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NATIONAL ATLAS OF SLOVENIA AND DIGITAL ATLAS OF SLOVENIA

National Atlas of Slovenia (first edition, 1999)

Article summaries

Atlas of Slovenia (second edition, 1999)

A database of around 37,000 geographical names of Slovenia

Prepared by Milan Orozen Adamic, Slovenia

ARTICLE SUMMARIES

FOREWARD

Dear Reader

The *Geographical Atlas of Slovenia* with its eloquent subtitle *The State in Space and Time* is a highly scientific and cultural work containing the combined knowledge of collaborators from the Institute of Geography, the Anton Melik Geographical Institute of the Scientific Research Center of the Slovene Academy of Sciences and Arts, the Geography Department of the Faculty of Philosophy of the University of Ljubljana, and other institutions. The individual and collective work of more than fifty experts is now available on the book market, and readers will have the opportunity to judge its usefulness.

I am certain that this national atlas will be well received. We Slovenes need this book. Anyone wishing to live a full life in his homeland will definitely try to learn as much as possible about it, about its demographic, social, and ethnic structure, about its settlements, society, economy, and ecology, about its natural and cultural characteristics, riches, and monuments, about the past and present of Slovenia and its citizens, and about the dimensions of the Slovene identity at home, across its borders, and throughout the world. I see a special value of the book in its historical coverage, and I believe the geographical illustrations of Slovene territory from Roman times to the present will attract the interest of many readers.

It is well known that no generation of Slovenes ever lived for its own time alone. They all respected the work of their predecessors, and all their actions also bore in mind progress for following generations. Such considerations preserved the Slovene identity in the harshest of times and shaped a country and a state which has its own uniquely recognizable characteristics and is simultaneously included in European currents of civilization.

This national atlas is a professionally and scientifically prepared work that bears witness to our place in history and today in a popular, clear, concise, and readable manner, and it should therefore find its way into every Slovene home. It will also be useful for foreigners interested in our country. I therefore hope the authors and the publisher will find a way to publish the *Geographical Atlas of Slovenia* in several foreign languages.

My sincere congratulations to the authors and the publisher, and I wish this book many readers.

1–11 PREFACE

MILAN OROŽEN ADAMIČ, EDITOR

8–9 ABOUT THE GEOGRAPHICAL ATLAS OF SLOVENIA

DR. ANDREJ ČERNE
JERNEJA FRIDL
DRAGO KLADNIK
DR. MILAN OROŽEN ADAMIČ
DR. DRAGO PERKO
DR. MARJAN RAVBAR
MATJAŽ SKOBIR
DR. JERNEJ ZUPANČIČ

Books are lenses through which we perceive the world, and a national atlas—the basic geographical and cartographical book of every state—is a particularly graphic presentation of a nation or country. The *Geographical Atlas of Slovenia*, subtitled *The State in Space and Time*, is devoted to our homeland, presenting it in maps, texts, and pictures that reveal the great geographical wealth of this small country at the center of Europe.

10–11 INDEPENDENT SLOVENIA

MILAN OROŽEN ADAMIČ

Some of the most important facts about Slovenia are presented, from national holidays and anthems to diplomatic offices abroad.

12–35 SLOVENIA IN EUROPE

MILAN OROŽEN ADAMIČ, EDITOR

14–18 MAPS OF EUROPE

Made by De Agostini (Italy), Veliki atlas sveta, DZS, Ljubljana, 1996.

19–20 SLOVENIA IN EUROPE

MILAN OROŽEN ADAMIČ

The graphs present a comparison between Slovenia and other European countries (surface area, population, density of settlement, and GDP). The table compares Slovenia with its neighbouring countries and members of the European Union.

21–30 MAPS OF SLOVENIA

Map in scale 1 : 500.000, Geodetski zavod Slovenije. Ljubljana, 1998.
Maps in scale 1 : 300.000, Inštitut za geodezijo in fotogrametrijo FGG. Ljubljana, 1998.

31–35 ADMINISTRATIVE DIVISION

IVO PIRY
MILAN OROŽEN ADAMIČ

Slovene territory experienced numerous political and administrative changes in the past as a result of its location at the juncture of the Alpine, Mediterranean, Pannonian, and Dinaric worlds, which is also the meeting point of the Slavic, Romanic, Germanic, and Hungarian cultures. For the greater part of the last millennium, Slovene territory fell wholly or partly under the rule of the Hapsburgs, that is, of Austria-Hungary. The Primorska and Goriška regions were ruled by the Venetian Republic and later by Italy for a long period. During the period of Napoleon's Illyrian Provinces, these two regions along with Carniola were under French administration and then again under the Austro-Hungarian Monarchy until the end of World War I. Prekmurje was under Hapsburg authority all this time but belonged to the Hungarian part of the Monarchy. For centuries, the border between Austria and Hungary ran along the Mura River, while the western border with the territories of the Counts of Gorizia, the Aquileian Patriarchate, the Venetian Republic, and later the Kingdom of Italy changed frequently. After World War I, the greater part of Slovenia was joined to Yugoslavia. All this is reflected in numerous changes to the administrative division of Slovenia, changes which are still on-going in the newly independent Slovenia.

36–71 CARTOGRAPHIC IMAGE

MILAN OROŽEN ADAMIČ, EDITOR

38–49 SLOVENIA ON OLD MAPS

BIBIJANA MIHEVC

Like today's maps, old maps represented the sum and synthesis of known facts about the Earth's surface. Along with extracting numerous interesting old data, a specific problem for cartography is the choice of the method or manner for presenting the data. For many centuries, this has been the most difficult task of map makers. In the foreground is the effort to overcome distorted projections and to accurately reflect the actual conditions in the terrain. This applies, of course, not only to the depiction of land areas, rivers, and oceans but also to the names and locations of places, drawing borders, political divisions, etc. Such examinations of old cartographic depictions of the present territory of Slovenia are described in this part of the atlas.

50–51 AN OUTLINE OF THE DEVELOPMENT OF CARTOGRAPHY AND GEOGRAPHY

JERNEJA FRIDL

Along with foreign map makers and geographical research, the first Slovene cartographers appeared in the 17th century and established the foundations for the rapid development of Slovene cartography and geographic sciences. Since then, ever more numerous and elaborate works have appeared that won recognition not only among the Slovenes but worldwide. Today, the successful work of these individuals in the fields of cartography and geography is being continued by numerous experts in the framework of scientific, educational, and technical institutes.

52–55 SLOVENE CARTOGRAPHY TODAY

BOŽENA LIPEJ

Because of its thematic variety, quality, and diversity of scales, the work of Slovene cartography is the equal of any in Europe. Various types of plans and maps intended for wider use are briefly presented.

56–61 AERIAL PHOTOGRAPHS

BOŽENA LIPEJ

Cyclical and other aerial photographs of Slovenia are presented with a survey of characteristic black and white and colour shots.

62–65 DIGITAL RELIEF MODEL

DALIBOR RADOVAN

A digital relief model is a way of presenting relief using a computer database of the coordinates of points on the physical surface of the terrain. The points are usually selected at the corners of a square grid cell but can also be irregularly distributed on mountain peaks, valleys, and other typical relief forms. Slovenia's Geographical Information System boasts a computer database on the altitude of more than two million such points arranged in a grid composed of 100 x 100 meter cells.

66–71 SATELLITE PICTURES

BRANKO PAVLIN

Mankind observes the universe from increasingly closer distances and the Earth from increasingly farther in space. Under the combined influence of the development of computer science and of instruments and methods for remote observation, the quantity of digital data and consequently the knowledge of the Earth's surface has increased rapidly in the last quarter century. Earth-watching satellites circle the Earth at distances of 700 to 900 kilometers. Satellite data on the Earth's surface has certain characteristics that other data sources lack: it is digital and therefore can be processed by computers; it is geocoded (furnished with coordinates) and therefore can be linked to other data; it is global, providing a uniform source of information on extensive surface areas; it is uniformly gathered and therefore the various sciences that interpret it have a uniform source of information; it is periodical and therefore enables observation of changes over time; and it is relatively inexpensive. Thus, we have at our disposal an ever larger number of different satellite photographs of Slovenia, several examples of which are presented in this chapter.

72–125 TERRITORY

DRAGO PERKO, EDITOR

74–77 ROCKS

TOMAŽ VERBIČ

The rocks comprising the Earth's crust are composed of minerals. They have diverse physical and chemical properties and also differ according to their origin and age. Lithology (Gr. *lithos*, rock) or petrology (Lat. *petra*, rock) deals with the characteristics of rocks while stratigraphy (Lat. *stratum*, cushion, blanket, layer) deals with their age; all are branches of geology. Lithological maps show the types of rock lying on the surface or under the soil and vegetation, while stratigraphical maps show the age of these rocks.

Some 93% of Slovenia's surface is composed of sedimentary rock, 3% of igneous rock, and 4% of metamorphic rock. The most frequent sedimentary rocks are limestone which comprises more than a quarter of the surface and dolomite which comprises one seventh of the surface.

78–79 SURFACE IN THE QUATERNARY

MILAN ŠIFRER

During the Ice Ages in the cold periods of the Pleistocene, extensive glaciers developed in the Alps and the Dinaric Mountains that sharpened numerous peaks, hollowed basins, widened glacial valleys, and left behind enormous amounts of morainic gravel. Water flowed from under the glaciers, carrying away gravel and depositing it in lower areas as rubble (fluvioglacial rubble). Due to the washing down of gravel from the slopes into the valleys, gravelling was also characteristic in unglaciated, periglacial areas (perifluvioglacial gravel). Periods of gravel accumulation were followed by periods of erosion.

Because Slovene rivers removed more material each time than had been deposited in a previous period, the valleys were deepened substantially by the repeated alternation of deposition and erosion, and five to seven terraces were created on the slopes. The latest four levels of deposits preserve morainic deposits belonging to the Günz, Mindel, Riss, and Würm periods.

80–83 SURFACE

MATEJ GABROVEC

MAURO HRVATIN

In the middle of the Pliocene, the surface of present-day Slovenia was largely levelled due to strong chemical weathering and extensive denudation in the then moderately humid and warm climate. Numerous flat areas remain from this period. Due to the gradual cooling of the climate, mechanical weathering increased in the Upper Pliocene, primarily reducing surface areas of impermeable rock that were then considerably more widespread than they are today. With deepening and the erosion of banks, the rivers carved deep valleys, above which the remains of former terraces were preserved. Even greater changes occurred with the frequent changes of climate in the Pleistocene. Frequent freezing caused extremely strong mechanical weathering, and the rivers deepened their valleys by 100 to 300 meters while simultaneously depositing vast amounts of gravel in young tectonic depressions. In the Holocene, periodic deposition of material from the upper parts of the valleys followed the initially very rapid river erosion. Powerful tectonic and geomorphological processes shaped the landscape which was composed of various genetic and morphological types of relief. According to the geomorphological development in Slovenia, we distinguish four basic genetic types of relief: fluviodenudated (destructive and accumulative), glacial, karstic (limestone and dolomite), and littoral. In some regions, the genetic relief types are interwoven. Among the genetic relief types, karstic and fluviodenudated dominate. Flatlands, elevations, hills, mountains, and high and low plateaus belong among the morphological relief types.

84–85 SURFACE ALTITUDE

DRAGO PERKO

Altitude, the third dimension that together with geographical latitude and longitude precisely defines the position of every point in the landscape, is the vertical distance from an imaginary plane at the average sea level extended under the land. On maps, altitude is indicated by contour lines connecting points on the surface at the same height above sea level or by a colour scale indicating altitude belts.

The average altitude in Slovenia, calculated using the 100 x 100 meter digital relief model, is 557 meters. The lowest point is the coastline (0 m), and the highest is the top of Mount Triglav (2864 m). Altitude belts between 0 and 200 meters which include the Pannonian and Mediterranean plains altogether encompass less than one tenth of Slovenia's surface; belts between 200 and 400 meters that include mainly the Pannonian and Mediterranean hill areas and the bottoms of subalpine valleys encompass almost one third; belts between 400 and 800 meters that include the greater part of the hilly subalpine and Dinaric regions encompass almost two fifths; belts between 800 and 1200 meters that include mainly high karst plateaus and the highest subalpine mountain ranges encompass one eighth; and belts above 1200 meters encompass only 6%.

The snow line in Slovenia lies at approximately 2700 meters; the upper forest line indicating the altitude at which thick forest can still grow in the alpine region lies between 1600 meters in the west and 1800 meters in the east. The average altitude border of human settlement runs about 500 meters below the forest line. The highest farmsteads are in the eastern Karavanke Mountains where the altitude border exceeds 1300 meters. The highest farmstead in Slovenia is the Bukovnik farm below Mount Raduha at 1330 meters. The altitude border for corn is 800 meters. For vineyards, it is 500 meters although in the Brkini and Gorjanci regions it extends to 600 meters.

86–87 SURFACE INCLINATION

DRAGO PERKO

Inclination (slope, gradient) is a characteristic of every unlevel surface and denotes the angle between the direction of the rise of the surface and the horizontal flatland. It is expressed in angular dimensions, usually in degrees (°) or in percentages (%), which tell us how many meters the surface rises over a distance of 100 meters. An inclination of 0° or 0% indicates a flat surface, while an inclination of 90° or 100% indicates a vertical wall.

The average inclination in Slovenia, calculated using the 100 x 100 meter digital relief model, is 13°. The steepest part of Slovenia's surface is the alpine region which has an average inclination of 18° (high mountain region 25°, subalpine region 15°), followed by the Dinaric region with 11°, the Mediterranean region with 10°, and the Pannonian region with 6°. The steepest Slovene landscape with an inclination of 26° is in the Julian Alps, and the flattest with an inclination of less than 1° is the Mura Plain. The inclination class between 12° and 20° encompasses almost one quarter of Slovenia, between 6° and 12° a good fifth, and between 20° and 30° almost one sixth. The two lowest classes encompass less surface area: the inclination class between 0° and 2° covers less than one sixth of the surface area of Slovenia—mostly plains, poljes, the bottoms of basins, and the bottoms of larger valleys—and the inclination class between 2° to 6° covers one seventh of Slovenia, mainly the more leveled parts of the Pannonian and Mediterranean hill areas and the region of the lower karst plateaus.

88–89 SURFACE EXPOSITION

DRAGO PERKO

Surface exposition (exposure) is a characteristic of any unlevel relief. It is defined using the angle between north and the line of sight from a higher to a lower altitude and is expressed as an azimuth between 0° to 360° in a clockwise direction. The exposition of the relief therefore indicates which direction the surface faces according to compass directions. We can also speak of sunny and sunless (shady) exposition.

If the surface were evenly or symmetrically formed, each of the eight basic expositions would theoretically occupy an equal proportion or 12.5% of the territory. In actual fact, southern expositions occur most frequently in Slovenia, occupying 15.2% of its surface, while northwestern expositions are the fewest, occupying 9.5%. Northeastern, southwestern, and eastern expositions have above-average occurrences, while western, northern, and southeastern expositions have below-average occurrences. In the alpine region where the ridges predominantly run west to east, almost one third of the surface has northern or southern expositions and only one fifth has eastern or western expositions. In the Dinaric region where the ridges mainly run from northwest to southeast, almost one third of the surface area has northeastern or southwestern expositions and less than one fifth has northwestern or southeastern expositions. In the Pannonian region, the majority of the surface area has an eastern exposition and the least has a northwestern exposition. In the Mediterranean region, the largest part of the surface area has a southern exposition, and the least an eastern exposition.

90–91 KARST SURFACE

ANDREJ MIHEVC

The karst is a region with unique relief, water systems, and underground phenomena that developed on water-soluble rock, in Slovenia mostly on limestone and dolomite. Characteristic of the karst landscapes which cover almost half of Slovenia are rocky surfaces with sinkholes, depressions, uvalas, karst poljes, karst plains, and dry and blind valleys. A surface water system is very rare because rainwater flows underground through the permeable rock and forms karst caves. About 6500 karst caves have been explored in Slovenia; the longest is the Postojna cave and the deepest shaft is Čehi 2 on Mount Rombon. The Škocjan Caves, which are included on the UNESCO list of world heritage sites, are distinguished by their vast halls. The largest is the Martel Hall, 123 meters wide and 145 meters high with a volume of 2,100,000 m^3.

Because the study of karst phenomena began in the second half of the 19th century in the Slovene region of Kras, the German form of its name (*Karst*) entered the international scientific vocabulary along with numerous other Slovene terms such as "doline" and "polje."

92–93 KARST WATER SYSTEMS

ANDREJ KRANJC

Water is the essential component of karst regions. Relative to the flow of water through the karst, there are two hydrological types of karst in Slovenia: shallow and deep karst. Deep karst dominates, where water from underground streams and precipitation accumulates in large karst aquifers due to the great permeability of the rock. There are areas of relief or lithologically separated masses of karstified rock that accumulate economically significant quantities of water (Kras, Trnovski gozd, Javorniki, Snežnik). Large volumes of flow and the influx of water from great depths are characteristic of karst springs, making them suitable sources of drinking water; however, since they are highly vulnerable to pollution, many are unusable. Protecting karst springs from pollution is difficult because they have extensive, up to 100 km^2 catchment areas and can be simultaneously connected with several ten-kilometer distant underground streams.

94–95 SURFACE WATERS

MARKO KOLBEZEN

Slovenia is richly endowed with water. All the forms of surface water occur here from torrents, brooks, streams, creeks, and rivers to lakes and the sea as well as underground streams and rivers that crisscross the karst region. The outflow of water depends on the rock, relief, climate, and weather characteristics of individual regions. The great differences between the Alpine, Pannonian, Dinaric, and Mediterranean regions and the uneven distribution of annual precipitation determine the characteristics of the river systems. River systems with the most advantageous distribution (Drava, Mura) have high summer outflows for exploitation, while river systems with the least advantageous distribution (Rižana, Reka, Ščavnica, Ledava) have low outflows in summer when the demand for water is greatest. Slovene rivers have simple nival systems (Mura, Drava), transitional nival systems (upper Soča), nival-pluvial systems (Meža, upper Savinja, upper Sava, Kamniška Bistrica), continental pluvial-nival systems (lower Sava), Mediterranean pluvial-nival systems (Vipava, Kolpa, Krka, Ljubljanica, Idrijca, Reka, Rižana), and pluvial systems (Sotla, Pesnica, Ledava).

96–97 THE SEA

MILAN OROŽEN ADAMIČ

IRENA REJEC BRANCELJ

Slovenia lies along the northernmost part of the Adriatic Sea, called the Bay of Trieste after the largest Adriatic port. The bay extends from Trieste to an approximately 21-kilometer long imaginary line drawn between Savudrija and Grado. The surface area of the bay is good 550 km^2 (steadily decreasing due to the fluvial and anthropogenic build-up of coastal plains), almost one third of which belongs to Slovenia. The greatest measured depth of the bay is 37 meters beside Cape Madona on the Piran peninsula, and its average depth is 16.4 meters. The Slovene coast is 47 kilometers long. Old Mediterranean towns lie along the coast: the port of Koper, the industrial town of Izola, and the tourist town of Piran.

98–99 PRECIPITATION

BORIS ZUPANČIČ

Great differences in the distribution of annual precipitation are characteristic of Slovenia. The quantity of precipitation decreases from west to east. With more than 2500 mm of precipitation every year, the western and southwestern parts of Slovenia belong among the wettest regions of Europe. The daily quantities of precipitation are also exceptional, for example, 400 mm of precipitation per day has been recorded in Posočje and more than 100 mm per hour. The least precipitation occurs along the border with Hungary, where less than 900 mm falls each year.

Summer storms with heavy rain and strong winds are frequent in a belt from the Posočje region across central Slovenia on to Prekmurje. Great damage is also caused by floods and drought.

100–103 AIR TEMPERATURES

TANJA CEGNAR

The temperature of the air in Slovenia changes characteristically over the day and during the year. The annual maximum temperature occurs in July, and the minimum most often in January. The exception is in the high-mountain region where the minimum occurs only in February. In the normal daily course of air temperature, maximum temperatures occur in the early afternoon, usually between 14:00 and 15:00, and the minimum around sunrise. The natural variability of meteorological parameters is quite large, and data for several decades must therefore be considered in a survey of climatic characteristics. The survey of temperatures characteristic for Slovenia is limited to the period between 1961 and 1990. The first temperature measurements in Slovenia were undertaken in Ljubljana in 1850, and data has been preserved since 1851.

104–105 SOLAR RADIATION

MATEJ GABROVEC

The map illustrates the annual energy of quasi-global radiation which is the sum of direct and diffused solar radiation of inclined surfaces. Because the relief of Slovenia is very diverse, the solar radiation here changes over short distances. The differences between slopes exposed to the sun and shady slopes are greater than those between slopes that fall into different climatic types. Due to these differences, the solar radiation for each hectare of Slovenia's surface area has been calculated individually. Over the day and during the year, the height and azimuth of the sun change and thus the angle between the sun rays and the slope as well as the degree of shadiness. To determine annual energy of solar radiation, it was therefore necessary to calculate the energy of quasi-global radiation for each ten-day period (decade) of the year and for every hour of each day.

106–109 WEATHER

TOMAŽ VRHOVEC

In temperate geographical latitudes, the weather is mainly influenced by the alternation of vast areas of high and low air pressure (anticyclones and cyclones) and atmospheric fronts. Slovenia also has very diverse relief that results in characteristic and sizable space and time variations in our weather. The maps show four typical weather situations over Europe and Slovenia: the spread of an Azores anticyclone above southern Europe, the spread of a Siberian anticyclone over Eastern and Central Europe, the passage of an itinerant Atlantic cyclone with a cold front across Central Europe and the Alps, and a Mediterranean cyclone.

110–111 CLIMATE

DARKO OGRIN

The characteristic climates in Slovenia are primarily the consequence of Slovenia's location in a temperate geographical latitude relatively close to the Atlantic Ocean in the transition area between the Mediterranean Sea and the Eurasian continent and the very considerable altitude variations of its surface. With the exception of the high mountain region with a montane climate, all of Slovenia has a moderately warm and moist climate. According to the precipitation regime, the average temperatures of the warmest and coldest months, and the ratio between October and April temperatures, the climate of Slovenia is divided into three climatic types and nine subtypes: submediterranean climate (littoral subtype or climate of olive trees and the littoral hinterland subtype), temperate continental climate (temperate continental climate of western and southern Slovenia, temperate continental climate of central Slovenia, temperate continental or subpannonian climate of eastern Slovenia, and temperate continental or subpannonian climate of southeastern Slovenia), and montane climate (the climate of higher mountain regions, the climate of lower mountain regions and intermediate valleys in western Slovenia, and the climate of lower mountain regions and intermediate valleys in northern Slovenia). There are significant local variations between valley bottoms, basins, and karst depressions where there are frequent temperature inversions and the warm and hilly belts.

112–113 PHENOLOGICAL MAPS

CIRIL ZRNEC

Phenology (Gr. *phainestai*, phenomenon, and *logos*, science) is a branch of biology that deals with the regular cycles observed in the relationship between plants and the environment. Plants respond to changes in the environment in specific ways: their growth and development slow due to lack of moisture; if it is cool, leaves and blossoms develop more slowly or remain closed; planted seeds only germinate when the atmosphere warms suitably. Temperature is the decisive factor in the development of the plants, and the soil conditions in the habitat are also important. Plants respond to all these various factors by changing their biorhythm, the established annual cycle of development, and these changes appear as the early or late start of individual development stages or phenological phases. Phenological data is used primarily in agriculture, as well as in pharmacology and medicine since the pollen of numerous plants causes allergies. The maps show the blossoming of dandelion, the leaving of beech, and the general blossoming of the linden tree, the most suitable examples for presenting the basic phenological characteristics of Slovenia.

114–115 SOILS

FRANC LOVRENČAK

In temperate geographical latitudes, the most important pedogenetic factor in the initial level of the formation of soil is the bedrock (influencing in particular the morphological, physical, and chemical properties of the soil), while at later levels in the development of soil, other pedogenetic factors become increasingly important: relief, water, climate, vegetation, and human activity.

Due to the variations in rock and relief in Slovenia, its soils are very diverse as well. The pedogeographical map illustrates the links between the soil and the relief and rock; pedogeographical units are therefore determined and circumscribed on the basis of pedological, geological, and relief maps. Relative to the major relief forms, two groups of pedogeographical units are defined in Slovenia: the first are units found in valleys, lowlands, and basins, mainly at altitudes below 400 meters; the second are units found in hilly regions, low mountains, mountain ranges, and karst flatlands, plateaus, and valley systems, mainly at altitudes above 400 meters. Relative to the influence of water, soils are automorphic and hydromorphic: the former are influenced by rainwater and lie in drained valleys, lowlands, basins, and elevated regions, while the latter are influenced by groundwater, surface waters, or flood waters and cover flat or concave surface areas.

116–119 VEGETATION

MITJA ZUPANČIČ
ANDREJ SELIŠKAR
VINKO ŽAGAR

Before the activity of man and animals, Slovenia was covered with forests, while grassland and rock vegetation or infertile surfaces were only found in the high-mountain alpine region. Vegetation that could successfully flourish in today's ecological conditions without the activity of man and animals (anthropozoogenic influences) is shown on the map of potential natural vegetation, while the current situation of vegetation occurring as a result of anthropozoogenic influences from the past to the present is shown on the map of actual vegetation. The variety in the vegetation cover increased due to the activity of man and animals. Secondary vegetation forms appeared such as monocultures of tree species (for example, spruce, pine, black locust, and poplar) as well as the spread of beech and grassland, forest margin, and other vegetation along with tertiary vegetation forms: mostly arable and garden weeds and weeds of nitrophilous habitats.

In continental Slovenia, beech forests are most widespread followed by forests of hornbeam, and in the littoral region by oak forests.

120–125 REGIONS

DRAGO PERKO

As a result of the confluence of four major natural units (the Alps, the Dinaric mountains, the Pannonian plain, and the Mediterranean basin) and four cultural spheres (Slavic, Germanic, Romanic, and Hungarian) in this small corner of Central Europe, Slovenia is exceptional for the diversity of its landscapes. The division of territory into regions is called "regionalization." Landscapes are studied by regional geography, the most important branch of geography. Slovenia is divided into four large regions or "macroregions" (the Alpine, Dinaric, Pannonian, and Mediterranean regions which respectively cover 42%, 28%, 21%, and 9% of Slovenia) which are composed of medium-size regions or "mezzoregions" and small regions or "microregions." The regionalization of Slovenia into four macroregions and forty-nine mezzoregions is based on the typification of Slovenia with four basic region types and nine subtypes.

126–177 POPULATION

DRAGO KLADNIK, EDITOR

128–131 POPULATION AND POPULATION GROWTH

DRAGO PERKO

Population is all the people who live in a particular region. Population depends greatly on the natural and social conditions in a region, and therefore its characteristics change quickly. The most important population elements are the number of population (including data on the numbers of birth, deaths, immigrants, and emigrants) and the structure of the population (primarily sex, age, nationality, language, religion, education, employment, and politics). In the middle of the 19th century, a good million people lived in the territory of present-day Slovenia, and one hundred years later, a million and a half. Between 1961 and 1991, the population increased from 1,591,532 to 1,965,986, that is, by 23.5% or on the average by 7.1‰ per year.

132–133 BIRTHRATE

MILIVOJA ŠIRCELJ
DRAGO KLADNIK

The birthrate is an important demographic phenomena expressing the frequency of births of the population as a whole or of its individual parts and is therefore a positive component of the natural renewal of the population. It is measured by various indexes. The most frequently used and most easily accessible index is natality, that is, the number of living newborn children compared with the number of all the population in a calendar year. In a broader sense, the term "natality" is a synonym for birthrate. As everywhere in the developed parts of the world, the birthrate in Slovenia has decreased substantially in the last decades. In the 1990's, it reached such a low level (9.5‰) that Slovenia found itself almost at the bottom of the European and world ladder.

134–135 DEATH RATE

MILIVOJA ŠIRCELJ
DRAGO KLADNIK

Death is an inevitable and unrepeated event and is therefore easier to study than other demographic phenomena. When we use the expression "death rate," we mean the frequency of death in the population or the length of life. To illustrate the frequency of death, the most widespread index is general level of the death rate (mortality), while life expectancy at birth is used to illustrate length of life. Due to improved health care, mortality in Slovenia decreased substantially between the two World Wars. The lowest value (8.8‰) was reached in 1961, and since then it has been between 9.3‰ and 10.7‰. Simultaneously, life expectancy has increased (in 1996, 70.3 years for men and 77.8 years for women), although it is still somewhat shorter than the life expectancy of the populations in the most developed countries.

136–137 NATURAL INCREASE

MILIVOJA ŠIRCELJ
DRAGO KLADNIK

Natural increase is the difference between the number of newborn children and the number of deaths in a calendar year. It indicates how much the population of a region would increase if there were no migrations, that is, if the value of migration increase were zero. The expression

"natural increase" anticipates a constant surplus in the number of newborn children over the number of deceased; however, natural increase is frequently negative and even becomes the "natural decrease" of the population. Not such a long time ago, the number of deaths exceeded the number of those born only during extreme events such as wars, plagues, famines, and natural disasters, but since the 1970's, a negative natural increase of population has been recorded regularly or periodically in several European countries (e.g. Hungary, Germany). Slovenia ranked among them in 1993.

138–143 MIGRATION

AVGUŠTINA KUHAR DE DOMIZIO

The migration of populations is a demographic process that from the earliest times has reflected economic, political, national, religious, and cultural conditions. Usually, migration is defined as the spatial moves of individual people from an emigration area to an immigration area. Because of the multitude of factors influencing and encouraging them, the direction and extent of migration movements are much less predictable and permanent than the natural movements of populations. For many years, Slovenia was a country from which population emigrated, mostly at first to North America and later to Western Europe as well. After World War II, a new form of emigration appeared, the movement of the population in search of employment in the developed countries of Western, Central, and Northern Europe. At the same time, mass immigration from other republics of the former Yugoslavia occurred along with extensive internal migration within Slovenia.

144–145 DAILY MIGRATION

STANKO PELC

The concept of daily migration has been fixed in the professional literature, even though the expression is not particularly well chosen. Extensive daily migration began in Slovenia in the 1960's and 1970's and replaced the mass migration from the country to the cities. Every day, almost half a million Slovenes commute to work or to school from where they live to another place. The directions of these daily migrations are very complex, but all the major flows of daily migration in the morning are oriented toward the larger centers and clearly indicate the extent of the attraction of these centers. Daily migration has important spatial consequences and is linked with the processes of motorization and suburbanization.

146–147 POPULATION DENSITY

DRAGO PERKO

Population density is the ratio between the number of inhabitants and the surface area on which they live and tells us the average number of people per surface unit. It is usually expressed as the number of people per square kilometer. According to the 1991 census, the population density in Slovenia was 97 people/km^2. Due to the diversity of Slovenia's regions, the population density according to the regions is irregular. The Pannonian regions are the most densely populated, and the Dinaric regions the least. According to relief, areas of plains not subject to flooding and sunny hilly regions or altitude belts up to 400 meters with inclinations up to 12° have above-average population density.

148–151 AGE STRUCTURE

ALEKSANDER JAKOŠ
DRAGO KLADNIK
DRAGO PERKO

The age structure of the population shows the number of inhabitants according to age, the average age of the population, population groups according to age periods, and their relative proportions. It shows how the population has developed in the past and indicates its future development. It is closely connected with natural and migration movements of the population. Graphically, it is usually presented using an age pyramid. The development of medicine and an increased concern for health have extended life in Slovenia substantially; together with the simultaneously dropping birthrate, this has rapidly increased the number of older people. Statistical predictions indicate that the number of the population will not increase but the age structure will worsen.

152–153 GENDER STRUCTURE

DRAGO PERKO

The gender structure of the population is the numerical ratio between the male and female populations. It is presented by the number of men and women, by the proportion of men and women in the total population, and by various coefficients. The best known are the coefficient of masculinity (the number of men per thousand women obtained by multiplying the quotient between the number of men and women by one thousand) and the coefficient of femininity (the number of women per thousand men obtained by multiplying the quotient between the number of women and men by one thousand). According to the 1991 census, Slovenia had 48.5% male and 51.5% female population, the coefficient of masculinity was 940, and of femininity 1064. Larger settlements had larger female populations, while smaller settlements and the countryside had larger male populations.

154–155 EDUCATION STRUCTURE

PETER REPOLUSK

Usually, the concept of education structure denotes two characteristics of the population. Data on the highest school year finished indicates how many years individuals or population groups spent at school and their level of education, while data on professional and vocational education indicates the qualifications of the economically active population for entering professions. Population censuses and other records of the population show the education level according to years necessary to complete school, according to the level of requirements, and according to the orientation and content of the education. The main characteristics of the education structure of the population of Slovenia include a relatively large proportion of people with few years of formal schooling and considerable differences between rural and urban populations as well as between those employed in different occupations.

156–157 ETHNIC STRUCTURE

PETER REPOLUSK

The ethnic structure of the population belongs among the basic characteristics of certain environments or countries and is an important cultural and demographic index because the members of individual ethnic groups differ statistically, often in relation to their living environment, politics, traditional values, etc. Where statistical institutions determine the ethnic structure of the population, they usually base their data on mother tongue, the language of communication, or the declaration of the individual. Slovenia is an ethnically homogenous country with a prevalence of Slovenes (87.8%) and three autochthonous ethnic minorities: Italian, Hungarian, and Romany. Members of all the ethnic groups from the territory of the former Yugoslavia also live in Slovenia, the most numerous being Croats, Serbs, and Bosnians.

158–159 LANGUAGE STRUCTURE

PETER REPOLUSK

The concept of language structure usually denotes the structure of the population of an individual country or its parts according to mother tongue. A mother tongue is the language an individual learns in early childhood in the family or at home. In taking population censuses, the principle applies that if there are two or even more such languages, the persons surveyed themselves decide which language is their mother tongue. The concept of language structure can also be understood as the use or the official or unofficial appearance of languages in a particular environment. According to the 1991 census, Slovene is the mother tongue of the majority of the population of Slovenia (87.9%). The proportion is probably even higher because data on mother tongue is not known for about 3% of the population. Variations of Serbo-Croatian are cited as mother tongue by 7.9% of the population.

160–161 DIALECTS

PETER REPOLUSK

In linguistics and history, the expression "dialect" denotes a regional form of the language which did not become literary language, a form which "lost the battle" in the course of history. In some places, the concept of dialect is applied to quite independent languages that are usually not related to the dominant language of an environment and whose use is limited, while in the majority of the languages, it refers to regionally-coloured and other various forms of the same language. This applies for Slovene. With approximately forty dialects and numerous pronunciations, Slovene is the most dialectally dissected Slavic language and one of the dialect-richest languages in Europe.

162–163 RELIGIOUS STRUCTURE

PETER REPOLUSK

When we speak of the religious structure of a population, we most frequently cite statistical data from population censuses. Paralleling this is data from religious institutions (data on baptisms, church weddings, etc.). Religious affiliation is one of the demographic or cultural characteristics of a population. It is important for the understanding of numerous social phenomena and events (traditionalism, politics, attitudes toward contraception, abortion, etc.), and it is indisputably one of the foundations of ethnic identity. Following World War II, Slovene statistics almost completely neglected the gathering of information on religious affiliation for ideological reasons. The exceptions were the years 1953 and 1991. The processed data show that Slovenia is a distinctly Catholic country since 98% of the population who declared their religious affiliation listed themselves as Catholics.

164–167 RURAL POPULATION

MILAN NATEK

As in the past, a rural population still dominates the countryside today and maintains the cultural landscape. Only a good hundred years ago, three quarters of the population in the territory of present-day Slovenia belonged to the rural population. Even though their numbers declined rapidly due to industrialization and urbanization and by 1991 the proportion of rural population in the structure of the entire population had dropped to only 7.6%, the influences of the basic activities that they perform—agricultural production of various types and orientations—are recognizable and dispersed over vast areas. At the same time, as much as 29.2% of Slovenia's population lives on farms and a good half lives in nonurban settlements. Slovene farms are too small for market-oriented production, and the people living and working on them must seek additional sources of income in nonagricultural sectors of the economy.

168–169 POPULATION TYPES OF SETTLEMENTS AND REGIONS

DRAGO PERKO

Population areas are parts of regions with similar structures and population densities and similar changes in the number of inhabitants, the most significant factor in their definition. A steady increase in the number of inhabitants creates areas of concentration of population, while a steady decrease in the number of inhabitants due to negative natural increase and/or negative migration increase creates areas of depopulation or the thinning out of population. Both regional processes lead to unfavourable changes to the cultural landscape. Depopulation is primarily reflected in deteriorating houses and settlements and the overgrowth of arable land, while the concentration of population is reflected in environmental problems because the concentration of population is also linked to the concentration of economic and other activities. In Slovenia, depopulation affects two thirds of the territory, heavy depopulation one half, and weak depopulation one fifth.

170–171 MIGRANT WORKERS

JERNEJ ZUPANČIČ

Migrant workers are people who have permanent residence in Slovenia but live temporarily in other countries to work or study and intend to return to home after a certain period. The migrant worker category also includes family members who live abroad temporarily with such migrant workers. They are described as "workers on temporary work abroad and their family members." As a rule, they are Slovene citizens and have immediate family or at least relatives in Slovenia. Members of migrant worker families are not necessarily Slovene citizens. Seasonal employment is a special form of migration. According to data from the 1991 census, 52,631 people or 2.7% of the Slovene population lived and worked abroad temporarily. Almost half of these lived in Germany, followed by Austria, Switzerland, and Italy.

172–173 EMIGRATION

JERNEJ ZUPANČIČ

The issue of emigration is extremely important for Slovenia and the Slovenes: over a good one hundred years, considerably more than half a million people emigrated permanently from the territory of present-day Slovenia. Emigrants and their descendants comprise more than one fifth of all Slovenes. The immigration-emigration balance

in Slovenia has been positive only in the last thirty years, and Slovenia therefore counts among the typical emigration countries, and the Slovenes rank among European nations that suffered the greatest damage due to emigration. Emigration from Slovene ethnic territory was most extensive from the middle of the 19th century to the 1970's; in specific periods, people emigrated from various regions and for different reasons.

174–177 SLOVENE MINORITY COMMUNITIES IN NEIGHBOURING COUNTRIES

JERNEJ ZUPANČIČ

In addition to the territory of the mother country, autochthonous Slovene populations also live in the border areas of all four neighbouring countries. The largest such population is in Austria, followed by those in Italy, Hungary, and Croatia. Approximately 710,000 people live on close to 4,300 km^2 of ethnically mixed territory; of these, 79,500 are Slovenes according to official data or about 140,000 in the opinion of Slovene experts. More than half of the territory settled by Slovenes is mountainous, hilly, and poorly accessible for traffic. The centers of Slovene community life across the borders are Trieste and Gorizia in Italy and Klagenfurt in Austria, all of which boast Slovene political, cultural, educational, sport, and economic institutions. With the movement of people away from these centers in recent times, new settlement cores of the Slovene minorities have been created.

178–279 HUMAN ENDEAVOURS

DRAGO KLADNIK, EDITOR

180–191 LAND USE

DRAGO KLADNIK
ANDREJ GABROVEC

Land use is one of the elements that marks the landscape most recognizably, reflecting the complex relationships between natural and socioeconomic factors. Among the former, the surface relief is particularly important—most obviously altitude, inclination, and sunniness of slopes—while socioeconomic factors include characteristics of settlement, past and present economic conditions, and the closely related situation of land ownership. Slovenia ranks among European countries with the smallest proportion of agricultural and arable land and with the largest proportion of forest. Some 72% of its agricultural land lies in areas with factors that limit agriculture (hills, highlands, mountains, karst), and only 28% lies in fertile lowlands.

192–197 LAND FRAGMENTATION

DRAGO KLADNIK

Land fragmentation refers to the division of agricultural land among different owners and the division of farms into spatially separate lots. We distinguish between size and spatial fragmentation. The former relates to the size of parcels or lots and the size of the property, and the latter relates to the spatial distribution of lots. Both types of land fragmentation are conspicuous in Slovenia. Their characteristics determine the appearance of the rural landscape, and their (largely obstructive) effects are of extreme significance to the economics of agriculture. The process of consolidation has been too slow and insufficiently extensive to successfully mitigate the consequences of the long-term fragmentation of land, a process that appears to have stopped only recently.

198–201 STRUCTURE OF FIELD CROPS

TOMAŽ CUNDER

Natural conditions in Slovenia are not favourable for modern large-scale farming. Due to the irregularity of the surface, consolidated cultivated land is limited mainly to flat sections of valleys and basins. The exception is the northeastern Pannonian region of Slovenia, which is the most important farming region in the country. Field crops contribute around 40% of the gross value of all agricultural production and after cattle breeding is the second most important branch of agriculture. Of approximately 246,000 hectares of cultivated fields, the majority (87.3%) are privately owned, and only 12.7% are cultivated by agricultural companies or the former social sector. The available data allows the presentation of the spread of the main cultures combined in characteristic groups (cereals, fodder plants, vegetables, industrial plants) only on the level of the former municipalities, the current administrative units.

202–207 LIVESTOCK PRODUCTION

TOMAŽ CUNDER

The most important agricultural branch in Slovenia is livestock production, which accounts for more than 50% of the gross value of all agricultural production. In spite of this, the quantity of livestock has decreased by more than 15% in the last decade. The main branch of livestock production is cattle breeding, followed in overall importance and equal distribution by pig-breeding. These are presented on separate maps, but presentations according to settlements are only possible for privately-owned animals. According to the value of increase, poultry breeding comes before pig breeding but is concentrated on large farms with diverse activities. Other branches of livestock production, for example, the breeding of sheep and horses, are relatively insignificant. They have been in distinct decline for a long time and are only now beginning to show signs of increase. A characteristic form of Slovene livestock production is mountain posturing.

208–209 WINEGROWING REGIONS

MARJETA NATEK

Winegrowing and the wine trade have a thousand-year history in Slovenia and have given a special stamp to Slovenia and the Slovene culture. In the region where Slovenia lies, winegrowing was already an occupation in ancient times, and later wine had an important place in the Roman period and the period of early Christianity, as well as throughout the Middle Ages and into modern times. Even today, Slovenia is a winegrowing country renowned for its varied and high quality wines. Some are characteristic only of Slovenia, for example, Teran, Zelen, Rebula, and Cviček. Slovenia is divided into three winegrowing regions: Primorska, Posavje, and Podravje. In many places, the vineyard-covered landscapes give parts of Slovenia a unique appearance recognizable from afar.

210–211 TYPES OF AGRICULTURAL LAND USE (RURAL SYSTEMS)

IGOR VRIŠER

In discussing agriculture, the question arises how to simply present its main spatial characteristics. Farming is a complex process composed of related and interdependent activities dependent on the natural environment and its characteristics (formation of the surface, climate, soil, water conditions) and the socioeconomic situation, production orientation, methods of soil cultivation (agrology), the market, property ownership, as well as on the traditional skills and new knowledge of the farmers. The use of agricultural land is the external reflection of complex circumstances which in specific regional conditions combine in characteristic systems (fodder, grain, root crop, and special) that are further divided into many subsystems.

212–215 MINING

JURIJ IVANETIČ

Mining depends on natural conditions, social needs, and the knowledge that makes possible the economic exploitation of mineral riches. The first period in the development of Slovene mining was the period of traditional extraction of iron and manganese ore. This form of mining ultimately died out at the end of the 19th century. After 1850, coal became increasingly important, but interest began to decline after 1965 due to the low price of oil and natural gas. The extraction of nonferrous metal ores in Idrija (with a six-hundred-year tradition) and Mežica (with a three-hundred-year tradition) ended recently. The barely begun excavation of uranium ore was also terminated, and therefore only the exploitation of various nonmetallic minerals, natural ornamental stone, and thermal and mineral springs have any future.

216–219 ENERGY

LILIJANA PERČI ŠTEFANČIČ

Of primary forms of energy, Slovenia annually consumes around 4,200,000 tons of lignite and 1,300,000 tons of subbituminous coal. Lignite is excavated at the Velenje Lignite Mine and subbituminous coal at the Trbovlje-Hrastnik Mine, at Zagorje ob Savi, at Senovo, and at Kanižarica. Slovenia can not satisfy all its need for liquid and gas fuels itself and therefore imports more than 60% of the necessary liquid fuel and more than 98% of the gas. An oil and gas field is located near Lendava and is exploited by Nafta Lendava. Thermoelectric power plants contribute the most (43%) to the total production of electrical energy, followed by hydroelectric power plants (32%), the nuclear power plant at Krško (21%), and industrial and small hydroelectric power plants (4%). The largest consumers of energy are industry (34%) and traffic (30%).

220–225 INDUSTRY

IGOR VRIŠER

Industry is Slovenia's most important economic branch and therefore deserves a more detailed regional presentation of its distribution according to settlements and an outline of its structure according to activities. Industry employs 38.2% of the active population and still creates almost half of the gross domestic product. Slovenia experienced three waves of industrialization: the first at the threshold of the 20th century, the second in the 1920's before the Great Depression, and a third, particularly pronounced wave following World War II. Due to the differences in the socioeconomic situation, each period followed a different course of industrialization and the branch structure of industry and its spatial distribution also changed.

226–229 TRAFFIC NETWORK

ANDREJ ČERNE
STANKO PELC

At the juncture of four European macroregions, Slovenia is crossed by the shortest land routes between Central Europe, the Balkans, southeastern Europe, and the Near East on the one hand and northern Italy and the Mediterranean area of Western Europe on the other. The development of the traffic network does not correspond to this traffic reality, so part of the traffic flow uses the somewhat longer routes across neighbouring countries. The majority of passenger and goods traffic runs on the road network. The Port of Koper is extremely important for Slovenia and for neighbouring Austria and Hungary, the Czech Republic, and Slovakia. Air traffic is modest by European standards. Rail traffic has lost importance since the beginning of rapid motorization, and its competitive position is waning, maintained only in the transport of goods over longer distances.

230–231 DEVELOPMENT OF THE RAIL NETWORK

ANDREJ ČERNE

Some thirty years after the birth of the railway (1825), the European rail network reached Slovenia. In 1861, Slovenia had 380 kilometer of railway lines, just under one third of their current length. Today there are 1201 kilometers of rail lines in Slovenia with a density of 0.06 km/km^2 or 0.5 kilometer per 1000 inhabitants, which is quite comparable with European standards. The rail network conformed to natural, economic, political, and strategic conditions, as well as standardized according to the choice of traffic routes. Thus, it not only participated in the formation of the framework of the traffic network and traffic currents in Slovenia but also had an important long-term influence on Slovenia's economic and spatial development.

232–233 TRAFFIC BURDEN

STANKO PELC

In Slovenia, roads carrying heavy local, intercity, and transit traffic at the same time are most burdened. Such, for example, are various sections of the Ljubljana bypass and, of course, all the roads in areas along the most important international traffic routes. These are the roads of the so-called "Slovene road cross" from which traffic routes of less importance and with less traffic branch off. In 1991, transit traffic toward the south and southeast dropped substantially due to the war in the territory of former Yugoslavia, although traffic has increased steadily on the majority of roads in the rest of the road network.

234–235 PUBLIC BUS SERVICE

MATEJ GABROVEC

Characteristic of Slovenia is a very extensive network of bus lines. Until 1960, bus traffic was only a supplement to railway traffic, but in the 1960's surpassed rail traffic according to the number of passengers carried. Today, busses convey ten times more passengers than the trains. In the last decade, however, busses have competed ever less successfully with personal transport, and the number of bus passengers has been halved. There are fewer and fewer people commuting to work by bus, and most of the passengers are students. Thus, in the last few years there have been fewer busses than in the past on many routes, and public bus transport has even been abandoned in some places.

236–237 BORDER TRAFFIC

STANKO PELC

The majority of traffic across state borders occurs at major international border crossings, although there are also several important local border crossings. The largest density of border crossings is on the Slovene-Italian border. In the 1970's and 1980's, this border was considered by far the most open border between socialist and capitalist Europe. Even now, these border crossing points are among the most heavily used according to the volume of traffic. On the Slovene-Austrian border, the majority of traffic is concentrated at the Šentilj border crossing, Slovenia's largest and most important "window to the world." Border crossings on the Slovene-Croatian border have less traffic due mainly to the break in the flow of traffic toward the southeast. Traffic on the Slovene-Hungarian border is increasing, but is still not comparable to that across the western and northern borders.

238–239 TELECOMMUNICATIONS

DRAGO KLADNIK

IVO PIRY

Telecommunications, that is, telecommunication and computer technology, is one of the key infrastructures of a modern country. Because of its use in networks of connected computers, the electronic exchange of documents, and the improved control and possibility of improved use of resources, the benefits of developed telecommunications are reflected in the direct lowering of costs. Even a decade ago, the role of telecommunications was limited primarily to the rapid transfer of audio and visual signals, but more recently new services have been introduced. In spite of their rapid spread, they are only just being recognized by the wider public but will undoubtedly significantly mark economic, social, and spatial development. Simultaneously, telephone service has experienced a new climb with the increasing use of mobile phones.

240–241 RETAIL TRADE

MARKO KREVS

The retail trade includes the sale of goods in stores and retailing directly from the warehouses. The network of retail stores in Slovenia is shaped relative to the distribution and density of the population and is therefore closely connected with the network of central settlements. Smaller centers are dominated by shops selling mixed goods or foods that consumers visit frequently. In some larger centers, stores with nonfood merchandise are of greater importance, while elsewhere specialized stores with food or nonfood goods are in balance. Medium-term and long-term supplies in particular are provided only in the largest centers because consumers rarely ask for this kind of merchandise. With the transition to a market economy, the network of retail stores has expanded and multiplied, and the quality and diversity of the offer and the accessibility of stores are improving.

242–243 SMALL INDUSTRY

MARKO KREVS

Small industry has always been an important and lively economic activity. It includes production and services. Its basic characteristic is the "nonindustrial," skilled trade type of business. For this reason, small industry not only supplements other economic activities but also enriches them, which in some places noticeably marks settlements or even wider regions. In general, the distribution of small industry matches the distribution of the population. Due to the variable factors that influence the development of small industry and its work, its development and structure have always differed according to regions and places. Of the almost 4300 Slovene settlements with small industries, a good quarter only have one small industry, and only in one third of the settlements are there more than five small industries.

244–245 DOMESTIC CRAFTS

JANEZ BOGATAJ

The concept of domestic crafts was formed and stabilized only in the second half of the 19th century when great importance was attached to this economic branch. It was also called the "cottage industry." Today, domestic crafts in Slovenia encompass a varied range of jobs and the production of items at home or in home workshops either for personal use or the market. Until the current definition of the term, domestic crafts were considered to be ancillary or supplementary activities of farmers, as the production of the most diverse items in rural areas. The definition of domestic crafts was therefore directly related to husbandry in rural areas. The most important domestic craftsmen are potters, manufacturers of woodenware, artisan blacksmiths, lace makers, pipe makers, manufacturers of replicas of beehive panels, manufacturers of musical instruments, manufacturers of roofing tiles, makers of homemade baked goods, and manufacturers of tourist souvenirs.

248–251 TOURISM

MATJAŽ JERŠIČ

According to the survey of the Statistics Office, there were 365 tourist areas in Slovenia in 1990. All settlements with tourist accommodations were ranked among them, and the number of guests and overnight stays in them was established. The map shows only 113 most important tourist areas in which more than 450 overnight stays were recorded in 1995. The smallest tourist areas with modest tourist traffic were therefore omitted. The areas considered were defined according to the number of overnight stays, the proportion of overnight stays by domestic and foreign tourists, the prevailing tourist orientation or basic tourist functional definition (sea coast, mountains, health resorts, etc.), and the relative importance of tourist activity or the intensity of tourism. Also presented are some other elements of the tourist offer and recreational capacities, including the spread of secondary vacation housing.

252–255 EDUCATION

KARMEN CUNDER

There are around 780 kindergartens and 860 primary schools in Slovenia, half of which are branches. There are approximately 150 secondary schools. There are kindergartens and primary schools in all the smaller centers across the country, while the secondary schools are usually located in centers with at least 2000 residents. Until 1991, secondary school education was concentrated in large secondary school complexes, which more recently have broken up into individual secondary schools. Higher education is provided at the Ljubljana and Maribor universities and at individual faculties in several other places including Kranj, Portorož, Koper, and Nova Gorica. Education for people with developmental disorders is also available, as well as music and ballet education.

256–257 HEALTH CARE

ALENKA TUREL FALESKINI

DRAGO KLADNIK

Health care activities should prevent untimely death and improve the health of the population. The basic guideline for this activity is in harmony with the WHO declaration, *Health for All People by the Year 2000*. The main aim of this document is to reorient the thinking of users of health care services, experts, and politicians from healing diseases to increased concern for health. The largest part of Slovene health care is organized on the primary, secondary, and tertiary levels and is carried out at health care centers, clinics, hospitals, pharmacies, social security institutions, and health resorts. Slovenia has twenty-four hospitals, which are also centers of medical research and technology. The Clinical Center in Ljubljana plays a central role.

258–261 CULTURE

ALENKA TUREL FALESKINI

Cultural and artistic activity includes all forms of creation and the propagation and protection of cultural values: literature, music, dance, theatre, visual arts, film and video activity, the propagation of cultural values in publishing, exhibition and library activities, cinematography, radio, television, and other media, and the organized protection of the cultural heritage. Culture is an important factor of national existence; in the past, culture played a decisive role in the development of the national identity of the Slovenes. The majority of activities take place in professional cultural institutions; however, the role of amateur and independent groups with specialized, experimental, and avant-garde orientations is also important. The concentration of major institutions in Ljubljana is characteristic of the organization of cultural activities.

262–265 RELIGION

VINCENC RAJŠP

Religious belief is one of the most widespread phenomena in the world, and the same is true of Slovenia. In spite of the "icy" attitude of society (the state) toward religion between 1945 and 1990, religions among the Slovene population did not vanish; on the contrary, old ones were joined by numerous new ones, primarily the major world religions. Many are based on religious books. For Christians, the Bible with the Old and New Testaments is the essential book; for Jews, only the Old Testament is considered a holy book; and the holy book for adherents of Islam is the Koran. Religions that dominate an environment also influence its appearance. In Slovenia, Catholic churches are visible everywhere, mostly on prominent elevations, in the middle of settlements, or on their outskirts. A special map shows the territory of Catholic monastic orders.

266–277 EMPLOYMENT STRUCTURE

DRAGO KLADNIK

PETER REPOLUSK

The employment structure of the population and its changes determine the level of development of a region or a country. This is particularly true of countries in transition from agricultural to industrial or postindustrial societies, among which Slovenia belonged following World War II. This is clearly evident from the data selected for comparison from the census results of 1961 and 1991. The first eight maps show the proportions of the employed according to established statistical divisions into four main groups of activities (primary, secondary, tertiary, and quaternary), while the last two present the dominant sector of employment for both years. With the growth of unemployment, the difference between the number of employed and the active population increases.

278–279 ECONOMIC POWER OF THE POPULATION

IVO PIRY

STANKO PELC

In 1990, the compulsory declaration of all sources of income was introduced in Slovenia with new tax legislation. This declaration is the basis for the calculation of income tax. Previously, the income of the population was almost impossible to calculate. Various records existed for individual income sources. Only those whose earnings exceeded a legally determined value in a particular year were obliged to register their income. The presentation of income achieved per resident is not a substitute for the calculation of the social product per resident, previously the most frequently used index of the level of the economic development of regions. The distribution of income reflects in a better way the economic strength of individual parts of the country and indicates the differences originating from different economic structures and successful management.

280–313 SETTLING

DRAGO KLADNIK, EDITOR

282–287 SETTLING IN ARCHEOLOGICAL PERIODS

SLAVKO CIGLENEČKI

JANEZ DULAR

JANA HORVAT

ANDREJ PLETERSKI

IVAN TURK

In the Stone and Copper Ages, present-day Slovene territory was sparsely settled. We can speak of a genuine cultural region only at the end of the Bronze Age and into the Iron Age. When the Romans colonized the territory of present-day Slovenia, they brought with them a more developed civilization and founded the first towns (Emona, Celeia, Poetovio, Neviodunum). These were administrative, commercial, and religious centers and simultaneously the focal point of Romanization. Major changes in the settlement structure were caused by the Migration of Nations and were also the consequence of the exposed and transit location of Slovene territory. The indigenous population took refuge in outlying hilly regions and settled in fortified towns. In the 7th century, Slovene territory along with the wider surroundings was settled by the Slavs.

288–291 COLONIZATION

DARJA MIHELIČ

Colonization in the Middle Ages and later progressed in four phases and fundamentally changed the appearance of the landscape. Older Slovene colonization is characteristic for the period following the arrival of the ancestors of the Slovenes in the area of the Eastern Alps and lasted from the second half of the 6th century until the 9th century. After a short interruption in the period of

Hungarian raids, the second phase called "internal colonization" followed between the 10th and 13th centuries. The third phase encompasses the period from the 13th to the 15th centuries and after the primary areas of migration is called "highland colonization." From the 16th century on, the fourth or so called "additional colonization" phase began, the consequence of social changes experienced by the rural population and simultaneously the flight from the Turks from the Balkan interior.

292–295 SYSTEMS OF FIELD DIVISION

DRAGO KLADNIK

One of the most characteristic features of the Slovene countryside are the various forms of land parcels that reflect the variety of natural conditions and the adaptation of man to the landscape. Research and the typification of cadastral parcels are an attempt to evaluate the interdependent effects of certain fundamental factors of the rural landscape such as colonization, the historical development of agriculture, types of settlements and rural homesteads, and cultivation orientation. The main types of field division in Slovenia are cadastral enclosures, regular and irregularly-shaped plots, and serried strips; all are divided into subtypes and are interwoven in various combinations. Research had an important role mostly in the past, and in this connection Svetozar Ilešič must be mentioned since the recognition of Slovenia geography around the world began with his study of field division systems.

296–297 RURAL ARCHITECTURE

VLADIMIR DROZG

The farmhouse is an important element of the countryside landscape, especially in Slovenia where the rural environment covers the majority of the country and where the landscape is so diverse due to the natural conditions. The forms of rural homes and farmhouses are correspondingly diverse. They were designed according to existing building techniques, artistic and historical styles, construction materials available in the vicinity, and the material status of the owner. The basic and original types of Slovene rural architecture are the Alpine, Littoral, Pannonian, and Central-Slovenia house, all with several variations. Following World War II, the semi-urban house, which is very different in form from the traditional types of rural house, completely dominated the period of the suburbanization of the countryside.

298–300 RURAL SETTLEMENTS

VLADIMIR DROZG

The term "rural settlement" is used for places in the countryside whose characteristics are the result of the prevalence of farming activities. The majority of Slovene settlements developed in the time when agriculture was the basic activity, which is reflected in their location and their pattern of build-up. However, they have changed so much functionally and socially that the term "rural settlement" is no longer the most appropriate. Characteristic settlement forms in the countryside, dependent mainly on natural conditions and the period of colonization, are isolated farmsteads, hamlets, and dispersed and compact settlements; the latter are divided into nucleate and roadside types, and both have several characteristic subtypes. Suburbanized settlements form a special group and include the greatly transformed villages found throughout the country.

301–305 TOWNS

VLADIMIR DROZG

Along with its construction history, the plan of a town indirectly reflects its economic strength, adaptation to the topographical situation, and concepts regarding the arrangement of human habitation. Because conditions and possibilities changed in the course of the development of towns, several types of town plans evolved. The legacy of the majority of Slovene towns originated in the Middle Ages; this also applies to the urban system, the location of towns and boroughs, and their construction plan. The prevalence of the classicist ground plan is typical of the 18th and 19th centuries, while the modernist ground plan gained ground in the second half of the 20th century. The topographical position of towns is also quite diverse. Their older parts can be found below elevations with a castle, on a prominence at the confluence of rivers, along rivers, in river bends, in valleys, on elevations or saddles, on plains or at their edges, and on islands or peninsulas.

306–307 TOWN FUNCTIONS

IGOR VRIŠER

The concept of "town function" denotes nonagricultural activities though which towns create economic and social links with the immediate or more distant surroundings and on which their survival mainly depends. Research undertaken so far confirms the prevailing orientation of Slovene towns toward secondary (industrial) activities, while an orientation toward tertiary and quaternary activities is much rarer although employment in these sectors has grown considerably. Many towns are oriented toward different activities simultaneously, but for the majority, tertiary and quarterly activities are linked to the predominant secondary activities.

308–309 CENTRAL SETTLEMENTS

IGOR VRIŠER

Central settlements are basic centers in the spatial organization of human society. Service activities are concentrated in them, and economic and noneconomic contacts between regions and settlements take place through them. They are arranged in a hierarchy, so that central settlements of a higher level also have various more demanding functions along with basic ones. The formation of centers depends on the number of consumers in their hinterland and the number of the consumers in the centers themselves. The Slovene network of central settlements numbering more than 600 centers, divided into six levels and the capital city, has been influenced primarily by the uneven distribution and density of the population, the surface relief, historical development, and the political and administrative divisions of the territory. This network has experienced considerable transformation in the last century.

310–313 CHARACTERISTICS OF URBANIZATION

MARJAN RAVBAR

Urbanization is a process that is actually composed of two processes: the physical growth of cities and the spread of the urban lifestyle. It is most simply expressed as the proportion of the population living in cities, but it is preferable to employ several indexes linked by their contents. A Slovene characteristic is the large dispersion of settlements, since only a good half of the population lives in cities. A little under two million people live in almost 6000 settlements; only the two largest have more than 100,000 inhabitants. Natural conditions and historical development are the main reasons that towns are relatively small and that there are so many villages. Almost one half of the population lives in rural areas, although only a good seven percent survive on farming alone; the rest commute daily to employment centers, as a rule, cities or settlements with urban characteristics.

314–327 ENVIRONMENT

MILAN OROŽEN ADAMIČ, EDITOR

316–317 IMPORTANT NATURAL RESOURCES

IRENA REJEC BRANCELJ

Natural resources are very important for the development of a country since they actually define its primary development possibilities. The most important natural resources include agricultural land, potable water, and forest, and these are therefore presented individually. Natural resources in Slovenia are unevenly distributed according to its regions. They are limited in quantity and quality and must therefore be conserved and suitably managed.

318–319 NATURAL DISASTERS

MILAN OROŽEN ADAMIČ

Dangers and unpredictable events have always been part of everyday human life. In the extremely diverse landscape of Slovenia, natural disasters such as earthquakes, floods, hail, frost, drought, and landslides are not rare. The prevention of natural disasters and protection from them are significantly connected with development and our future possibilities because these disasters, even in the absence of an exceptional event, annually claim 2 to 3% of Slovenia's GDP.

320–322 ENVIRONMENTAL POLLUTION

METKA ŠPES

The geographical diversity and mosaic pattern of Slovenia's regions, their natural and geographical features, and the characteristics of previous development greatly influence the extent and degree of the degradation or pollution of the air and water. We must not overlook the fact that regions where such environmental degradation is stronger are interwoven with or bordered by less polluted regions and that we can still only discuss regional or valley and basin pollution of the atmosphere and the changing degradation of water systems because more and less polluted sections alternate along their flow.

323 WASTE DUMPS AND WASTE TREATMENT

IGOR ŠEBENIK

In Slovenia, almost 300 kg of waste per inhabitant is produced each year. Only about 100,000 tons or about one sixth of this waste is included in organized waste removal. There are many unorganized dump sites (10,000 to 15,000). Almost all communal waste is dumped, and only a small proportion is collected for recovering secondary raw materials or other processing. There are 51 organized but not always suitably regulated dumps for communal waste. Hazardous wastes amounting to around 1,000 tons each year present a special problem.

324–325 NATURAL HERITAGE

PETER SKOBERNE

The great diversity characteristic of Slovenia is reflected in its biotic heterogeneousness and its regional and cultural variety. This area smaller than Lake Ontario in Canada is distinguished by different climate types, a heterogeneous geological structure, and varied relief. Two further characteristics are of interest: extensive forestation and the prevalence of carbonate rock with highly developed karst phenomena. The protection of nature in the territory of present-day Slovenia has a long tradition. Natural sites were first protected here in the 19th century. In 1920, members of the Department for the Protection of Nature of the Museum Association of Slovenia submitted the first nature preservation program to the regional authorities, and Triglav National Park was established four years later. Nature preservation activities and organizations at the government and nongovernment levels have developed steadily, and today some 8% of Slovene territory is protected in various ways.

326–327 CULTURAL HERITAGE

JERNEJA BATIČ

The cultural heritage is the work of man from past periods that has historical, scientific, or esthetic value. The preservation of this heritage is the right and the obligation of the entire society. The map shows 1,174 selected items, about 12% of the cultural heritage sites registered in Slovenia. This indicates the exceptional density of such sites since we encounter evidence of our rich history at almost every step. We must identify them in order to register, research, and assess them and possibly proclaim them as national monuments.

328–343 MAP INDEX

MILAN OROŽEN ADAMIČ

344–353 LITERATURE AND SOURCES

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