva, currently has 193 Member States.

The main objective of WHO is the attainment by all people the best possible health. The task of WHO is to promote increased cooperation between countries in the field of health and epidemic diseases. The organization also seeks to provide medical care to the world's population and to reduce infant mortality. The greatest success of this organization is to combat infectious diseases such as tuberculosis, malaria, cholera, plague, through mass immunization. The objectives pursued are constantly monitoring global outbreaks, sponsoring programs to prevent and cure diseases such as SARS, malaria, ADIS, or distribution of safe and effective vaccines and other drugs.

Office of the Legal Status of the World Health Organization is based on the agreement between the Polish Government and the World Health Organization in 1965 and the Geneva Convention on Privileges and Immunities, of which Poland has been a signatory since 1969. The main activities in Poland include: action to combat tuberculosis, The Children's Health and Environment Program for Food Safety, Health Promoting

Schools Network, the Network of Health Promoting Hospitals Network of Healthy Cities.

### **12.2.6. The United Nations for Food and Agriculture (FAO)**

FAO was founded at the initiative of 44 countries participating in the conference on the problems of food and agriculture (in May 1943 in Hot Springs). October 16, 1945. the first session of the FAO Conference in Quebec, Canada signed an agreement setting up the. It is the largest specialized agency of the United Nations and leading in the field of agriculture and rural development. FAO Headquarters in Rome is located.

Poland was one of the founding members of the FAO. In the years 1949–1951 occurred occasionally (along with Czechoslovakia and Hungary) from the organization for political reasons to protest against the dominance of the U.S. government – the period known as the Cold War. 29.05.1957 Poland rejoined the FAO.

### **12.3. Poland in The North Atlantic Treaty Organization (NATO)**

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NATO – the North Atlantic Treaty Organization – the political-military organization was established on 24th of August 1949 basing on the Treaty of Washington in April 1949 which was signed by 10 European countries and the United States and Canada.

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NATO's purpose is to put the collective protection of its members as a basis for keeping peace and strengthening international security. Its main objective is to ensure – by political and military means - the freedoms and security of all its Member States. It obliges each Member State to share the risks and responsibilities, as well as the benefits of collective security. According to NATO's

principles its Members shouldn't enter into any other international commitments that might conflict with this Treaty.

The official contacts between Poland and NATO were launched by the Minister of Foreign Affairs of the Republic of Poland, Krzysztof Skubiszewski, who paid an official visit to NATO Headquarters in Brussels on 21 March 1990. In the summer of 1990, the Embassy of the Republic of Poland in Brussels (headed at that time by Ambassador Tadeusz Olechowski) initiated permanent working relations with NATO. More intense contacts were developed by Ambassador Andrzej Krzeczunowicz in the years 1992–1996. After the introduction of the PfP (Partnership for Peace) program in 1994, a Liaison Office was established within the structures of the Polish Embassy in Brussels. Among the Liaison Office



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staff there were Polish diplomats from the Ministry of Foreign Affairs as well as Polish officers designated by the Ministry of National Defense. Occasionally, there were also other Polish specialists supporting the Office activities.

The first post-Cold War round of NATO enlargement began in 1997, prepared her participation in the running in 1994, the Partnership for Peace. In Madrid, NATO countries issued an invitation to the three countries of Central Europe. In 1997 the Alliance invited the Czech Republic, Poland and Hungary to negotiate with a view to adopting them as members of NATO. The Polish Office at NATO Headquarters started its operation in 1997. Along with maintaining contacts with NATO, the Office was also responsible for relations with WEU. The invitation to start negotiations on Poland's accession to NATO (July 1997) entailed a dynamic development of the Liaison Office in terms of its personnel and infrastructure. During the accession talks, initiated in September 1997, Poland was represented by a team of 9 persons, additionally supported by a group of experts.

Accession negotiations for full membership in NATO, Poland ended in November 1997. The status of full member of NATO Poland received in 12 March 1999. Then set up Polish Permanent Representation of the Republic to NATO and the WEU. The Permanent Representative (PERMREP) represents Poland in the North Atlantic Council. Each member state also has its Military Representation headed by the Military Representative (MILREP), who acts in the Military Committee on behalf of the Chief of General Staff. The Polish accession to NATO was one of the most important events in the modern history of our country. This alliance forms the basis of Polish security and defense; it is also a major factor in the political-military stability in Europe.

Poland after switching to the structures of NATO policy has become a proponent of "open door" of NATO, as the process of applying for a major contribution to broadening the zone of stability and security in Europe and the world. Poland participates in joint ventures aimed at bringing the candidate countries to the Alliance's structures and mechanisms. Poland also took part in the development of Action Plan for NATO Membership (Membership Action Plan) and its implementation.

During the NATO summit in Prague (November 11–12<sup>th</sup>2002) it was decided to extend the Alliance: Bulgaria, Estonia, Lithuania, Latvia, Romania, Slovakia and Slovenia. They shall cooperate with NATO participation in the Partnership for Peace (PfP) and the work of the Atlantic Partnership Council (EAPC). Since 1999 they have also been covered by a new mechanism – Action Plan for Membership (MAP). Poland actively supported their aspirations to NATO membership. These countries became members of the Alliance in March 2004.

Poland consistently supports the idea of continuing “open door policy”. During the NATO summit in 2006 (Riga November 28–29<sup>th</sup>2006) confirmed the importance of the enlargement of the Alliance for the stability and security in Europe. It was stressed that any European state that meet certain standards is eligible for membership in NATO.

#### **12.4. Poland in The General Agreement on Tariffs and Trade (GATT) and later in The World Trade Organization (WTO)**

The predecessor of the WTO was General Agreement on Tariffs and Trade (GATT). The purpose of the GATT (and now WTO) was the liberalization of international trade by lowering tariffs, removing trade barriers and elimination of discrimination in trade.

In October 1957 the Polish Permanent Representative to the UN Office in Geneva requested the GATT Secretariat with a proposal to strengthen relations Poland first participated in the twelfth session of the GATT Contracting Parties in 1957. Polish government made a formal request for accession to the GATT in May 1959. In November 1960, Poland was an associate member. Poland has been a full member of GATT formally since 18 October 1967. Poland participated in the successive rounds of GATT negotiations – the Uruguay Round (1986–1994), inclusive, when the GATT was transformed into the WTO.

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The World Trade Organization was established on 1 January 1995. Poland was one of the founding countries. The main responsibility of the WTO is the liberalization of the international trade of goods and services, investment policies of trade support, the settlement of trade disputes, and the respect for intellectual property rights.

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Countries acceding to the WTO are required to adapt domestic legislation to the standards of the World Trade Organization and to grant concessions to foreign entities. The WTO has 153 members at present, was to join being the Republic of Cape Verde. The WTO has eliminated many barriers between countries and people by reducing tariffs. The rules of the WTO (contained in agreements and contracts) are the result of negotiations among the WTO members. The core document is The General Agreement on Tariffs and Trade 1994 (GATT1994). GATT comprises 60 agreements, which were signed individually in specific areas by each Member State.

## 12.5. Poland in The World Bank Group (WB)

The World Bank has been operating since 27 December 1945, and its headquarters are located in Washington DC, USA. Currently, its main task is to support the development of the market economy whilst combating all the causes of poverty in the world. Currently, the World Bank is in fact a group consisting of: The International Bank for Reconstruction and Development (IBRD) – established in 1944, The International Finance Corporation (IFC) – established in 1956, The International Development Association (IDA) – established in 1960, The International Center for Settlement of Investment Disputes (ICSID) – established in 1966 and The Multilateral Investment Guarantee Agency (MIGA), established in 1988. Members of the World Bank may be countries of the International Monetary Fund. Number of countries belonging to different institutions making up the World Bank: IBRD – 185 countries, IFC – 179 countries, IDA – 166 countries, ICSID – 143 countries, MIGA – 171 countries. The World Trade Organization is a near-global organization, encompassing more than 95% of the world's population.

The date of Polish membership in the World Bank as the year 1986. Poland was one of the founding countries of the International Bank for Reconstruction and Development. However in 1950 withdrew from him, and again became a member in 1986. Poland is also a member of IDA, IFC, MIGA. Poland is the member of ICSID. Membership in various parts of the World Bank Group, however, Poland get acquired successively. When Poland acceded to the International Bank for Reconstruction and Development (IBRD). The President of the National Bank of Poland represents the country on the meetings of the World Bank.

International Finance Corporation is the largest international financial organization, granting financial assistance to the private sector and cooperative. Poland joined the IFC in December 29<sup>th</sup>, 1987. The involvement of IFC in Poland (more than 220 million U.S. dollars) includes loans granted for investment purposes, the acquisition of shares in privatized companies, shares of banks and investment funds, credit lines for small and medium enterprises, financing advisory and consulting services. Poland is the largest partner of IFC in Central and Eastern Europe. So far, financial support and technical assistance received projects in telecommunications, retail, gas and metallurgy, min. project to modernize a Paper Factory in Kwidzyn, network development plan Globi large stores.

International Development Association International is to create conditions of lasting ego development. First of all, this means supporting human resource development (birth planning, education, health) and the implementation of these programs to improve the efficiency of public and

private sector. An important element of the work reported IDA is to increase the effectiveness of those zooming implemented and undertaken investments by improving their planning. The Convention MIGA, signed in Seoul in October 1985, entered into force in April 12<sup>th</sup>, 1988. Subject to stimulate foreign investment in member countries. Poland signed the Convention in January 23<sup>th</sup>, 1989 year (ratified 28 December), the Agency has become a full member on June 29<sup>th</sup> 1990.

From 1990 until 1996, Poland received funds from the World Bank (equivalent to USD 3.374 billion) to assist in the transformation of Poland. 46% of this money was spent directly on the restructuring of the Polish economy to adapt it to the principles of the free market trade. By the year 2000, the World Bank supported the development of private sector industries and environmental protection. Today its function is gradually starting to comply with the European Investment Bank.

### **12.6. Poland in The International Monetary Fund (IMF)**

The International Monetary Fund has existed since 1945, while it has been operating on a permanent basis since 1947. Currently, it has more than 180 members, including Poland. Its head office is in Washington, USA. Its main tasks are: the development of international cooperation in the field of monetary policy, securing the stability of exchange rates, monitoring the international debt of Member States, supporting the development of trade in the world.

Poland has been a member of the IMF since 1986, at which time Poland received 1.8 billion SDR units (Special Drawing Rights, which function within the IMF as a unit of account). In 1995, Poland was able to repay its debts incurred in international institutions, before becoming a full member of the IMF.

The IMF monitored the course of the changes in Poland in the fields of international trade liberalization, liberalization of capital movements, and the reform of central government and social security reform. Polish the IMF to be implemented in accordance with the aspirations of integration into the European Union. Fund authorities granted its Polish accession to the WTO and the OECD as a sign of Poland's adopt a policy of international cooperation. The impact of IMF relations – Poland was also a strong influence on the favorable consideration of applications for membership in these organizations. Currently, Polish relations with the IMF are governed by Article 4 of the Statute of the IMF. It applies to countries that do not benefit from credits (as now Poland), or use a little help (less than 25% of the country in the IMF). Overview of the Polish economy is held twice a year and is devoid of regulatory criteria.

## 12.7. Poland in The Organization for Economic Co-operation and Development (OECD)

Organization for Economic Co-operation and Development, OECD) is an international organization bringing together 34 highly developed and democratic countries. The recently adopted state are: Israel, Estonia, Slovenia, Chile. OECD was founded by 20 countries that signed the Convention on the Organization for Economic Cooperation and Development of 14 December 1960 (The Paris Convention). The organization has been operating since September 30<sup>th</sup> 1961. OECD is the direct successor of the Organization for European Economic Cooperation (OEEC), founded in 1948 to integrate recovering from the devastation of war European economies, benefiting from aid under the Marshall Plan.

The Organization for Economic Cooperation and Development was set-up by the Convention of 1960, which came into force one year later. The headquarters of the institution is located in Paris. The main objective of the OECD is to coordinate socio-economic policies of the Member States in order to stimulate economic growth, employment, social development and international trade and capital flows. Therefore, the organization develops common rules to be applied in different areas of the economy, which takes the form of recommendations, resolutions, declarations and agreements. The organization includes the most economically developed countries to create "the richest club", an exclusive organization representing less than 1/6 of the world's population, and providing about 2/3 of the global production of goods, 3/5 of world exports and 4/5 of the total public development aid. Poland started its cooperation with the OECD in 1990 and became a member in 1996. Thanks to its OECD membership, the regulation of foreign investment and changes in the foreign exchange law in Poland has been carried out more quickly. Its membership in the most prestigious club of economically developed countries in the world is concrete proof of Poland's current economic stability. This undoubtedly improves the global image of Poland, because we are now seen as partners with a strongly growing economy and stable legal rules. Membership in the OECD facilitates access to preferential credit lines provided by international financial institutions. In addition, through its membership in the OECD, Poland was given the opportunity to co-liberate in the global economy, as well as forming a new identity for the OECD.

A characteristic mechanism of action of the OECD is the "pressure equals" (peer pressure), which consists of the fact that governments of all member countries mutually exert on each other pressures, in the course of making independent decisions on matters of national economy and social life into account the interests and position of the partners, and also

account for adopted by consensus commitments. Under the aegis of the OECD work The International Energy Agency and Nuclear Energy Agency.

The first Polish working relationship with the OECD Secretariat back to autumn 1987, a result of political and economic changes and the related Polish desire to obtain expert assistance in reforming the economy and to adapt it to operate in a free market in the second half of 1989 has extended cooperation.

In June 1991, Budapest, together with Poland and Czechoslovakia games ovation and was covered by the Program Partners in Transition (PIT) have CYM to promote market transformation and preparing the members of memberships. In October 15<sup>th</sup>, 1994, Poland submitted a Memorandum OECD du RP government about which you compatibility of Polish legislation and economic and social policy of corporate social OECD legal instruments.

On 4th June 1996 the Council of Ministers adopted Resolution No. 61/96 on the accession of the Polish Republic to the Convention on the Organization for Economic Cooperation and Development and support services, for membership in this organization. In July 11<sup>th</sup>, 1996 marked the official signing of the Agreement to invite Polish Republic to accede to the Convention on the Organization for Economic Cooperation and Development Agreement was an integral part of the Polish Government Statement on the adoption of the Polish Republic of the obligations of membership in the OECD and the Memorandum – The position of the Polish Government to certain acts of the OECD. This was a closing stage of negotiation of Polish accession to the OECD.

Formally, Poland became a full member of the OECD on November 22<sup>th</sup> 1996, when the instrument of ratification and accession of Poland to the OECD Convention was deposited with the Depositary of the Convention, i.e.: Ministry of Foreign Affairs of France. The first secretary of the Polish diplomatic missions to the OECD, and also the main negotiator on the Polish side was Mieczyslaw Szostak.

Poland blocked the early Russian accession to the OECD – in 2007, Prime Minister Donald Tusk in the Polish government has declared withdrawal from the “lock”. It is expected that Russia will become a 35 member of the OECD at the end of 2012/2013.

## **12.8. Poland in The European Union (EU)**

Polish membership in the EU seems to be the most important decision regarding the Polish participation in international organizations.

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Poland became a member of the EU on May 1<sup>st</sup>2004, together with nine other countries, marking the culmination of a negotiation process which first began on March 31<sup>th</sup> 1998.

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On December 21<sup>st</sup>2007 Poland joined the Schengen area: a territory with no checks at internal borders formed in the 24 member State.

In 1989, Poland and the European Communities signed an agreement on trade and economic cooperation. 16 December 1991 signed the European Agreement – Polish Association Agreement with the European Communities and their Member States. 21–22 June 1993 on session of European Council in Copenhagen defined the political and economic conditions for accession countries of Central and Eastern Europe herein Poland to the EU.

On April 8<sup>th</sup>, 1994, Poland submitted an official application for EU membership and 8-10 December, the European Council in Essen adopted a strategy of adopting associated countries of Central and Eastern Europe. In 1997, developed the National Integration Strategy document, in July the European Commission announced in Agenda 2000 a positive opinion about Polish application for membership in the European Union.

On March 31<sup>st</sup>, 1998 Poland and Cyprus, Czech Republic, Estonia, Slovenia, Hungary have been invited for talks on the conditions of accession to the European Union. Later joined Slovakia, Lithuania, Latvia and Estonia. In November 1998, was opened in Brussels proper negotiations in the first 7 fields, in December 1999, the Polish side sent the last negotiating position (in terms of agriculture). In 2001, the Polish government presented its first report on The Costs of European Integration, which presents the profit and loss balance (benefits and costs) of Polish membership in the EU. On November 13<sup>th</sup>, 2001 in Strasbourg, the European Commission presented a document entitled "Strategy for EU Enlargement". Calendar of enlargement of the target date for Polish – 2004 appeared in this document. 31 December 2002, announced the conclusion of negotiations and readiness Polish to accession to the European Union.

On June 7–8<sup>th</sup>, 2003 in Poland held a national referendum on Polish membership in the European Union. According to official results in this referendum participated 59% of citizens entitled to vote and 77.5% of them answered the Polish accession to EU structures. 1 May 2004 Poland became a full member of the European Union. In June 2004, held in Poland, the first elections to the European Parliament.

On December 21<sup>st</sup>, 2007, there has been a Polish accession to the Schengen Agreement (crossing land and sea) and 29 March 2008

(airport). 30 July 2007, Poland has passed the technical tests of access to the Schengen system.

On July 1<sup>st</sup>, 2011, Poland became the head of the European Union (EU). This is the first Polish presidency. For six months, Poland chaired the EU Council. Polish Presidency priorities included:

- completion of accession negotiations with Croatia,
- completion of the association negotiations with Ukraine and the signing of the Treaty Association,
- Development of the Eastern Partnership and the Neighborhood Policy,
- accelerating membership negotiations with Turkey,
- giving Serbia candidate status and the start of membership negotiations,
- budget negotiations for 2014–2020,
- strengthening the cohesion policy,
- the development dimension of the military and security policy of the European Union,
- fight against illegal immigration,
- deepening of the single market development,
- creating a common energy policy and energy security dimension,
- increased EU competitiveness in the international arena (including through an increase in intellectual capital),
- reduce disparities in health societies of Europe,
- foundation European Fund for Democracy.

Important events that have a place during the Polish Presidency are for example: Extension of the Single European Market for the Partner Countries, a new concept of European Neighborhood Policy in Krynica (9 September), The European Women's Congress in Warsaw (17–18 September), The Eastern Partnership Summit in Warsaw (29-30 September), The Internal Market Forum in Krakow (2–4 October), The Forum “The European Union – Western Balkans” in Ohrid (3–4 October), The European Tourism Forum in Krakow (October 5–7), The European Forum Heritage in Wrocław (10–12 October), The Convention of the European Platform Against Poverty in Cracow (17–18 October), European Congress of Rural Development in Warsaw (19–20 October), Union for the Mediterranean Meeting in Krakow (20–21 October) Forum “The EU Strategy for the Baltic Sea” and The Baltic Development Forum in Gdansk (24-26 October), European Migration Network Conference in Warsaw (25–26 October), Forum “The EU – USA” in the area of home affairs and justice in Washington, DC (November 7), The European Equality Summit in Poznan (15–18 November), The European Competition and Consumer Day in Poznan (24–25 November), The European Union – India Summit in Delhi (December), EU - Brazil Summit, The



European Union – South Africa Summit, European Development Days in Warsaw (15–16 December).

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**Poles in the EU institutions such as:**

**Jerzy Buzek** (former Prime Minister of Poland) – Chairman of European Parliament(2009–2012),

**Danuta Hübner** – Commissioner responsible for Regional Policy (2004–2009),

**Jacek Saryusz-Wolski** – Chairman of the Foreign Affairs Committee in the European Parliament (2007-2009), Vice-President of the European Parliament (2004–2009),

**Paweł Samecki** – Commissioner responsible for Regional Policy (since 2009),

**Janusz Lewandowski** – Commissioner for Financial Programming and Budget of the European Commission (since 2010).

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## 13. SOCIO-POLITICAL POTENTIAL OF ŁÓDŹ AND ITS REGION

### 13.1. Natural conditions

Since the administrative reform of 1999 which introduced 16 Voivodeships (regions), the central part of Poland's territory has been occupied by the Łódzkie Voivodeship (*Województwo Łódzkie*). It includes the municipal Poviats (district) of Łódź, two other municipal Poviats (Piotrków Trybunalski, Skierniewice) and 21 rural Poviats, covering an area of 18,219 km<sup>2</sup>. Thus, the Łódzkie Voivodeship is divided into 24 Poviats, further sub-divided into 18 urban *gminas* (communes) (towns), 24 urban-rural *gminas* and 135 rural *gminas*. Therefore, there are 43 towns in the region altogether. The central position of the Łódzkie Voivodeship in Poland is reflected in the fact that Piątek, the geometric centre of the country, is located in its territory.

The capital of the *Voivodeship* - the city of Łódź, which forms a separate urban Poviats, covering the surface area of 294.4 km<sup>2</sup> - is currently (2012) the third largest metropolis of the country (after the capital Warsaw and Kraków) with a population exceeding 737,000 residents (as of 01.01.2010). The recently delimited Łódź Metropolitan Area is inhabited by the population of 1,204,000 people.

In terms of geographical aspects, the Łódź region is often determined as Central Poland and is located within two major physical-geographical units. In the northern part it is Middle Polish Plain, while in the southern it is Małopolska Upland. The core of the region is an upland peninsula, stretching meridionally through the centre of the *Voivodeship*, from the South Polish Uplands to the vicinity of Łódź and Zgierz, where it reaches its climax (284 m), then slopes down towards the Warsaw-Berlin Proglacial Valley.

This upland massif constitutes the first order watershed separating the basins of the two major Polish rivers - the Vistula and the Odra. Valleys of other major rivers of the Voivodeship (Warta, Pilica, Bzura) extend at the edge of the region, and from the centre small, radially arranged water-courses flow out. Due to the uniqueness of its physiographic features, acting as its strong geographical basis, the Łódź region stands out in the country.

Geologically, the Łódzkie Voivodeship is located in the four units of the Palaeozoic Platform: Middle Polish Ridge, Marginal Basin, a system of troughs, and the Sudety Monocline. The base of the platform was consolidated during the Caledonian and Hercynian (Variscan) orogenies, while its cover was developing from the Zechstein (Upper Permian) and through the entire Mesozoic period. Almost all of this surface is built of

strips of alternate Jurassic and Cretaceous sediments running from the north-west towards the south-east. The oldest rocks of the *Voivodeship* are therefore Zechstein salts deposited in the Poviats of Zgierz, Kutno and Łęczyca.

During the Alpine orogeny these older rock layers were dislocated, often disrupting and deforming the original layout. As a result, in the area of the *Voivodeship* the Łódź Synclinorium and the Kujawy Anticlinorium were formed. Mineral resources associated with the discussed geological era are not rich. Besides salts (potash and rock) and brine, in the Łódzkie *Voivodeship* there are thermal and mineral waters, which are hoped to be the basis for the development of local spa centers, such as Uniejów and Poddębice.

The resources of iron ore (siderites), among others in the vicinity of Łęczyca, have already been exhausted, while rich deposits of Jurassic limestone are still being extracted by the cement industry in the Wieluń and Pajęczno Poviats and in the east in the Opoczno and Tomaszów Mazowiecki Poviats. The raw material for the glass industry is extracted in Biała Góra near Tomaszów Mazowiecki. Upper Cretaceous marls are mined for the local construction industry.

The deposits of glass and foundry sands as well as phosphates documented south of Sieradz are also of certain economic importance. But the most precious natural resource of the Łódzkie *Voivodeship* is Miocene lignite lying in the Bełchatów Poviać in a tectonic trench of Kleszczów. It has been extracted since the early 1980s in a large open cast mine and processed on-site into electricity (power plant Bełchatów) supplying a large part of the country. The deposits of lignite, the extraction of which has recently been extended to the vicinity of Szczerców, are also found in the vicinity of Złoczew and Wieruszów as well as to the north-west of Poddębice.

Older deposits of the Łódzkie *Voivodeship* are covered with a continuous layer of younger Quaternary sediments, which determine the physiognomic nature of the *Voivodeship* (outcrops of Mesozoic rocks are found in the south and, incidentally, in the centre of the region). The thickness of Quaternary deposits increases towards the north up to 200 m, which is associated with the largest extent of the Middle Polish Glaciation (the Odra ice sheet). The wealth of Quaternary forms in the *Voivodeship* was conducive to undertake geomorphological research by the Łódź scientific centre, which led to the emergence of internationally recognised 'Łódź school' in Quaternary research.

Surface geology of the Łódzkie *Voivodeship* is therefore dominated by the glacial deposits of the Middle Polish Glaciation (till, sand, clay, gravel) and Holocene sediments (organic mud, peat, river sand) found solely in river valleys. The economic importance of the

Quaternary raw materials is low and includes exploitation of peat, till, clay and gravel. In terms of the relief, the area of the Łódzkie Voivodeship, although for the most part low-lying, is not monotonous. On the contrary, it is highly diversified.

The relief is dominated by young glacial forms and the major rivers of the region, the Pilica and Warta, flow in valleys 1-6 km wide and up to 50 m deep. The Łódzkie Voivodeship can be subdivided into three main types of landscape: old glacial or periglacial plains withinselbergs (moraines, kames and eskers); accumulation valleys and plains of valley bottoms and terraces covered with dunes; and uplands built of carbonate rocks and subjected to erosion and denudation processes of.

The fragments of the region which belong to the Polish Uplands are found in the south of the *Voivodeship*. They consist of the Wieluń Plateau and, separated from it by the Pilica Lowland, the Przedbórz Hill (with the highest point in the region - the Mokre Mts of 347 m asl) and Opoczno Hills. The west of the *Voivodeship* is the vast South Polish Lowland including the Sieradz Basin, the Łask Plateau, the Szczerców Basin and fragments of the Wieruszów Plateau cut by the Warta River and its tributaries. The northern, lowest part of the *Voivodeship* is a fragment of the Middle Mazovian Lowland, which consists of the Kutno and Łowicz-Błońsk Plains (the lowest point in the region of 86 m asl) which belong to the Warsaw-Berlin Proglacial Valley. The central part of the Łódzkie Voivodeship is occupied by the Łódź Hills, composed of the plateaus of Bełchatów, Łódź and Rawa Mazowiecka, which are closed by the Radomsko Hill (323 m asl) from the south-east and by the Piotrków Plain (which are already part of the South Mazovian Lowland) from the east.

The climate of the Łódzkie Voivodeship does not stand particularly out from the climate of Central Poland, and is characterised by great time and spatial variability of meteorological elements. Generally it is classified as lowland climate. Only a small portion of the south of the region falls into climate characteristic for the Central Uplands. According to the division of the country into agro-climatic districts, the Łódzkie Voivodeship lies in the north of the Central District, while the remainder is a separate Łódź District, which shows slightly higher rainfall.

The long-term average temperatures are 7.6-8.0°C. The lowest ones are recorded in the centre of the Voivodeship (e.g. the suburbs of Łódź) and the highest in the vicinity of Łowicz and Sieradz, which is strongly associated with the relief. In the spatial arrangement, despite a relatively small area of the Voivodeship, the seasons differ in terms of the length. Winter is about 14 days shorter in the west than in the east of the region. The climatic specificity of the region is variability of wind direction - associated with the west to east movement of low-pressure air

masses. During the year, westerly (20%) and south-westerly (10-20%) winds prevail; less common are easterly (10%) ones, and the average wind velocity is 3.5 m/s. Precipitation also varies - from 500mm annually to the north of Łódź to over 600mm in the south of the region. During a year, on average, there are 156 days with precipitation (including 47 days of snowfall). Snow cover lasts for 50-70 days: shorter in the vicinity of Sieradz and longer in the vicinity of Wieluń and Tomaszów Mazowiecki. The Greater Łódź Agglomeration strongly affects bioclimatic conditions, creating a slightly different type of urban climate (urban heat island). Other major cities in the region (Piotrków Trybunalski, Kutno, Radomsko) and the industrial complex of Bełchatów also modify slightly the local climatic conditions.

The specificity of the Łódzkie Voivodeship in terms of living nature is not significant. The entire Central Poland is a transitional and border area considering vegetation and animal communities. Latitudinal boundaries of tree ranges run through here: fir, beech and spruce in the vicinity of Łódź, and large-leaved linden in the south of the region. In the fir-beech forests of the *Voivodeship* there is a significant, as for lowlands, concentration of mountain plants. That is why biogeographical division between lowlands and uplands in the Łódź region is shifted further towards the north than it is the case in the physical-geographical regionalisation. This border runs north of Łódź, Zgierz and Brzeziny. The borderline of meridional course is the boundary between forest communities, which in the past shaped the soils of the region. These are Central European oak-hornbeam forests (Polish: grąd) corresponding to the Atlantic climate, and sub-continental oak-hornbeam forests. This limit follows the watershed of the Warta and Proсна Rivers.

The Łódzkie Voivodeship has one of the lowest forest cover rates in Poland (21%), and the existing forests are highly fragmented (Maksymiuk, Olaczek 1991, p. 50). The largest forest share of over 25% occurs in south-western part of the region, i.e. in the Poviats of Radomsko, Bełchatów, Opoczno and Tomaszów Mazowiecki; these are the remnants of the Pilica Primaeval Forest (Koter, Liszewski, Suliborski, Wieczorek 2002, p. 53). A relatively large part of the region is under protection in the form of seven landscape parks (the Bolimów LP, Łódź Hills LP, Spała LP, Przedbórz LP, Sulejów LP, Załęcze LP and the Warta-Widawka LP) and 89 nature reserves.

The soils of the Łódź region are poorly differentiated. As much as 85% are poor podzol soils formed on sand and glacial tills as well as on dusty deposits. These are mainly low-fertility soils of the V and VI soil quality class.

The above-mentioned specific hydrographic system of the region means that for many years there has been a problem with the municipal

and industrial water supply. The industry, being located in the region since the 19th c., used small water courses at the beginning. However, very soon these resources had been exhausted. The plight situation was soon worsened by the dynamic development of the Łódź Agglomeration as well as by contemporary lignite extraction, resulting in lowering groundwater table. In order to improve water supply in the region, two large artificial reservoirs were constructed: the Sulejów Reservoir of 23 km<sup>2</sup> on the Pilica River and the Jeziorsko Reservoir of 42.3 km<sup>2</sup> on the Warta River.

### 13.2. Cultural heritage potential of Łódź and its region

The appearance of the Neanderthal man in the area of the modern Łódź region dates back to 130,000 years BC (flint findings on Mount St. Margaret), but by about 30,000 years BC this man had been gone replaced by the *Homo sapiens*. In the area of the Łódź region the modern man (*Homo sapiens sapiens*) appeared only about 10,000 years BC during a climate warming when the area was covered by forests - first coniferous and later of mixed stand. Traces of this man were discovered in Janisławice (the Skierniewice Poviát ) and are associated with the Stone Age (Mesolithic).

From about the year 1500 BC the area of the Łódzkie Voivodeship was subjected to the expansion of the Trzciniec culture (the cemetery in Lubna in the Sieradz Poviát ) followed by a millennium of the Lusatian culture. During this period there appeared permanent settlements related to the introduction of agro-livestock economy. Celts, common in Western and Southern Europe, arrived in the Łódź region relatively very late (the pre-Roman period of about the year 150 BC) and are associated with only a few settlements on the Rivers Wrząca and Ner near Lutomiersk and on the Bzura River in Łęczyca-Dzierzbiewo and Tum. Initially, the agricultural population settled only the northern part of the region. The largest number of findings was recorded in the Łęczyca Basin and the Warta Valley. From there the population moved into the central plains along river valleys of the Bzura and Ner.

The period of the Vistula Veneti culture, lasting until the 4<sup>th</sup> c. AD and strongly influenced by Roman civilisation, is richly represented in findings in the Voivodeship area. This confirms the region's intensive contacts with the civilisation of the West and a significant expansion of settlements, which occupied not only the river valleys but also the watershed area. This civilisation, however, was destroyed in the Migration Period of 375–568 AD. Its reconstruction at the turn of the 6<sup>th</sup> and 7<sup>th</sup> c. is associated with the influx of a new wave of population from Central Europe – the Slavs.

The oldest Slavic settlements in the Łódź region include the settlements in Olewin and Toporów (the Wieluń Poviát ), in Witów and Tum

(the Łęczyca Poviát ) and in Lutomiersk. The period from the end of the Migration Period until the 13<sup>th</sup> c. is in Poland referred to as the Middle Ages. During this period the population development in the area of the Łódzkie Voivodeship was very slow and was subjected to the influence of natural disasters and epidemics. Socially, it was a development of the feudal system, the disintegration of ancestral communities, and the formation of hierarchical territorial communities. Agriculture underwent a major transition as the slash-and-burn farming was replaced by the ley systems.

New tools and new crops were introduced in agriculture. These processes led to the population increase and subsequent occupation of new areas. A particularly high level of settlement was recorded in the northern parts of the Łódzkie region (near Łęczyca and in the Warta River Valley) and the Sieradz Basin. There the population density reached about 20 people per km<sup>2</sup>, and was twice as large as the average density for Central Poland. Such a state of settlements in the region lasted until the 16<sup>th</sup> c., followed by two centuries of population growth and decline. This phase ended only in the early 19<sup>th</sup> c. when population increased.

In the early Middle Ages, in a few large settlement clusters in Central Poland, still in the pre-state era, territorial communities (sing. opole) formed. In the area of the Łódzkie Voivodeship Łęczyca is mentioned as the oldest centre of a settlement cluster, followed a little later by the Mnichów-Witów cluster (later transformed into the Sieradz one), as well as the settlement clusters of Szydłów–Lutomierz, Rękorajsk–Wolbórz, Rozprza, Smulsk–Spycimierz, Ruda, Chelma and Rawa. These communities gave rise to several distinct tribal states, and are known as Łęczyca people (Łęczykanie) from the name of the dominant town. Since the middle of the 10<sup>th</sup> c. all this territory became part of the state of Mieszko I.

The first substantial towns of the region, governed by resident rulers - castellans, date back to this period. Thus, the towns of Łęczyca, Spycimierz, Sieradz, Rozprza, Wolbórz, Żarnów, Skrzynno, Małogoszcz and Ruda (in the 13<sup>th</sup> c. renamed as Wieluń) were homes to castellans (castellanies) which constituted the Łęczyca Province. The rest of the Voivodeship lands was part of the Mazovian Province, where the towns of Łowicz and Biała Rawska (in the 14<sup>th</sup> c. renamed as Rawa-Mazowiecka) constituted castellanies. Until the 18<sup>th</sup> c. the centre of the present Voivodeship, in which its capital is located, was devoid of major administrative centres.

In the middle of the 13<sup>th</sup> c. the first towns in the area of the Łódzkie Voivodeship were granted city rights under the German law. The newly located towns were characterised by geometric, chessboard-like layout of the streets with a rectangular market square in the middle (Kulesza 2001, pp.34-36). However, in the area of the Łódzkie region

there existed earlier pre-location towns, primarily trade fair centers . They included Bolesławiec, Bolimów, Grabów (the Łęczyca Powiat), Gorzkowice, Kamieńsk, Inowódz, Osjaków, Pławno, Radomsko, Sulejów and Żychlin. In the initial phase of the urban network development there appeared to be quite a lot of settlement locations in the present-day Voivodeship area, but not all of them finally managed to forge into towns, and those among them who have developed, not always kept a town status until today. Overall, throughout the historical period in the area of the Łódzkie Voivodeship the existence of 103 towns was identified, while today there are only 44 of them.



Figure 67. The Łęczyca Royal Castle

Source: S. Koboжек

Historically, the Łódzkie Voivodeship is located in the borderland of three major regions: Wielkopolska (Greater Poland), Małopolska (Lesser Poland) and Mazovia. It is therefore not a separate natural or historical region. In the times of the I Republic of Poland the lands of the Łódź region were part of five *Voivodeships* of Sieradz, Łęczyca, Rawa Mazowiecka, Sandomierz and also a strip of Brześć Kujawski (Fig. 2). After the partition of the I Republic of Poland by the neighbouring empires and the establishment of the borders in Central Europe for a long time by the Con-



gress of Vienna in 1815, the lands of the Łódzkie Voivodeship fell into the Kingdom of Poland (Królestwo Polskie) subordinate to Russia. They were divided into four governorates of Piotrków Trybunalski, Kalisz, Warsaw and Radom. Only a tiny piece by the Prosna River was then in the Poznań province belonging to Germany.

The lands of the Łódź region returned under the Polish administration only after World War I and the rebirth of the Polish statehood. It can be said, thus, that throughout much of the history of the Polish nation the present territory of the Łódzkie Voivodeship belonged to the Polish State (Sobczyk 1994). Despite this, until the end of World War I Łódź was not an administrative unit of the region. This was due to a marginal role of Łódź in the settlement system of the region. Although Łódź received municipal rights, granted by King Władysław Jagiełło, as early as 1423, until the end of the I Republic of Poland in 1795 it remained in fact a small village in the Mazovian Voivodeship. Back in 1810, the population of Łódź was only 514 people and although over the next 15 years it almost doubled, this town was not a competition for Piotrków Trybunalski, Łęczyca or Zgierz which were homes of local authorities.

The advancement of Łódź in the settlement hierarchy of the country resulted from the decision of the Mazovian Voivode Rajmund Rembéliński, who in 1820 chose it as a base for industrial development. As a consequence, rapid population growth of the town took place, but it did not involve a significant advancement in the administrative hierarchy. The status of the Poviát seat within the Piotrków Trybunalski governorate was not reached by Łódź until 1867. Back then it already had 36,000 residents and counted on taking over the function of the governorate capital from Piotrków Trybunalski. Łódź, which until the 1820s was an agro-industrial and trade village, as a result of planned action of the government of the Kingdom of Poland in less than half of a century grew from a small weaving settlement into a large centre of the textile industry. The main initiators of this action, besides the already mentioned voivode Rembéliński, included the Chancellor of the Exchequer, Fr. Xavier Drucki-Lubecki and promoter of this initiative, a geologist and geographer Stanisław Staszic. The unusual dynamics of the development of Łódź was unique in the world, comparable only with the development of some American cities.

The first element of the industrial city was a handicrafts settlement called New Town founded in 1821 at the place of the Old Village on the south side of the valley of the river Łódka separating the farming Łódź from the industrial one. The Old Town was inhabited by Polish and Jewish population, while the New Town was mainly inhabited by German settlers. The centre of the New Town is today's Freedom Square (*Plac Wolności*) of unique octagonal shape, while the old centre is today's Old Market Square

in Bałuty. They are linked by a causeway street, today known as Nowomiejska, which to the south turns into the major regional transport route of so called Piotrków road. The settlers in the New Town, besides building lots also received extensive arable plots called cloth gardens (flax was also cultivated there), located on the east side of the built-up area.

Further expansion of Łódź took place between 1824–1828 with the decision to invest into a linen-cotton settlement called Łódka, using local small water courses to drive the factory equipment. In this way, along the river Jasień, at a distance from the New Town to the south, a sequence of water-factory settlements (Polish *posiadło*) was built, and the space between the two was filled by the weaving colony. In this process a belt of settlement formed, stretching from north to south over 5 km and consisting of three parts: Polish-Jewish agri-trade and craft of the Old Town; the cloth centre of the New Town, dominated by German-speaking population (from Brandenburg and Saxony), which was also the administrative centre of the urban complex; and linen-cotton settlement of Łódka (small boat, i.e. small Łódź) of manufacture and handicrafts character, also dominated by German-speaking settlers (but also from Bohemia and Silesia).

The first phase of the Łódź reconstruction led to the development of its specific spatial arrangement, the axis of which became the longest street in Europe, the today's street Piotrkowska. The population of Łódź grew over the decades since the founding of the New Town from 799 to 4,720 people in 1831. The further dynamic development of the textile centre of Łódź took place after the fall of the November uprising in 1831. Although the introduction of tariff barriers by Russia for products from the Kingdom of Poland worked adversely for the cloth production, it led to the spread of cheap cotton cloth in the production of which Łódź soon specialised. The real factorial development of the city started when the first steam engine was installed in so called White Factory of Ludwik Geyer in 1838. The opportunities offered by the town were referred to as the "promised land".

Until World War I, the population of Łódź rises three times every two decades, and during the first 40 years the population growth was 937%. The city was full of contrasts resulting from the diverse urban landscape and huge differences in wealth between hired workers and owners of manufacturing plants, whose estates sometimes grew to extraordinary size (e.g. the kingdom of the Geyers, Scheiblers, Grohmanns and Poznański). The city not only gained huge industrial plants and the longest spinning mill in Europe, numbering 207 lengths and located in Tymienieckiego Street, but also the homes of industrialists of impressive size and architecture called palaces (such as the Museum of the City of Łódź in the Palace of Poznański).

As a result of these complex processes of industrial development and the influx of settlers and investors, Łódź became a kind of a melting pot of peoples, religions and cultures. Already in 1897 the population of Łódź consisted of 46.6% of Poles, 29.4% of Jews and in the 21.4% of Germans, 2.4% of Russians as well as 0.4% of representatives of other nations. This fact was also reflected in the existing religions in the city: Roman Catholic (mainly Poles, few Germans), Protestant (mostly Lutheran Protestant and some Calvinists—Germans, Czechs, few Poles), Orthodox (mostly Russians) and Judaism (Jews).

Such a national and religious structure of the community, in turn, shaped the physiognomy of the city, its buildings, lifestyle and culture, leading to the emergence of a special and unique multicultural centre of primarily three national cultures: Polish, German and Jewish. Such character of the city was kept throughout the interwar period governed by the reborn Polish state, but was lost almost completely, at least in the social sphere, not the infrastructure, as a result of the events of World War II and its consequences, namely the Holocaust of the Jews and the deportation of the German population.

In 1890, along with its suburbs, Łódź had 125,000 inhabitants, while in 1897 as many as 314,000. However, despite this extremely rapid growth of Łódź resulting from the industrial expansion the seat of government administrative first-level unit was granted to Łódź only in independent Poland. This was introduced with the act of 2<sup>nd</sup> August 1919, which temporarily (but in force until 1<sup>st</sup> April 1938) divided the ten Voivodeships of the former Kingdom of Poland into five new districts, among which the Łódzkie Voivodeship was delimited for the first time. Even though at that time Łódź had a population of 450,000 it had to compete for the governor's office with older centers: Kalisz, one of the oldest Polish cities, and Piotrków Trybunalski, a former seat of the Crown Court of Appeals for the Commonwealth and a place of meetings of the parliament – the Sejm.

The new Łódzkie Voivodeship covered an area of 19,034 km<sup>2</sup> and in relation to the current situation was shifted much more in north-westerly direction. It was also not located centrally to the shape of the territory of the II Republic of Poland. On the contrary, the Wieluń Poviát bordered Germany (Silesia). However, due to the administrative reforms of the interwar period, the temporary administrative division of the country was altered. First in 1938 a large chunk of the western part of the Łódzkie Voivodeship was separated and passed on to the Poznań Voivodeship. After 1939 these losses were compensated by connecting the Pilica Land of the Kielece Voivodeship to the Łódzkie Voivodeship.

The Łódzkie Voivodeship, new in its shape and shifted towards the south-east and with the area of 20,446 km<sup>2</sup>, lasted only a few months. With the occupation of the Polish territory by Nazi Germany a large part of the

Voivodeship with Łódź itself became part of the General Government, a political subdivision of a protectorate character, whose capital was planned to be placed in Łódź. However, due to protests of German settlers, numerous in this area, on 9 November 1939 the whole western part of the Voivodeship and its capital city were annexed to the Reich (part of the Warta–Warthegau Land). The district office including Łódź, which in 1940 renamed to Litzmannstadt from the name of a German World War I general, was placed initially in Kalisz. Only in 1945 Litzmannstadt became the seat of the occupation authorities of the Kalisz–Łódź district.

After World War II, the new communist authorities of Poland abolished all the laws introduced by the German occupiers and therefore also the Łódzkie Voivodeship was restored in the shape of the last six months from before the war. However, moving the border of the State westwards placed the Łódzkie Voivodeship in the centre of Poland. Shortly after the war there were only 496,000 people in Łódź, compared to 672,000 in 1939. Despite this it was the largest city in Poland, as in Warsaw Nazis destroyed 80% of the material substance and displaced the population.

The act of 11 September 1944, i.e. almost four months before its liberation from German occupation, Łódź, similarly to Warsaw, became a separate city with the rights of a Voivodeship. Unofficially it became the city playing most of the capital functions, because its infrastructure survived the war with relatively small losses. For several years after World War II a number of central offices of the country operated in Łódź.

A following adjustment of administrative division, introduced in 1950, resulted in another shift of the territory of the Łódzkie Voivodeship, which lost the Pilica Land. However, further adjustments in the years 1954 to 1963 maintained for longer the shape of the Voivodeship covering the central part of the area which it had before the war. The area of the Łódzkie Voivodeship was 17,065 km<sup>2</sup> and it was divided into 16 Poviats and 5 towns with Poviats rights.

A very big change in the administrative division of Poland took place in the years 1973–1975 when the three-tier division of the country was replaced by a two-tier one through the elimination of Poviats. At the same time, on 1<sup>st</sup> June 1975, the country was divided into 49 Voivodeships, including three so called urban *Voivodeships* of Warsaw, Kraków and Łódź. The new urban Łódzkie Voivodeship had only 1,523 km<sup>2</sup>. It was divided into 12 gminas and 7 cities with municipal rights and did not even go beyond the traditionally delimited Łódź agglomeration. At the same time, in the area of the former Łódzkie Voivodeship new Voivodeships were established with the capitals in Skierniewice, Piotrków Trybunalski and Sieradz, while the rest of the land was incorporated into the new Voivodeships of Konin, Kalisz and Płock.

The current shape of the Łódzkie Voivodeship was established as a result of further administrative reform of the country, after the overthrow of the communist system. With the effect from 1<sup>st</sup> January 1999, the reform divided the country into 16 Voivodeships, including the Łódzkie Voivodeship located in the centre of Poland. The main change in relation to the years 1954–1975 was joining the Pilica Land again.

Joining the European Union structures on 1 May 2004 did not change the administrative division of Poland, but brought some aggregation of individual units to the NUTS level units. In this arrangement, the NUTS Level 1 are regions which group a number of Voivodeships. The Łódzkie Voivodeship, together with the Mazovian Voivodeship, belongs to the Central Region (PL 1), the whole Łódzkie Voivodeship is NUTS Level 2 (PL11) divided into five units of NUTS Level 3 which are Poviats aggregates (the city of Łódź–PL113, the Łódź Poviats –PL114, the Piotrków Trybunalski Poviats –PL115, the Sieradz Poviats –PL116 and the Skierniewice Poviats –PL117), while Poviats and cities with Poviats rights are NUTS Level 4.

Presently, the population of the Łódzkie Voivodeship is ethnically homogeneous. The absolute majority, according to the census of 2002, are Poles (99.85%), although before World War II the region could be seen as multiethnic. Estimates based on the results of the 1931 census and the data on not so much nationality as rather mother tongue reveal that in the Łódzkie Voivodeship in the 1937 borders, the Polish speaking population accounted for only 80.1%. The remaining fifth of the population was composed of those speaking Jewish (13.6%), German (5.9%), Russian (0.06%) and Ukrainian (0.05%); incidentally there were also those speaking Belarusian and the Lemko language. Among national minorities the Jewish and Russian population almost entirely concentrated in the cities of the Łódź region, while the Ukrainian population prevailed in the countryside, and German, to a minor extent only, in cities.

The ethnic structure of the Łódź region was drastically changed by the events of World War II, especially the destruction of the Jewish population, implemented in the region by the Nazi occupying forces mainly in two places of torture: Chełmno on the Ner and the Litzmannstadt Ghetto, as well as the post-war expulsion of German population. The partial census of 1946 for the Łódzkie Voivodeship showed the presence of 59,000 Germans and 15,000 Jews, but soon most of them emigrated from the country or left the region.

The fact that in the old days the Łódź region was inhabited by different national groups, has its consequences in the preserved cultural heritage. The Jews who arrived earliest on the Polish territory, inhabited mainly towns and cities, settling in villages only incidentally and almost never engaging in the agricultural economy. Their domain was running pubs,

restaurants (catering and accommodation services), usury (banking services) and trade, often itinerant. In towns and cities they engaged in crafts, trade, pharmacy, and in later centuries in freelance professions (doctors, bankers, lawyers). In the industrial era they also had a big part among factory owners (over 30%) but there was also a significant group of Jewish industrial workers.

In some towns of the Łódzkie Voivodeship Jews made up more than half of the population (Żychlin, Działoszyn, Grabów, Kamieńsk). In 1936 Jews in Łódź, based solely on a religious criterion, accounted for 34.4% of the population. Łódź inhabited by almost 220,000 followers of Judaism in this regard gave way only to Warsaw. Back then it was one of the world's largest centers of Jewish population giving way to several American cities, but ahead of all the cities of Palestine. Here, in the northern part of the city, in the years 1940-1944 the Nazi occupiers located one of the largest ghettos in Europe. In the area of 4 km<sup>2</sup> over 160,000 Jews were gathered; the population density was 42,587 persons per km<sup>2</sup> and up to 7 people per one room. Besides Polish Jews imprisoned there, there were tens of thousands more transported from Germany, Austria, the Czech Republic and Luxembourg. Adjacent to the ghetto was a concentration camp for the Roma people, also brought in from other countries. They all were killed on the spot or in Chełmno (circa 5,000 people).

Although in difficult living conditions, the Jews cultivated their cultural life, education, health care and even the arts. The liquidation of the Litzmannstadt Ghetto lasted from June to August 1944. The majority of the prisoners were deported to Auschwitz-Birkenau where they were murdered. After the war most of the abandoned buildings of the ghetto were demolished. What is left are a few buildings, as well as the world's largest Jewish cemetery where on 43 ha there were around 230,000 dead buried, including 45,000 of the ghetto victims. The war did not spare Jewish places of worship, numerous in the pre-war Łódź. They were almost completely destroyed. As a result, mostly secular objects - palaces of factory owners, factory buildings themselves, tenement houses - were left from the Jewish cultural heritage in Łódź. First of all, the industrial-residential-palace complex of Izrael Poznański should be mentioned here (now its core functions as a modern cultural, shopping and services centre called 'Manufaktura'). In smaller towns of the Łódzkie Voivodeship there are also formerly Jewish religious buildings, although in the vast majority they perform other functions than the original (Piotrków Trybunalski, Inowłódz, Opoczno, Grabów).

Another national group which left a strong imprint on the cultural landscape of the Łódź land are Germans. The settlers from the German area came together with the location of cities under the German law in the 14th c. However, the main mass of settlers arrived in the last 25 years of

the 18th c. due to the agricultural Holländer (Polish: Ołędry) colonisation as well as the colonisation initiated during the reign of Frederic II (Frederic colonisation) in the territory of the already annexed part of the I Republic of Poland by Prussia (Germany). Before the arrival of settlers from the West the area of the present-day Łódzkie Voivodeship was until the 13th c. dominated by dispersed settlements. Later two basic types of rural economy related to the two-field and three-field crop rotation developed. These were rundlings, i.e. villages clustered around a pond or a market place, and linear villages, i.e. with narrow buildings arranged on both sides of the road.

The villages established under the German law introduced new settlement patterns. Their names are associated with periodic relief from the burden of taxation (Wólka, Wola, Wolnica from the Polish word for 'will'). The formation of feudal-manorial economy brought a change in spatial layouts and village buildings. At the end of the 18th c., new types of villages emerged as a result of a wave of German settlement - Holländer villages, which were established in wetlands, loosely clustered irregular colonies with buildings around the entire village area, for each colonist on his/her own field (e.g. the villages of Holendry Duże and Holendry Małe near Sieradz, Holendry Radogoskie and Holendry Stokowskie - now within Łódź). After the third partition of Poland in 1795, in the Prussian partition there appeared the planned Frederic colonisation, named after the king of Prussia, which included the wilderness and forest areas.

The villages of this colonisation were characterised by the symmetry of the layout - they are mainly villages of linear, rectangular (e.g. Ksawerów) or unique star system (Nowosolna). Prussian colonies developed in the former Church lands around Łowicz, Skierniewice, Wolbórz, Pabianice and Łódź. In the Pabianice estate numerous German settlements were established (Starowa Góra, Chechło, Andrespol, Olechów, Ksawerów). Enfranchising peasants (1864) brought about another radical reconstruction of rural settlement patterns as farmland regrouping and separation of land estates, isolated in separate complexes, favoured the formation of linear villages based on German settlement patterns. Such loosely centred villages with buildings on one side of the road dominate today in rural areas of the Łódzkie Voivodeship.

The largest wave of German colonisation, however, was associated with the industrialisation of the region and scheduled plantations of national and local colonists-artisans in the years 1815-1830. German settlers were recruited primarily in Brandenburg and Saxony, and their skills served the development of the Polish industry; in the Łódź region this was mainly textile industry. The settlers were sent to the fastest growing industrial centers of Łódź, Zgierz, Pabianice, Ozorków, Konstantynów Łódzki, Aleksandrów Łódzki, Zduńska Wola and Tomaszów

Mazowiecki. Even in smaller towns there appeared clusters of German population (Sieradz, Łask, Poddębice, Łęczyca, Brzeziny). From this settlement wave came both future manufacturers, technical intelligence and qualified workforce. The share of Germans in the midst of all Łódź industrialists shifted from the initial absolute domination (62.4% in 1865) to the second national group after Jews (24.5% in 1913).

In the course of the next two world wars, the military action of which swept through the region of Łódź, the inhabitants of German origin were drawn to the difficult moral test of loyalty to either fellow citizen of the region and a new homeland, or to the culturally close invader. Their attitudes were strongly individualised, but in the whole mass of the German-speaking population the attitude of human dignity and fidelity to the new homeland prevailed. Unfortunately, the odium of Nazi crimes influenced the entire population of German origin, which was supported by propaganda of the new communist authorities of Poland as well as international sanctions and consent to the expulsion of Germans from the countries of Central and Eastern Europe.

Immediately after both World War I and II, therefore, displacement of the population of German origin took place. It ended with family reunion action in the 1970s, after which the presence of German culture in the Łódzkie Voivodeship appears only in the form of numerous objects of material culture. In Łódź the most important monuments include evangelical churches, i.e. St. Matthew's and a burial chapel of the Scheiblers, and numerous factory complexes and the accompanying palaces of the Geyers, Scheiblers, Grohmans, Herbst, Biedermann, *etc.*

The third national group which locally developed cultural landscape of the Łódzkie Voivodeship were Czechs. The first group of Czech settlers arrived in 1802 into the vicinity of Żelów (the Bełchatów Poviát), fleeing from religious persecution (Bohemian Brethren). They were mainly engaged in cloth handicrafts and created a small community with a church yielding rapid language polonisation. The next wave of Czech settlers arrived in Łódź at the invitation of the national authorities in 1825 and also worked in linen and cotton handicrafts in the colony of Łódka, where they created a separate Czech Colony. This group was Polonised even faster. Material traces of that nation, living in the area until today, are Calvinist churches in Żelów and Łódź, and the remains of old buildings along Zarzevska street in Łódź.

The fourth national group were Russians who came to Łódź as representatives of the partition and occupation authorities after the fall of the uprisings: the November one in 1831 and the January one in 1864, when the autonomy of the Polish Kingdom (also known as Congress Poland) was abolished. The Russians were mainly from government and police forces and objects connected with their stay in the area are mainly



official buildings and barracks. They concentrated in cities that had already played the role of local capitals: Piotrków Trybunalski, Skierniewice, Łowicz and, to a lesser extent, in Łódź. Also the Poviats capitals had small communities of Russians.

The fact that this community represented occupation authorities meant, on the one hand, that they enjoyed many privileges, e.g. despite its small size a relatively large number of Orthodox churches, schools and cultural centers were built for Russians. On the other hand, they did not identify themselves with the region, treating it as a place of temporary residence. During the construction of the railway line from Łowicz to Kalisz imperial occupiers strengthened the local garrison up to 4,000 soldiers, although probably not all of them were of Russian nationality. The share of Russian capital, and therefore Russian entrepreneurs in the industrial development of the Łódź region, was not large and was of the inferior size compared to the Polish, French, Austrian, Swiss and even the Czech capital.

The majority of Russians evacuated from the Łódź region in 1914 in the first months of World War I, fleeing the German offensive. However, after the Bolshevik Revolution another wave of Russian political refugees, albeit a small one, rushed back again; they mostly concentrated in Łódź. To this day, in Łódź there are two Orthodox churches open, including a beautifully restored historic building welcoming visitors from Warsaw, as it is right next to the railway station of Łódź Fabryczna.

A significant population of the Łódzkie Voivodeship, both in the interwar period and today, are Roma people. Due to their former nomadic lifestyle and relative poverty, however, they could not permanently affect the landscape and cultural heritage of the region. Only in the 1970s, few, enriched by the trade in gold and second-hand cars, Roma clans indicated their presence, especially in towns in the vicinity of Łódź, in the form of family residences, or villas, stylised on oriental palace architecture (Ksawerów, Pabianice, Zgierz).

In the wake of the ethnic diversity of the Łódź region its religious diversity was significant. Presently, the vast majority of the population are followers of Roman Catholicism, though the strength of their faith is diverse and Łódź itself is considered one of the most atheistic Polish cities. As a result, the Archdiocese of Łódź has been subordinated directly to the Holy See as a missionary area. The second religion of the region has for centuries been Judaism, today occurring only incidentally (only two synagogues are open in Łódź). The third religion is evangelicalism in both its main factions of Lutheran (mostly people of German descent) and Calvinist (population of Czech origin) as well as neo-Protestant churches (Baptists, Methodists, Pentecostals, Jehovah's Witnesses). Moreover, the Łódzkie Voivodeship concentrates the majority of the world's mainstream followers of two Old Catholic churches. In

1893 in the vicinity of Płock the Church of Mariavites separated from the Catholic Church; later another church emerged from the Church of Mariavites, namely the Old Catholic Church of Mariavites, whose followers are concentrated in the northern part of Łódź (Łódź and the Poviats of Eastern Łódź, Brzeźno, Zgierz, Kutno and Skierniewice). The city is also an important centre of the Polish-Catholic religion.

Non-Christian religion (except Judaism), i.e. Islam, Buddhism and Hinduism, are found only incidentally in the Łódzkie Voivodeship. They do not have any sacred objects, though no doubt their share will grow along with the inevitable influx of immigrants to Poland. In the Łódzkie Voivodeship, however, there are no refugee camps, but the University of Łódź has the Polish language teaching centre for international students who wish to study at Polish universities and who often represent exotic races, cultures and religions.

Ethnic homogeneity of the Łódzkie Voivodeship does not mean cultural and linguistic homogeneity. In terms of the Polish language a boundary between dialects of Mazovia and Małopolska passes through the Łódź region. It corresponds to the watershed between the basins of the rivers Pilica and Bzura which from the 9th c. was a tribal boundary. By the 19<sup>th</sup> c., this border area was overgrown with dense forest. The watershed between the rivers Pilica and Warta, once also heavily forested, was a border between the dialects of Małopolska and Wielkopolska; the latter distinctly dominates in the region. The south-western parts of the *Voivodeship*, though, is within the range of the Silesian dialect. Therefore the Łódź region is not only multicultural but also transient for dialects. The language commonly used in the region is defined as the transient dialect (Łódź slang system).

Similarly to the Polish language, folk culture (folklore) of the residents of the Łódzkie Voivodeship is not homogeneous. There are 5–7 ethnographic sub-regions delimited: Łęczyca, Łowicz, Rawa Mazowiecka, Opoczno and Sieradz; the latter is sometimes further divided into Piotrków Trybunalski and Wieluń sub-regions. These sub-regions have different historical background, great diversity of costumes and their colours and adornments, as well as unique material culture, folk traditions, food, song and dance. In some cases (Opoczno and Łowicz regions) this cultural diversity is indeed the driving force of tourism.

The rich historical past gave the Łódź region numerous objects of material culture clearly showing the richness of cultural heritage. The examples are the defensive structures, such as the ancient settlement of Tum, Sieradz, Żarnów and Konopnica; defense castles preserved in varying degrees, from the ruins in Rawa Mazowiecka, Bąkowa Góra, Majkowice and Bolesławiec, to the fully preserved ones in Oporów, Uniejów and Łęczyca; and city walls in Łęczyca, Piotrków Trybunalski

and Wieluń. Castle structures, rebuilt since the 16<sup>th</sup> c., lost their defensive character and took the form of residential palaces or mansions, e.g. those in Pabianice, Biesiekiery, Łowicz, Opoczno and Inowódz.



Figure 68. Castle in Uniejów

Source: S. Koboжек

In the 18<sup>th</sup> c. representative magnate palaces already dominated (Poddębice, Chorzenice, Nieborów, Walewice, Wolbórz, Skierniewice), often accompanied by romantic landscape parks (Arkadia). There are also numerous historic religious buildings, i.e. churches, monasteries and chapels, in the Łódź region. They come from all eras from the Romanesque period, e.g. those in Inowódz, Tum, Podklasztorze, Żarnów, Krzyworzeka and Ruda; through the great Gothic churches, such as parish churches in Sieradz, Piotrków Trybunalski, Szadek, Warta and Będkowo; monastery churches in Sieradz and Wielgomłyny; to the relatively rare Łódź Renaissance, e.g. in Złoczew, Poddębice, Mokrusko, Rzgów and Bolimów.

The war with Sweden in the mid-17<sup>th</sup> c. brought havoc to Polish lands, which was reflected in the surviving monuments of material culture. Rebuilding of the country took place in a new architectural style – baroque. What is worth mentioning from this period are churches in Łask,

Łowicz, Rawa Mazowiecka and Tomaszów Mazowiecki as well as monasteries in Wieluń, Brzeziny, Warta, Paradyż, Gidle, Łowicz, Studzianna and in Łagiewniki in Łódź. There have also been preserved wooden churches in Grębień, Budzynek, Boguszyce, Popowice, Wierzbie and Łódź. Moreover, there are lots of interesting objects of classical architecture, e.g. in Skierniewice, Babsk, Pabianice and Łódź.

### 13.3. Socio-demographic potential of Łódź and its region

The Łódzkie Voivodeship is inhabited by 2,534,400 people (as of 31.12.2010), which represents 6.6% of the population of Poland. The largest population concentration is of course in the city of Łódź, which is currently, as already mentioned, the third largest Polish city (only in 2010 it was the second after Warsaw). Its present number of residents is 737,100. Poland is currently undergoing the next phase of administrative reform, one of the aims of which is the establishment of metropolitan areas, i.e. structures independent of the administrative division (crossing the borders of administrative units).

The Łódź Metropolitan Area, which is being planned, will cover an area of 2,862.8 km<sup>2</sup>, i.e. much larger than the municipal Voivodeship of Łódź from before the 1999 reform, and is currently inhabited by 1,203,800 people. This will not improve the position of the Łódź agglomeration; on the contrary, as a metropolitan area Łódź will fall down to the 5-6 position in the country behind metropolitan areas of Upper Silesia, Warsaw, Kraków, Tri-City comprising of Gdańsk, Gdynia and Sopot, and perhaps also Wrocław. This is because their limits were outlined much more broadly than in the case of the Łódź Metropolitan Area, which only incidentally goes beyond the distance of 30 km from the centre.

Most of the *Voivodeship*'s population lives in cities (64%). Besides Łódź, the major urban centers of the Łódzkie Voivodeship include Piotrków Trybunalski (77,400 inhabitants), Pabianice (68,500), Tomaszów Mazowiecki (65,200), Bełchatów (60,800), Zgierz (57,900), Radomsko (48,200), Skierniewice (49,000), Kutno (46,200), Zduńska Wola (43,800), Sieradz (43,300), Łowicz (29,600), Wieluń (23,700), Opoczno (22,700) and Ozorków (20,200). The largest number of inhabitants (besides the Łódź Poviats) was recorded in the Poviats of Zgierz (162,500), Tomaszów Mazowiecki (119,700), Sieradz (119,600) and Pabianice (119,000). The least populated Poviats include Brzeziny (30,600), Skierniewice (37,600), Wieruszów (42,200) and Poddębice (41,600). The average population density of the region is quite high and stands at 139 people per km<sup>2</sup>, while the average for Poland is 122 people per km<sup>2</sup>.

The population of the Łódzkie Voivodeship has been decreasing steadily from 1997 at the rate from -0.30% (2007) to -0.44% (2006) a year. The sex structure of the Łódzkie Voivodeship is highly disturbed as per 100 men there are as many as 110 women. This surplus, however, regards only age cohorts over 45 years and is especially distinctive at the 65+ age cohort. The highest women/men ratio in the Łódzkie Voivodeship is recorded in the following Poviats: municipal Łódź (120), Pabianice (114) and municipal Piotrków (112). The lowest women/men ratio was recorded in the Pajęczno Poviats (101).

The population age structure of the Łódzkie Voivodeship is dominated by two age cohorts, namely of 20-30 and 50-80 years, while the lowest numbers are recorded for the age cohorts of 0-10 and 80+ years, which means that it is an aging society. In terms of demography the Łódzkie Voivodeship is the oldest in the country, also it is the region with the lowest %age of children and adolescents. In 2010, the %age of people at the pre-working age in the Łódzkie Voivodeship was 17.4%. For Poland this figure reached a value of 18.6% (in 1990 it was 29%). The proportion of working age population is 18.8% (for Poland 16.9%). Per every 100 people of working age in the Łódzkie Voivodeship there are 56 persons in non-working age. The highest old-age dependency ratio was recorded in the Skierniewice Poviats (65 people at non-working age per 100 people at working age) and the lowest in the Bełchatów Poviats (only 47 people).

In 2010 in the Łódzkie Voivodeship 25,500 live births were recorded. The ratio of live births per 1,000 population in the Voivodeship is 10.04‰ (the average for Poland is 9.6‰). This ratio was significantly higher in rural areas (10.67‰) than in urban areas (9.69‰). For many years in this regard there has been a clear downward trend recorded. In 2010 the number of deaths in Łódzkie Voivodeship amounted to 31,200 (i.e. 2.2% less than a year before). As much as 53% of deaths refers to men. In 2010 the death rate per 1,000 population in the Łódzkie Voivodeship was 13.84‰, and was the highest in the country (for Poland it was 10.0‰). The death rate reaches the highest level in Łódź (13.84‰) and the Poviats of Kutno (13.33‰) and Łęczyca (13.29‰). The death ratio is much higher in rural than in urban areas. In 2010 the Łódzkie Voivodeship recorded a negative growth rate of -2.24 persons per 1,000 inhabitants. Since 2003, in which the natural growth rate reached the lowest level of -3.49‰, there had been a rising trend recorded. In urban areas this ratio reached a level of -2.46‰ and was higher than in rural areas (-1.86‰).

For many years the Łódzkie Voivodeship has been recording a negative migration balance. In 2010 net migration was at the level of -1,780 people. There were 22,600 registrations for permanent residence,

but 78.3% of them regarded people moving within the *Voivodeship*. On the rise is also the number of check-outs from permanent residence abroad (556 persons), 91.5% of whom left urban areas. Net migration in 2010 was -23 people. In this regard there is a clear downward trend (in 2006 the net balance was -1,138 people). As much as 82.6% of those leaving the *Voivodeship* emigrated to one of the EU countries, mainly the UK and Germany. Those emigrating outside Europe mostly left for the United States (37 people). Outer net migration was -0.01%.

Contemporary national structure of the Łódzkie Voivodeship is nearly homogeneous, as according to the national census of 2002 as many as 98.07% of the population are Poles. Other non-Polish nationalities regard to a mere 3,997 people (0.15%). It must be remembered, however, that up to 46,600 people (1.78%) in the *Voivodeship* did not declare any nationality. The largest ethnic minority in the Łódzkie Voivodeship are Roma people (1,018), whose largest concentrations are found in the cities of Łódź (330), Konstancin-Jezierna (200), Zgierz (112), Tomaszów Mazowiecki (109), Skierniewice (75), Pabianice (55) and Piotrków Trybunalski (47). An interesting fact is that, according to the census data, in the region there live more people using Roma language for everyday communication (1,203) than the number of those declaring the Roma nationality. The second largest minority in the Łódź region, and also a historical one, are Germans. There are 263 persons like that, but the German language is spoken at home by 2,258 people. This community is concentrated in Łódź (128 persons) and Pabianice (21). The Poviats in which the largest number of German-speaking population is concentrated include Pabianice (160), Bełchatów (140), Zgierz (118), Sieradz (115), Radomsko (103), Wieluń (88), Kutno (72), and the cities of Łódź (822), Piotrków Trybunalski (102), Tomaszów Mazowiecki (51) and Kozłowski (34). It could be said that the German minority is fairly evenly spread across the whole region with some concentration in urban centers

Russians, represented by 179 persons, surprisingly make the third largest national minority in the Łódzkie Voivodeship. The number of those speaking Russian at home, however, is much higher - 668 people. The only concentration of Russians is in Łódź, which has 109 people declaring nationality and 292 people speaking Russian. Another minority in the Łódzkie Voivodeship are Ukrainians numbering 122 people, although Ukrainian language is used by only 63 people. Again, the majority is concentrated in Łódź (74). A traditional minority of the Łódzkie Voivodeship are Czechs (111 persons). Only 77 of them speak Czech language at home. As many as 90 Czechs live in the Bełchatów Poviats, out of which 81 in the town and gmina of Żelów, while a small group resides in Łódź (14).

Another traditional, once the largest minority group in the Łódzkie Voivodeship, are Jews. Only 65 people declare this nationality, and only 19 people declare using Yiddish at home. As many as 47 persons of that nationality live in Łódź. Other national groups that have traditionally inhabited Poland and reside in the Łódzkie Voivodeship are Belarusians (45 people), the Silesians (22), Lithuanians and Armenians (17 people each) who are in most cases concentrated in Łódź, as well as, incidentally (3-5 people each), Kashubians, Lemkos, Tatars and Slovaks. In almost all those cases there is no explicit concentration. As many as 1,829 people declared other nationality than the traditional Polish minorities, including Americans, British, Vietnamese, Chinese, Arabs, etc.

In terms of religions the population of the Łódzkie Voivodeship is also homogeneous. As many as 80.2% of the population are followers of the Roman Catholic Church. The largest religious minority in the Voivodeship is the Watchtower-Bible and Tract Society (Jehovah's Witnesses), which reported 127,100 followers. Another minority, a traditional one to the Voivodeship, are Orthodox followers concentrated in the Polish Autocephalous Orthodox Church (27,500 people). Followers of different factions of Protestantism, also historical in the Łódzkie Voivodeship, amount to over 10,000 people. Among them the biggest recorded community are of the Lutheran-Augsburg Church (5,500), the Evangelical-Reformed (Calvinists) (1,800), the Seventh-Day Adventist Church (617), the Pentecostal Church (592), the Evangelical Methodist Church (285) and the Church of Christ (273). Important in the religious life of the Voivodeship is still the Old Catholic faction which gather together more than 10,600 followers, dominated by the Old Catholic Church of the Mariavites (8,900), the Catholic Church of the Mariavites (1,100) and the Polish Catholic Church (256).

From among non-Christian religions the Jewish religion vanished almost completely. The number of followers is less than the minimum established by the Polish statistics for the collection of followers (i.e. less than 10 people). A much higher number than the Jews is recorded for the followers of the Muslim League of Poland (1,500). Most of the followers of other non-Christian religions are Buddhists (Karma Kamtsang Buddhist Association) (90 persons), and the followers of the Ajapa-Yoga Society (61). Among the new religious movements occurring in the Łódzkie Voivodeship are the followers of the Lectorium Rosicrucianum (Rosicrucians) in the number of 84 persons, and the Society of Hatha Yoga "Yoga Gate" - 100 people.

### 13.4. Transportation and communication potential of Łódź and its region

The central location in the Łódzkie Voivodeship in the country, a large concentration of production and a large urban area are the reasons why this territory is intersected by north-south and east-west communication routes.

We need to bear in mind that due to the relatively late development of the capital of the Voivodeship – Łódź, both as a city and industrial centre, the original pattern of the emerging communications network in the Łódź region at the beginnings of the industrial era did not take into account the existence of the Łódź agglomeration. After its dramatic development in the second half of the 19th c. the communication network had to adjust to the new situation, which meant that the city did not have any main railway lines but only branches of such lines crossing the area of the Voivodeship at a distance from Łódź (e.g. the railway line from Koluszki).

The network of roads of the Łódź region is relatively well developed. However, its state is a reflection of the situation in this field in Poland, which began to effectively improve substantially after the accession to the EU structures. Overall in the Voivodeship there are 17,219 km of roads, out of which 90.5% are roads with improved surface. The total length of trunk roads (national and *Voivodeship*) is 2,528 km, i.e. 13.8 km/100 km<sup>2</sup>. In terms of quantity and rank of roads passing through the Poviats the major road junctions include Łódź, Piotrków Trybunalski, Łowicz and Wieluń, while the least significant include those passing through the Poviats of Wieruszów, Pajęczno, Opoczno, Bełchatów, Poddębice and Zduńska Wola.

The road system of the Łódzkie Voivodeship is currently being substantially transformed in connection with the EU funded program of motorways and expressways construction. The Voivodeship is cut by two European transport corridors, namely II leading west-east and IV going north-south. The length of the planned highways crossing the Voivodeship will be over 300 km. Almost half of them is the currently being built A-1 highway (Gdańsk – Toruń – Łódź – Katowice – Cieszyn), 1/3 is the route A-2 (Świecko – Poznań – Łódź – Warsaw – Terespol) which has already been brought to Stryków and by June 2012 is to reach the environs of Warsaw, while the rest will fall into an expressway S-8 linking Łódź and Wrocław. Thanks to the intersection of two highways 20 km north-east of Łódź (Stryków) the metropolitan area has a chance to become a major road junction of Poland of international significance (the intersection of routes of Western – Eastern Europe and Scandinavia - the Balkans). In addition, the communication rank of Stryków, Piotrków Trybunalski, Kutno, Wieluń and Tomaszów Mazowiecki will grow.



Important railway routes cross the Łódzkie Voivodeship. They include those defined as the AGC circuit (the main international railway lines) running from west to east, i.e. the line Kunowice – Poznań – Kutno – Warsaw – Terespol (E-20), and from north to south, i.e. the line Gdansk – Warsaw – Silesia (E-65). The southern section of the latter route is the Main Railway Line (*Centralna Magistrala Kolejowa* – CMK). The route E-20 has already been modernised to suit the speed of 160 kph, while the parameters of the CMK allow the speed of 250 kph.

The other major routes include the inter-war artery called Coal Main Railway Line (*Magistrala Węglowa*) connecting Upper Silesia with the Baltic coast passing through Zduńska Wola–Karsznice, and the railway lines Łódź - Sieradz - Wrocław, Łódź - Kutno - Tri-City, Łódź - Tomaszów - Opoczno, and an old Warsaw - Vienna main railway line. The connections Herby - Kępno passing Wieluń and Wieruszów are of less importance for the communication in the region. The planned investment in a modern high-speed railway line connecting Warsaw and Łódź with Poznań and Wrocław has been postponed until 2030. The density of railway lines in the Łódzkie Voivodeship is 6.3 km per 100 km<sup>2</sup>. The total length of railway lines is gradually decreasing (elimination of unprofitable lines) and in 2008 included 1,056 km of standard gauge (electrified in 92.6%). In 2008 the last 57 km of narrow gauge line in the region were liquidated.

The major junctions in passenger traffic include Łódź, Kutno and Skierniewice. An important element of the Łódź railway junction is a container station of Łódź-Olechów which can handle 2,000 of goods wagons per day. Other handling stations are Widzew–Łódź, Kutno, Koluszki, Piotrków Trybunalski, Zduńska Wola–Karsznice and Skierniewice. In terms of rail transport the northern and eastern parts of the *Voivodeship* are best integrated. Slightly worse situation is on the western outskirts of the *Voivodeship* and in the Pilica region. By 2013 the reconstruction of the connection from Warsaw to Łódź for the TGV class trains will have been completed.

Further steps increasing the Łódź hub are two airports, namely the freight one in Łask, and the passenger one of Władysław Reymont in Łódź (in the Lublinek district) with a 2.5 km long runway that services Boeing 737, Boeing 767 and Airbus-320. The Łódź airport, running again in 1997 after dozens of years of interruption in the operation, is the most dynamically developing airport in Poland (53% increase per annum). In 2011 it serviced over 390,000 passengers. The Reymont Airport does not have fixed air routes and their variability is very large. Each year new connections are added, but unfortunately some of the already operating have been closed. The most painful is the lack of connections with other airports of the country due to the monopoly of the state carrier, PLL LOT, which seems to be

deliberately limiting the role of Łódź on the aerial map of the country. Only in 2012 the first connection to Gdańsk and Wrocław were opened. Another institution that blocks the development of the airport in Łódź is the state-owned administrator of airports in the country. It is because Lublin is the only large airport in Poland beyond its control, being owned by the city and the Voivodeship. Currently (as of February 2012) Łódź has air connections to Dublin in Ireland, Oslo in Norway, Liverpool, Nottingham, London (Stansted), Edinburgh, Bristol and East Midlands in the UK, Dortmund and Bremen in Germany, Milan in Italy, and, thanks to a stopover on several foreign lines, to Bydgoszcz. During the summer tourist offices organise charter flights from Łódź to Bulgaria, Turkey, Tunisia and Egypt as well as to Tel Aviv in Israel. The airlines flying from Łódź include Ryanair, Wizz, Olt-Express and El-Al.

The discussion on the need for a major transatlantic airport for Central Poland in the area between Łódź and Warsaw, for which several possible locations have been selected, is still underway. The creation of a cargo airport in Łask by converting an existing military airfield is very attractive to investors, because together with the planned course of the S-8 and the western bypass of Łódź (S-14), it will create an opportunity to organise a major logistics hub for transportation services. The obstacle, however, is the F-16 aircraft base planned in Łask by NATO. In addition to these airports, the Łódzkie Voivodeship has two more very large military airports, i.e. Leżnica Wielka near Łęczyca and Tomaszów Mazowiecki, which should be seen as opportunities for the development of civil air transport in Central Poland.

Łódź has very good connections by public passenger bus, carried out mainly by private carriers. However, the city has been ignored for many years by the State Railway (PKP). There are no intercity connections despite a large population in the city. Łódź does not have direct rail connections with large areas of the country, and the existing connections are extremely inconvenient and very slow as average train speed does not exceed 50 kph. Moreover, connections abroad (outbound from Warsaw) are very inconvenient for the Łódź inhabitants, as it involves the need to travel 60 km to the interchange station in Kutno, which takes almost 2 hours. The only good rail link of Łódź is with the capital city (140 km) as it is relatively frequent (every 1-2 hours, but only during the day; no connections after 10 pm) and, after the repair of tracks, i.e. from 2013 it will be relatively quick (about 65 min). This allows approximately 2,000 people to commute to work in Warsaw every day.

Of the three bus stations in Łódź, i.e. Central, Kaliski and North, Łódź is communicated by 1,075 lines to other cities (as of 2008) with a total route length of more than 58,000 km. There are 36 long distance lines, 198 regional lines within the Łódzkie Voivodeship and the neighbouring ones,

while 832 are commuter lines. However, only large carrier employing more than 9 people were taken into account. In fact, the connections network is being developed by companies with a few buses, serving mostly suburban communication.

The state bus carrier, PKS, does not offer any connections from Łódź abroad. Fortunately, it is complemented by several private companies maintaining year-round, regular connections from Łódź with dozens of cities from almost all Europe, mainly within the EU, which annually carry more than 52,000 passengers.

Devoid of good rail connections, in the early 20<sup>th</sup> c. Łódź developed a system of suburban tram lines, unique in the world, that connected it with nearby town centers of the textile industry: Pabianice, Zgierz and Ozorków, Rzgów and Tuszyn, Konstancynów Łódzki and Lutomiensk as well as Aleksandrów Łódzki. Today some of these links no longer operate, e.g. those to Rzgów, Tuszyn and Aleksandrów Łódzki, while the others continue to facilitate communication of the residents of satellite towns of Łódź. In 2008 part of a line running through the city of Łódź was modernised with the EU funds. It was conceived to improve the connection Ozorków – Zgierz – Łódź – Ksawerów – Pabianice as the Łódź Regional Tram, but the project has not been fully implemented due to lack of approval of the other government centers to co-finance the project.

### **13.5. Economic potential of Łódź and its region**

The economic development of the Łódź Region is a result of an interaction of four various types of conditions:

- historical – strong centers of the textile industry and the related industries of cloth-making and machinery supporting the two previous industries, associated with the beginnings of industrialisation in the region and dominating the region's economy until the late 1980;

- environmental – no major mineral resources, apart from lignite, glass sand and building materials which were conducive for the energy industry, glass making, and producing building materials such as ceramics and lime. Poor soils and climate favoured cultivation of industrial crops, such as sugar beets, potatoes and cereals, which stimulated the development of food industries, such as sugar refineries, distilleries, breweries and cereal products, and extensive agriculture. Only the chernozem soils in the north-eastern part of the Voivodeship (the Poviats of Skierniewice, Kutno and Łowicz), are used for intensive agriculture based on fruit growing and market gardening;

- geographical – the location of the region in the centre of the country and at the crossroads of European transportation routes favours their-

vestments related to the optimisation of the distance from the consumer (logistics centers, transport, storage);

– social- relatively well-educated staff as a result of the existence of a strong R&D centre in Łódź (numerous universities, research institutes, innovation centers) but also large resources of less-educated, and therefore cheaper, labour force, which is a remnant of the failing, overly developed textile industry, and unemployment sustained at a higher level than the country average, favour the location of high-tech industries, in particular of the cluster associated with household fixtures, production management centers and financial services (accounting services) and R&D institutes of large world companies.

In the Łódzkie Voivodeship there are more than 242,000 economic entities (December 2008) located. The vast majority of companies are small and medium enterprises. Nearly 97% of companies belong to private capital; only 6,800 of companies engage public capital, of which only 29 are state-owned firms but these are undergoing the processes of restructuring and commercialisation. Foreign capital is involved in over 20% of companies. Small entrepreneurship makes up a vast majority in all Poviats of the Łódzkie Voivodeship. As many as 79.6% of businesses are capital companies (limited liability companies), 15% are general partnerships, only 3.4% are joint stock companies and 1.1% are other types of companies. Among the 100 largest companies in Poland only three are located in the Łódzkie Voivodeship: GKP Polish Pharmaceutical Group SA Łódź (ranked 33), Rossmann S. Drugstore Supermarkets Poland Ltd. (68), Indesit Company Poland Ltd. (80).

Unemployment in the Łódź region stands at 12.4% (November 2011) and is slightly higher than the national average (12.1%). In recent years there has been a fall in unemployment, as in January 2007 it amounted to 15%. Over 139,000 people are still jobless, including 51.3% of women. What makes things worse, it is structural unemployment as 83.4% are no longer entitled to unemployment benefits. As many as 26% of the unemployed are people who are not educated (no secondary education), but more than 7% are those with higher education. As many as 18.5% of the unemployed are under 25 years of age. The highest unemployment prevails in the Poviats of Łask, Kutno (16.9%), Tomaszów Mazowiecki and Zgierz, while the lowest in the Poviats of Skierniewice (7.9%), Rawa Mazowiecka, Łowicz and Łódź (10.6%).

Employment in the corporate sector is 313,000 people and there has been a steady increase in those terms (by 7.9% in relation to 2007). Despite the steady growth of salaries, an average wage in the Łódzkie Voivodeship is still below the national average (89% of the average wage in the country). This on one hand favours the location of new businesses, especially transferred from more expensive Western European

countries, but on the other hand it means a lower standard of living of the inhabitants of the region.

Nearly half of companies registered in the Voivodeship are located in Łódź. The number of enterprises run by individuals and partnerships prove a high level of entrepreneurship of the population of the region. Nearly 34% of all companies operating in the Łódzkie Voivodeship are engaged in trade. Only 14% are manufacturing companies, and over 13% of all companies provide real estate services. More than 61% of companies registered in the region operate in these three sectors. The next places are taken by the construction industry (9%), community and individual service activities (7%), as well as transport (mainly road), storage and communications (6.6%). Health care cumulates 4% of the companies, financial intermediation more than 3% and hotel and catering services 2.5%. Companies and production facilities are primarily concerned with the production of clothing, textiles, foodstuffs, beverages, furniture, fabricated metal products, and tanning and dyeing leather.

An area distinguished by high dynamics of development in the Łódzkie Voivodeship is also the pharmaceutical industry and wholesale trade in pharmaceutical products. The leading companies in this field include the factories of Polfa in Pabianice, Kutno and Łódź, and of Terpol in Sieradz, and other pharmaceutical companies located in Pabianice, Kutno and Ksawerów as well as manufacturers of herbal medicines: Herbapol Łódź and Agropharm Tuszyn. In 2008, new production facilities were opened in Stryków by the Slovenian company Lek Pharmaceutical Chemical Company.

Another branch of industry thriving in the Łódzkie Voivodeship is the production of building materials. The leading manufacturer is Atlas, a leader on the domestic market and the third European producer of construction chemicals. In the Poviats of Opoczno and Tomaszów Mazowiecki there is a centre for mining and processing of building materials. The Łódzkie Voivodeship is also the national leader in the production of ceramic tiles (plants of *Ceramika* in Opoczno, Paradyż and Tubądzin) concentrated around mining sites of kaolin clay. The share of the Łódź region in the domestic production of ceramic tiles is 70%.

An important role in the regional economy is played by the Piotrków-Belchatów Industrial District. It includes the Belchatów Lignite Mine and Power Station Belchatów located nearby, which provides annually 20.4% of electricity produced in the country. The Łódzkie Voivodeship thus has a large overcapacity in those terms.

A new phenomenon for the Łódź region is the concentration of companies from the house appliances sector. The factories of the global brand of Bosch-Siemens Hausgeräte produce washing machines and dishwashers in Łódź, while Indesit Company produces cookers and

refrigerator. This concentration is preferred mainly because of the presence of specialised staff and the availability of specialised subcontractors.

The Łódzkie Voivodeship takes one of the first positions in Poland in terms of manufacturing many products, including hosiery - 65% of national production, lignite -58.4%, antique and gardening glass -51.3%, tar paper -45.4%, cotton fabrics- 40.7%, towelling and velvet fabrics - 38.4%, blankets and rugs- 32.1%. Moreover, the production of wool and synthetic fabrics, underwear, coats and fabric clothing, as well as the aforementioned electricity is also significant. Other important spheres of production include dairy and meat products, and fruit and vegetable processing.

In the services sector an uneven distribution of commercial entities is characteristic. The largest concentration, mainly in so-called modern services, includes the central area, i.e. the Poviats of Bełchatów, Pabianice, Zgierz, Łódź-East and the cities of Skierniewice, Łódź and Piotrków Trybunalski. The most attractive, as a potential site for locations, is the capital of the region – Łódź.

The economy of the Łódzkie Voivodeship is open to foreign investors, with excellent strategic location, rich industrial tradition, educated population and relatively low prices of investment plots and real estate. Of particular importance for the economic development of the region is the Łódź Special Economic Zone (*Łódzka Specjalna Strefa Ekonomiczna – ŁSSE*), opened in 1997, which until 2020 is offering particularly favourable financial conditions for investors. The zone covers a total area of 1,162 ha distributed over 41 sub-zones all over the Łódzkie Voivodeship and in the case of 12 sub-zones outside the Łódzkie Voivodeship, namely 5 in the Mazovian Voivodeship, including Warsaw, and 7 in the Wielkopolska Voivodeship. The condition for letting the businesses into the ŁSSE zone is to invest at least 100,000 euro. Currently, only a little over 17% of the area is dedicated to development as 135 companies have already located their production facilities and services investing a total of 2.5 billion euro, and employing 18,700 people.

A relatively new is the food services industry, which puts the growth rate of the Łódzkie Voivodeship in those terms in the second place in Poland after the Mazovian Voivodeship. The Łódź Region has a well developed tourist infrastructure and is constantly developing its hospitality infrastructure (the next four-star hotels are under construction), which fosters the image of the region as open to tourists from both Poland and abroad. The region has 216 facilities offering accommodation (including only 63 hotels) with a total capacity of over 16,000 places. The largest concentration of hotel and motel beds is found in Łódź and the Piotrków

Trybunalski Powiat with Piotrków Trybunalski itself, and the Powiat s of Bełchatów and Radomsko.

The share of the Łódź Region in the foreign trade of Poland amounts to about 4%. Products manufactured in the *Voivodeship* are mainly exported to Germany (39.9% of export), Russia (6.18%), Denmark (6.08%), France (4.85%) and the Netherlands (4.71%). The structure of exports is gradually changing, steadily increasing the share of products with a higher degree of processing and technological advancement. In particular, the export of the following products is rapidly increasing: cosmetics, metal products, optical equipment, boats, machinery and equipment for audio and video recording, and articles made of plastic.

An important role in the economy of the Łódź region is played by agriculture, which is the basis for the industries of food processing, production of canned vegetables, canned meat and vegetable dishes, juices and drinks. This sector is growing especially rapidly in the Skierniewice Powiat, aided by the Research Institute of Pomology and Floriculture, the only such institution in Poland. In agriculture an important role is played by the production of rye and potatoes as well as cattle and pigs. Farmlands constitute 69% of the area of the Voivodeship. Food production and processing are designed for the home market and export.

The Regional Operational Program, developed for the Łódzkie Voivodeship in 2007, identified seven priority axes of development of the region:

- transport infrastructure (especially by creating the link between the regional and national and European transport system, improving road infrastructure and road conditions, quality and competitiveness of rail transport, both passenger and freight as well as developing air transport);
- environmental protection (by improving the state of the environment, increasing the energy security of the region, rationalising water supply);
- economy, innovativeness, entrepreneurship (supporting the R&D sector, purchasing equipment and apparatuses, funding innovative projects, creating industrial parks, innovation incubators and tourist facilities);
- information society (supporting computerisation of public administration, supplying information technologies for businesses, developing telecommunications);
- social infrastructure (developing health infrastructure, social welfare, education centers and cultural institutions);
- urban renewal (renovating housing, revitalising problem areas, adapting industrial buildings for new functions);

technical assistance (supporting the implementation of the RPO, developing interregional cooperation, promotion and information).

A very strong point of the economy of the Łódź region is its well-educated labour force, which is due to the fact that in Łódź and several other large cities of the Voivodeship there exist 31 (2009) higher education institutions (20 in Łódź itself), including the University of Lodz (Uniwersytet Łódzki), University of Technology, Medical Academy, and dozens of private universities. Of the latter, the high position documented by the right to grant doctoral degrees, which in the case of private schools in Poland is very rare, is held by the Social Academy of Sciences, University of Humanities and Economics and Academy of International Studies. Currently more than 147,000 young people are studying at the universities of the region (most of them in Łódź).

Łódź is also an important arts and culture centre. It is a city of such artists as Arthur Rubinstein, Alexander Tansman, Władysław Reymont, Andrzej Strug and Julian Tuwim. Here is one of the most famous film schools in Europe, made world-famous by Andrzej Wajda, Roman Polański, Jerzy Skolimowski, Wojciech Haas, Krzysztof Kieślowski, Krzysztof Zanussi, Witold Sobociński and Władysław Pasikowski. In Łódź there are also the Academy of Music and Academy of Art, the Museum of Modern Art famous for its collection including the works of Marc Chagall, Max Ernst, Paul Klee and Fernand Léger, and the unique Central Museum of Textiles.

Overall, in the Łódzkie Voivodeship there are 41 museums, 46 art galleries, 12 theatres, including the Grand Theatre in Łódź, and 31 cinemas with a total of 61 screens. Since 1994, the film school has been organising the International Film and Television Schools' Festival "Media-school", which is an overview of the achievements of young filmmakers from around the world. Another world-popular was also an international festival of film directors "Camerimage", and one of its participants, film director David Lynch, is the promoter of the project to transform the vicinity of the railway station Łódź Fabryczna and an old power station into so called New Centre (consisting of the Special Zone of Culture, Special Zone of Arts, the convention centre as well as residential areas and office space). The New Centre, according to the project architect Rob Krier from Luxembourg, is supposed to cover an area of 90 ha in the city centre. Unfortunately, the policy of the city authorities and the shady dealings of the initiators of the investment led to a partial failure of this project, the withdrawal of the architects, reduction of the scale of investment and the temporary transfer of the festival to Bydgoszcz.

Cyclical, annual, high-level cultural event is the Festival of Dialogue of Four Cultures, whose concept is related to the history of the formation of Łódź, and the fates of Poles, Jews, Germans and Russians setting it up.



These four nations are to have their streets in the New Centre, coming out of the future market place named after the world famous sculptress Katarzyna Kobro. Unfortunately, the conflicts of the organisers of this festival with the city authorities, regardless of their political colour methodically lowering the importance of culture in Łódź, have led to the diminution of the importance of this event as well.

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