

Belarus in Maps

To mark the 500th anniversary of the appearance of the first Belarusian printed book (book of Psalms, 1517) by Francišak Skaryna and the 25th anniversary of the establishment of diplomatic relations between Belarus and Hungary

Materials were prepared by individual scientists of the following institutions:

GEOGRAPHICAL INSTITUTE,
RESEARCH CENTRE FOR ASTRONOMY AND EARTH SCIENCES,
HUNGARIAN ACADEMY OF SCIENCES
(Budapest)

FACULTY OF GEOGRAPHY,
BELARUSIAN STATE UNIVERSITY
(Minsk)

INSTITUTE OF GEOGRAPHY AND EARTH SCIENCES,
EÖTVÖS LORÁND UNIVERSITY
(Budapest)

INSTITUTE FOR NATURE MANAGEMENT,
NATIONAL ACADEMY OF SCIENCES OF BELARUS
(Minsk)

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Belarus in Maps

Edited by

DÁVID KARÁCSONYI

KÁROLY KOCSIS

ZSOLT BOTTLIK

Geographical Institute
Research Centre for Astronomy and Earth Sciences
Hungarian Academy of Sciences

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Monument of Francišak Skaryna in front of the ultra modern building of the Belarusian National Library, symbol of the country's development, was opened in 2005. (Photo: Khainouski, A. 2017)

FOREWORD



Geography, the scientific study of terrain, is like mathematics: a common language of peoples and cultures, a universal discourse of mutual intelligibility. Its power to create common grounds has always played an indisputable role in international relations. Unfortunately, for historical reasons, the horizons of geographic research in Hungary were confined within the country's borders for many years. However, since 2005 the publication of a series of atlases presenting countries and regions by the Geographical Institute of the Hungarian Academy of Sciences has indeed broadened the horizon of geographic research performed in Hungary.

The present volume, *Belarus in Maps*, is the latest edition of this series. Belarus borders a country neighboring Hungary and the European Union. In geographical terms Belarus is undeniably a European country, nevertheless many of us European readers have only limited knowledge of its geography and the exciting history

of its people. But if you look closer, its history not only reveals a true European identity, but also sheds light on shared Hungarian-Belarusian episodes in our past: István Báthory, Prince of Transylvania, was also King of Poland and Grand Duke of Lithuania between 1575 and 1586. Today's Lithuania and today's Belarus both regard Polish-Lithuanian Commonwealth as their predecessor. István Báthory died in Hrodna, on the territory of present-day Belarus, in 1586, without succeeding in creating a great East-Central European state of Poles, Lithuanians, Belarusians and Hungarians that could counter German and Russian influence at the time.

Despite heavy political issues around present-day Belarus, Hungarian geographers have worked hand in hand with their Belarusian colleagues. They have always remained true to the idea of academic freedom to produce a work that presents scientific facts with an objective eye. I hope that their joint results will be widely discussed and acknowledged in Budapest, Minsk, throughout Europe and beyond.

By sponsoring the publication of 100 detailed maps that define this ambitious enterprise, we are proud to contribute to a learned dialog between scholars and political decision-makers about Belarus. *Belarus in Maps* does not only enhance the prestige of Hungarian research in geography but, I hope, will also enable the application of scientific results in policy-making both on national and international levels.

László Lovász
President
Hungarian Academy of Sciences

Esteemed Reader,

I am glad that you are holding in your hands the present publication, rich in content, maps and statistical data. This book might give answers to your questions about what is the modern Belarus, who are the Belarusians and why we are such. It will certainly raise some new questions, maybe will provoke interest in learning more, excite further scientific discussions for the benefit of the most complete and objective understanding of Belarus by the foreigners.

Surprisingly, in the year of the 500th anniversary of the first Belarusian book printed in 1517 by the prominent Francysk Skaryna from Polack, despite of its long and rich history, Belarus still remains for many an unknown land that needs presentation and explanation.

Indeed, in the course of centuries, in our extremely interconnected and interdependent region, full of rivalry, devastating wars and religious conflicts, whole peoples and nations were dissolved and assimilated by more powerful neighbours. We have survived. During the alternate periods of flourishing, declines or external suppression we have managed to preserve our national identity and our native – Belarusian – language. Moreover, the hearts of Belarusians have not hardened and they have kept a high level of ethnic and religious tolerance.

The tragedies and sufferings of the past had led to the consolidation of the Belarusian nation, for which peace, stability and good neighbourly relations became the core values, preconditions for the very existence and for further evolutionary development, which is based on the historical experience and resulting mentality.

Not disposing of much of mineral resources, Belarusians relied on achieving high level of organizational skills, educational and intellectual potential, and succeeded in this endeavour. It is most important that, by the end of the 20th century, Belarus, one of the UN co-founders, regained and preserved its independence and statehood.

Hungary was among first countries to recognize sovereign Belarus and to establish diplomatic relations with my country exactly 25 years ago. This represented an important gesture of solidarity and a strong signal of support to a newly reborn state. Since then both countries have managed to build up together friendly rela-

tions grounded on the principles of cooperation, mutual respect and understanding.

I congratulate the Hungarian and Belarusian authors, involved institutions and individuals on their great work on collecting, systematizing sociological, geographical, economic and other statistical data that resulted in the publication of the present book. I believe that this publication, which by the way in many aspects differs from the official Belarusian vision, will become subject of interest not only for specialists but also for the general public.

I do hope that this reading will encourage people, for whom Belarus still remains unknown, to visit my country, to see it with their own eyes, and to draw their own conclusions. In February 2017 Belarus unilaterally abolished visas for short-term travels for the nationals of 80 countries, including EU member-states, all the more reason for arranging such a visit.

Aliaksandr Khainouski
Ambassador of Belarus to Hungary

Studying Belarus – Toward a better understanding of Europe

For a period of more than 1,155 years (since the first written reference to Polack, the oldest town in the Belarusian lands, which dates to 862), the Belarusian nation has undergone various stages of ethnogenesis and socio-economic development on the ridges of the divide between the Baltic and Black Seas and in the adjoining plains. These centuries-long processes have been recorded in various forms, such as ancient chronicles, travelogues and, more recently, encyclopaedias. These latter sources reveal to modern readers the diversity of the world, the natural environment, and the way of life of Europe's nations. Maps and atlases are a special form of representing the globe and its parts, and they offer a comprehensive spatial picture of regions and countries. More than 400 years ago, in the academic circles and libraries of Europe, the first cartographic representation of the Belarusian lands appeared in the form of a map by Tomasz Makowski (1575–1630, painter and engraver at the court of Prince Mikołaj Krzysztof Radziwiłł in Niasviž) entitled "*Magni Ducatus Lithuaniae, Caeterarumque*

Regionum Illi Adiacentium Exacta Descriptio Ills mi. ac Excells mi. Principis et Dni. D.Nicolai Christophori Radziwil D.G.Olijc ac in Nieswies Ducis, S. Rom. Imperrii Principis in Szylowiec ac Mir Comitit et S.Sepulehri Hierosolimitani Militis etc. opera. cura et impensis facta ac in lucem edita. – Amsterodami : excudebat Guilhelmus Janssonius, 1613". The map depicted hydrography, the road network, over 340 human settlements, and other objects of the time.

The subsequent history of this region of Europe was full of dramatic events, saw unique developments in the economic sphere, and yielded a wealth of masterpieces in the field of indigenous culture. The Belarusian lands have frequently become the scene of clashes between stronger neighbouring nations, especially so in modern times. Such events curtailed the development of civilization among the Belarusian ethnos, but it could not stop it. Having long experienced confederative or union state structures, the Belarusian nation emerged in the first half of the 20th century as an independent state formation. Indeed, it played an active part in the creation of the new world order and of the United Nations in 1945.

The present atlas, which has been made available to the European audience, introduces the main stages of the formation of the present settlement pattern and the spatial structure of the modern economy in the sovereign Belarus. It does so by way of thematic maps and explanatory notes. Initiated and published by the Geographical Institute of the Hungarian Academy of Sciences, it was prepared in collaboration with experts from the National Academy of Sciences of Belarus and through the involvement of university workshops in the two countries. The various approaches employed by the authors and the different interpretations of the results evidently reflect the complexity of the centuries-long developments and the diversity of the cultural, civilizational and economic processes. These differences, however, should be deemed as a kind of merit of the publication, as they provide an opportunity for the readers to compare the various approaches and results and to draw their own conclusions.

Undoubtedly, it is fruitful to become better acquainted with the country's traditions, the modern way of life of Belarusians, specific features of the Belarusian economy in this era of

globalization, and the strengthening European identity. Prospective visitors to the country are strongly recommended to study the key chapters of this atlas before embarking on their journey. The maps may also guide visitors as they seek to find out more about this unique European country. Similarly, the atlas may serve as a resource for people in the business and cultural spheres as they realize mutually beneficial projects aimed at fostering Pan-European unity.

*With an invitation to visit the country
Regular member of the Geographical Society of
Belarus
Professor Ivan Pirozhnik*

Dear Reader,

Belarus in Maps is a comprehensive reference and cartographic encyclopaedia on the history, economy and geography of Belarus. The atlas has been published with a view to informing readers about the country, which recently celebrated its 25th anniversary. The independence of Belarus was declared on August 25, 1991, and on September 19, 1991 the official name of the country, the Republic of Belarus, appeared for the first time.

Belarus lies at the intersection of western and eastern European civilization, and its people have both Baltic and Slavic roots. The country is the heir of the Principality of Polack and the Grand Duchy of Lithuania. Geographically, Belarus is situated at the centre of Europe, but in geopolitical terms it is regarded as an Eastern European country. The area is about 207,600 km², which is more than the area of such countries as Iceland, Hungary, Portugal, Serbia or Austria. Belarus is ranked 84th in the world by area, 92nd by population, and 126th by population density.

The country's natural and climatic conditions are quite diverse, and three major physical geographical regions can be distinguished: the Belarusian Lakeland in the north with the forests, lakes and bogs characteristic of the southern taiga; the Belarusian Range in the centre, with mixed upland forests; and Belarusian Paliessie in the south, with broad-leaved forests, meadows and wetlands.

The national symbols of Belarus are the blue lakes of the north, the green meadows of

the south, and the hills and ridges of the centre. The majestic aurochs and white storks are among the main remarkable animals in the country. Today's Belarus is a country of cities, industrial and cultural centres, green fields, wild forests and wetlands.

Various branches of industry are present in Belarus: mechanical engineering, metal processing, chemicals and petrochemicals, and electronics. All these sectors require a skilled labour force. Other major industries include the extraction and processing of potash, the timber and woodworking industry, and light and food industries. The agricultural sector is also well developed.

The favourable geographical location of Belarus and its railway, road, air and pipeline connections have facilitated the development of economic cooperation with many countries around the world. Belarus is at the crossroads of migration routes and in the zone of interaction between world civilizations and different religions.

The historical and cultural atlas of Belarus reveals the centuries-old intermingling of Slavic and Baltic influences and the lasting effects of various principalities and empires. All this helps to explain the ethnographic diversity of the mod-

ern population. In foreign affairs, Belarus seeks cooperation with other countries based on the principle of mutual understanding and on a desire for a system of international security.

The book is intended for readers who are interested in the history, ethnography, economy, geography, and culture of Belarus, in the peculiarities of its regions, and in the conditions for the economic and cultural development of its citizens. *Belarus in Maps* is a result of the joint efforts of geographers in Belarus and Hungary. The collaborative work was made possible by a bilateral academic exchange grant between the Hungarian Academy of Sciences and the National Academy of Sciences of Belarus entitled "Scientific Preparation of Book-Atlas Belarus in Maps". It is admirable that the atlas was initiated and supported by the Hungarian Academy of Sciences.

I hope that the contents of this publication will inspire readers to develop a deeper understanding of the development of Belarus and its regions.

Vladimir Loginov

Academician

National Academy of Sciences of Belarus

INTRODUCTION

The Republic of Belarus, which became independent from the Soviet Union in 1991, established diplomatic relations with most European countries, including Hungary, in the early 1990s. The quarter-century of independence has provided the Belarusian nation with new opportunities and challenges. Belarus, which has a different economic model from that of other Central and Eastern European countries (officially a socially-oriented market economy), has recently made efforts to break out of its earlier isolation in Europe and has participated in the EU's Eastern Partnership since 2009. Since 2014, Minsk has been a hub of international diplomacy, and Hungary's Eastern Opening policy has also targeted Belarus. The strategic significance of the country is growing, but even now Belarus is barely known to most European citizens. Many people outside the country have misconceptions about its domestic socio-economic conditions. A certain amount of controversy surrounds Belarus, and there are divergent views among academics and politicians. All this constitutes a challenge for researchers striving for objectivity.

For these reasons (and with a view to meeting the above challenge), the Geographical Institute of the Hungarian Academy of Sciences decided to devote a volume in its "in Maps" series to Belarus. Initiated in 2005 under the editorship of Acad. Károly Kocsis, the series comprises the following volumes: *South Eastern Europe in Maps* (2005, 2007), *Ukraine in Maps* (2008) and *Hungary in Maps* (2009, 2011). The present volume is thus the fourth in the series.

Belarus in Maps was created in cooperation with researchers and teaching staff at the Faculty of Geography, Belarusian State University, and the Institute for Nature Management, National Academy of Sciences of Belarus. Special thanks are due to these fellow geographers in Belarus, in view of their professional contributions and their constructive advice. Special thanks are due to Prof. Ivan Pirozhnik and Prof. Dmitry Ivanov, deans of the Faculty of Geography of the

Belarusian State University, for their invaluable scientific help and support during the preparatory period and the realization of the present atlas. I also express special thanks – for the review comments – to Prof. Ferenc Probáld, my former PhD supervisor and professor emeritus of Eötvös Loránd University, and to fellow geographers at Brest University (Belarus). I would like to express my gratitude also to the Embassy of the Republic of Belarus in Hungary, and to His Excellency Ambassador Aliaksandr Khainouski for technical support and suggestions. Special thanks go also to Anatol Palyn, teacher of the high school in Lielčycy and to his son, Sasha for their efforts and help during my field research in Paliessie between 2007 and 2015.

The coordination work took place in Budapest, with three of the Hungarian authors representing the Geographical Institute, Hungarian Academy of Sciences and one the Institute of Geography and Earth Sciences, Eötvös Loránd University, Budapest. Since 2010 we have been developing professional ties with geographers in Belarus, benefitting from the effective support of Prof. Ivan Pirozhnik, former dean of the Belarusian State University, and Prof. Ekaterina Antipova. At their request, Acad. Vladimir Loginov also gave his support to the project, offering his invaluable experience and expertise. After a period of extended consultation – which gave rise to several preliminary Belarusian-Hungarian projects (e.g. EastMig, 2012–2014, funded by the International Visegrad Fund), publications (e.g. Jeney and Karácsonyi eds. 2015, Minsk and Budapest, the two capital cities), and an exchange project between the MTA and the NASB (2012–2015) – detailed technical work on the atlas commenced in 2015.

Unlike earlier volumes in the series, *Belarus in Maps* began as a grassroots initiative. The atlas came into being due in large part to the lobbying and support of Acad. Károly Kocsis, general editor of the series. Funding for the publication of the atlas was finally received from the MTA's

2016 grant fund. *Belarus in Maps* is thus being published eight years after the previous English-language atlas, *Hungary in Maps*. It is a small wonder that the Reader now has access to this latest volume in the series! Despite the difficulties that have arisen during the preparation of this atlas, we are committed to continuing the “in Maps” series, which has already become an important cornerstone of **regional geography** – (*stranovedeniye* (Rus.), *krainaznaïstva* (Bel.) – in Hungary.

Drawing from our experience in preparing the previous atlases, we have introduced several innovations. Consequently, *Belarus in Maps* differs in terms of its structure from the earlier atlases. In a departure from the traditional descriptive approach, we have sought to present Belarus by focusing on specific issues. Alongside the general parts, the atlas thus contains chapters, case studies that are specific to the country. These chapters summarize the findings of research conducted during the past decade. The subject-matters covered include: the change of the Belarusian nation and language use; the societal effects of the Chernobyl disaster; and issues relating to the country’s distinctive economic model. The atlas has been supplemented with chapters on regional geography and regional politics, and there is also a separate chapter on the role of geography in education and research. Text boxes have been used to present additional issues in greater detail. In addition to almost a hundred maps and diagrams, the atlas is also illustrated with photographs on a geographical theme.

The **data sources** are indicated after each table and diagram. Socio-economic data provided by *BelStat* (National Statistic Committee of the Republic of Belarus) was used for the regional and raion-based maps. The thematic maps of Lielčycy (*Figure 4.3*), Chojniki raions (*Figure 4.4*) and Minsk city (*Figure 6.7*) are based on fieldwork and data collection by the authors. Some of the thematic layers were prepared by *Belkartografija* under an agreement with Belarusian chapter authors.

The **spelling of geographical names** gave rise to several issues. Even the name of the country is sometimes unclear: alongside Belarus, such other forms as Biełarus, Byelorussia or indeed White Russia can be found in other works. In this atlas, the country’s official name – Belarus – is used (see *Box 1.1*). An exception is made when referring to older names for the country (e.g.

Byelorussian SSR), which were used in earlier historical periods.

Both Belarusian and Russian are official languages in Belarus. Having consulted with the Belarusian contributors to the atlas, we decided that it was important to use the Belarusian versions of geographical names (see *Appendix 1*). Like Russian geographical names, Belarusian geographical names can be transliterated (Romanized) in accordance with the British Standard, which was adopted in 1979 by both the United States Board on Geographic Names and the Permanent Committee on Geographical Names for British Official Use (e.g. Homyel’, Vitsyebsk, Rahachow, Iwye). An additional method of transliteration (Romanization) is derived from the Łacinka of the 19th century and was elaborated in 2000; it can seem rather alien (e.g. Homieł, Viciebsk, Rahačoŭ, Iŭje) in an English-language setting. This script is similar to but not identical with the Latin transcription of Slavic texts in Cyrillic lettering that was elaborated in the 19th century using the scholarly system and was based on Czech.

We decided to use the Łacinka-derived version because it was adopted in 2007 at the Ninth United Nations Conference on the Standardization of Geographical Names, which issued an “Instruction on transliteration of Belarusian geographical names with letters of Latin script”. Moreover, this has been the official international Romanization of Belarusian geographical names since 2013. It should be noted, however, that when referring to the country’s name, we have used the official name in English (Belarus) rather than the Romanized version of the country’s name in Belarusian (i.e. Biełaruś). Similarly, we use the word Russia rather than the Romanized version of the country’s name in Russian (i.e. Rossiya). The appendix contains a table with the various forms of the main geographical names appearing in the atlas.

The official Romanization of geographical names in the neighbouring countries of Ukraine and Russia (Ukrainian National Transliteration and the GOST standard) follows far more closely the British Standard (e.g. Chernihiv, Smolensk). We have indicated on the maps the names of geographical objects in the official transliterated versions that are used in the given country [e.g. Dnepr (Rus.), Dniapro (Bel.), Dnipro (Ukr.)]

or we have used their official versions in the countries that existed in the past (e.g. Gomel, Viťebsk). In the case of ordinary words that are Russian rather than Belarusian, we have adhered to the British Standard (e.g. dacha, elektrichka).

To enhance readability, the Belarusian terms for administrative units and their English counterparts have been used as synonyms (e.g. voblasć – region, raion – district). Further, when using Belarusian terms, we have omitted inflections (e.g. Homieĺ voblasć instead of Homieĺskaja voblasć).

When providing English versions of various Belarusian geographical areas or features, we have used either the uninflected forms of proper nouns (e.g. Niomanskaja nizina – Nioman Lowland) or, where possible, a full translation (e.g. Bielaruskaja hrada – Belarusian Range). It should be noted that in Belarusian there are often significant differences between the inflected and uninflected forms of proper nouns (e.g. Aršanskaje ŭzvyyšša – Orša Hills). Where the cardinal directions (or their derivatives) are included in geographical names they have not been translated into English (e.g. Zachodnaja Dzvina rather than Western Dzvina). Belarusian inflections have been retained where both parts are proper nouns or both parts are in Belarusian (e.g. Mazyrskaje Paliessie, Bielaviežskaja Pušča – Bielavieža Forest). Some geographical names cannot be rendered exactly in English. Thus “Prydniaproŭskaja nizina”, which

literally means “Lowland along the Dniapro [river]”, is shown as Dniapro Lowland rather than as Prydniapro Lowland.

Readers may be interested to know that we had many positive experiences during our time in Belarus. We found the Belarusians to be a hospitable, open, and helpful people. Despite the difficulties, any hurdles to our professional cooperation were quickly overcome. We warmly recommend that readers not only look at maps of the country but also visit Belarus! This little-known European country is rich in natural beauty and cultural heritage.

Our goal in publishing this latest volume in the “in Maps” series is to offer a regional geography of Belarus – a country that forms part of the European Union’s neighbourhood – and to present issues relating to the Belarusian nation, society, and spatial economic development. It is our sincere belief that the work will foster mutual knowledge and understanding among the nations of the region, contribute to a cultural and scientific dialogue, and strengthen economic and social ties. We warmly recommend the publication – which is richly illustrated with maps – both to geographers, economists and political scientists as well as to diplomats, politicians and investors. It will also be of interest to the broader public, both to the west and east of the River Buh.

Budapest, March 14, 2017

Dávid Karácsonyi



Track precinct, the historical core of Minsk with Afghanistan War Memorial on the shore of the River Svislač. (Photo: Konkoly-Thege, G. 2013)

1. BELARUS IN EUROPE

Geographic setting

The territory of the Republic of Belarus is situated in the western part of Eastern Europe, between latitudes $51^{\circ}16'N$ and $56^{\circ}10'N$ and longitudes $23^{\circ}11'E$ and $32^{\circ}47'E$ (Figure 1.1). The length of the country is 560 km from north to south and 650 km from west to east. Geographic extreme points are Lake Asvieja (Viciebsk voblasć) in the north, the town of Kamaryn (Homiel voblasć) in the south, the town of Vysokae (Brest voblasć) in the west and the town of Chocimsk (Mahilioŭ voblasć) in the east.

Belarus is a medium-sized European country with an **area** of about 207,600 square kilometres. Sverdlovsk Oblast (Russia), Kansas (United States), the main island of Great Britain and Hunan Province (China) are of similar size. Belarus is slightly smaller than Laos, half the size of Paraguay, and slightly smaller than Victoria (Australia).

In terms of **population**, Belarus (9.5 million inhabitants, 2016) is in a group of middle-ranked European countries which includes Switzerland, Austria, Hungary and Sweden (Table 1.1). Together with Azerbaijan, it ranks in the middle



Table 1.1. Belarus among 45 selected European and CIS countries

Population number		GDP, Purchasing Power Parity (PPP)			Human Development Index (HDI)			Per capita GDP, PPP			
Rank	Country	Thousand, 2015	Rank	Country	Billion dollar, 2015	Rank	Country	2014	Rank	Country	Current international dollar, 2015
1	Russia	143,457	1	Germany	3,841	1	Norway	0.944	1	Luxembourg	98,987
2	Germany	80,689	2	Russia	3,718	2	Switzerland	0.930	2	Norway	68,430
3	Turkey	78,666	3	United Kingdom	2,679	3	Denmark	0.923	3	Switzerland	58,551
4	United Kingdom	64,716	4	France	2,647	4	Netherlands	0.922	4	Ireland	55,533
5	France	64,395	5	Italy	2,171	5	Germany	0.916	5	Netherlands	49,166
6	Italy	59,798	6	Spain	1,615	6	Ireland	0.916	6	Sweden	47,922
7	Spain	46,122	7	Turkey	1,589	7	Sweden	0.907	7	Austria	47,250
8	Ukraine	44,824	8	Poland	1,005	8	United Kingdom	0.907	8	Germany	46,893
9	Poland	38,612	9	Netherlands	833	9	Iceland	0.899	9	Iceland	46,097
10	Romania	19,511	10	Belgium	494	10	Luxembourg	0.892	10	Denmark	45,709
11	Kazakhstan	17,625	11	Switzerland	482	11	Belgium	0.890	11	Belgium	43,585
12	Netherlands	16,925	12	Sweden	473	12	France	0.888	12	France	41,181
13	Belgium	11,299	13	Kazakhstan	429	13	Austria	0.885	13	United Kingdom	41,159
14	Greece	10,955	14	Romania	414	14	Finland	0.883	14	Finland	41,120
15	Czechia	10,543	15	Austria	404	15	Slovenia	0.88	15	Malta	36,005
16	Portugal	10,350	16	Norway	356	16	Spain	0.876	16	Italy	35,708
17	Hungary	9,855	17	Ukraine	339	17	Italy	0.873	17	Spain	34,819
18	Sweden	9,779	18	Czechia	332	18	Czechia	0.870	18	Cyprus	32,785
19	Azerbaijan	9,754	19	Portugal	290	19	Greece	0.865	19	Czechia	31,549
20	Belarus	9,496	20	Greece	286	20	Estonia	0.861	20	Slovenia	31,007
21	Serbia	8,851	21	Denmark	259	21	Cyprus	0.850	21	Slovakia	29,720
22	Austria	8,545	22	Hungary	258	22	Slovakia	0.844	22	Estonia	28,592
23	Switzerland	8,299	23	Ireland	257	23	Poland	0.843	23	Lithuania	28,359
24	Bulgaria	7,150	24	Finland	225	24	Lithuania	0.839	24	Portugal	27,835
25	Denmark	5,669	25	Azerbaijan	169	25	Malta	0.839	25	Poland	26,455
26	Finland	5,503	26	Belarus	168	26	Portugal	0.830	26	Greece	26,449
27	Slovakia	5,426	27	Slovakia	161	27	Hungary	0.828	27	Hungary	26,222
28	Norway	5,211	28	Bulgaria	137	28	Latvia	0.819	28	Russia	25,411
29	Ireland	4,688	29	Serbia	98	29	Croatia	0.818	29	Latvia	24,712
30	Croatia	4,240	30	Croatia	91	30	Montenegro	0.802	30	Kazakhstan	24,268
31	Moldova	4,069	31	Lithuania	82	31	Belarus	0.798	31	Croatia	21,581
32	Georgia	4,000	32	Slovenia	64	32	Russia	0.798	32	Romania	20,787
33	Bosnia-H	3,810	33	Luxembourg	56	33	Romania	0.793	33	Turkey	20,438
34	Armenia	3,018	34	Latvia	49	34	Kazakhstan	0.788	34	Bulgaria	19,097
35	Albania	2,897	35	Bosnia-H	41	35	Bulgaria	0.782	35	Azerbaijan	17,993

Table 1.1 continued

Population number		GDP, Purchasing Power Parity (PPP)			Human Development Index (HDI)			Per capita GDP, PPP			
Rank	Country	Thousand, 2015	Rank	Country	Billion dollar, 2015	Rank	Country	2014	Rank	Country	Current international dollar, 2015
36	Lithuania	2,878	36	Estonia	38	36	Serbia	0.771	36	Belarus	17,654
37	Macedonia	2,078	37	Georgia	36	37	Turkey	0.761	37	Montenegro	16,123
38	Slovenia	2,068	38	Albania	33	38	Georgia	0.754	38	Macedonia	14,009
39	Latvia	1,971	39	Macedonia	29	39	Azerbaijan	0.751	39	Serbia	13,671
40	Estonia	1,313	40	Cyprus	28	40	Macedonia	0.747	40	Albania	11,301
41	Cyprus	1,165	41	Armenia	25	41	Ukraine	0.747	41	Bosnia-H	10,492
42	Montenegro	626	42	Moldova	18	42	Albania	0.733	42	Georgia	9,630
43	Luxembourg	567	43	Malta	15	43	Armenia	0.733	43	Armenia	8,468
44	Malta	419	44	Iceland	15	44	Bosnia-H	0.733	44	Ukraine	7,971
45	Iceland	329	45	Montenegro	10	45	Moldova	0.693	45	Moldova	5,006

Sources: hdr.undp.org, data.worldbank.org, UN World Population Prospects

among the post-Soviet countries. Belarus's population is about the same as that of a medium-sized East Coast state in the United States (e.g. New Jersey, Georgia, North Carolina) or that of a "minor" Chinese urban agglomeration (e.g. Harbin or Zhengzhou). The country has barely half the population of Taiwan or Australia.

The **population density** of Belarus (46 persons/km²) is low in European (and global) terms but relatively high among the post-Soviet countries. Its population density is significantly higher than that of the Baltic countries or the United States but lower than that of Ukraine, Moldova or Bulgaria. Based on population density, it can be grouped with Iran, South Africa or one of the more densely populated oblasts of Russia's Central Federal District (e.g. Tula, Vladimir, Belgorod, Voronezh, but not Moscow Oblast).

Although Belarus is a **landlocked country**, its ridges rising above the East European Plain are the source area of many major rivers that flow towards the Baltic Sea or the Black Sea (Nioman, and, in part, Dzvina, Dniapro). For centuries, therefore, the territory of present-day Belarus has been a meeting point of north-south and east-west transport corridors and trade routes. In the course of history, its gateway role was sometimes strengthened (for instance, at the time of the Varangians – Swedish Vikings – who advanced along the rivers between the Baltic and Black seas, and later when the territory formed the core area of the Grand Duchy of Lithuania). However, in other periods (e.g. during Napoleon's campaign and the Second World War), the region's role as a gateway between Europe and Russia / Soviet Union on the Berlin-Warsaw-Minsk-Smolensk-Moscow army route brought destruction.

At present, Belarus forms the gateway between the EU and Russia. Without a doubt, the country lies at a geopolitical focal point of Europe. It is this strategic position that gives Belarus its significance. Strategically, it is a far more important European country than one might suppose based on its economy, area or population. Belarus is seeking to turn this factor to its advantage.

Belarus lies in the western part of the East European Plain, a large physical geographical unit, which occupies a major part of Eastern Europe. Almost the whole territory

of Belarus consists of different types of plains. After Denmark (and excluding Malta and the Vatican City), Belarus is Europe's second "flat-test" country.

The difference in elevation between the highest point (Dziaržynskaja, 345 m) and the lowest point (the Nioman Lowland, 78 m) is 267 metres, which is less than the difference in elevation observed in the Baltic states (e.g. Lithuania, 294 m) or in the Netherlands (329 m). Most of Belarus's terrain was formed by glaciers and subsequently altered by the post-glacial processes. Thus, despite the small difference in elevation, the Belarusian landscape is gently undulating with a remarkable diversity of natural conditions. The flat relief and the relatively fertile soils that overlay the moraine and fluvioglacial sediments provide favourable conditions for agriculture, forestry, industry, residential housing and infrastructure development.

State territory

The first states on the present-day territory of Belarus arose between the 10th and 13th centuries (Figure 1.2). These states were the Principality of Polotsk (today Polack) in the Dzvina valley and Turovian principalities in the Prypiać lowlands. In the 14th and 15th centuries, these areas became constituent parts of the Grand Duchy of Lithuania. By the mid-15th century, the Grand Duchy of Lithuania had become Europe's largest state, occupying a vast area between the Black Sea and the Baltic Sea.

After the Union of Krewo (Kreva) in 1385, the **Grand Duchy of Lithuania** (including the Belarusian lands) became attached to the Kingdom of Poland in the form of a personal union (through the marriage of Grand Duke Jogaila (Jagaila, Bel.) to Queen Jadwiga of Poland). The two countries were joined as the Polish-Lithuanian Commonwealth (the Rzeczpospolita) in the Union of Lublin of 1569. This entity existed for more than two centuries until the Partitions of Poland (1772, 1793, 1795) when the country was divided between the Russian Empire, the Kingdom of Prussia and Habsburg Austria. The north-eastern part of present-day Belarus became a part of the Russian Empire in 1772, as did the central part in 1793 and the western part in

1795. These areas remained a part of the Russian Empire until its collapse in 1917 (Figure 1.3).

Towards the end of the First World War, the independence of the Belarusian People's Republic (BPR, under German military occupation) was declared (March 25, 1918). This occurred only weeks after the signing of the Treaty of Brest-Litovsk (today Brest) (March 3, 1918), a peace treaty between Soviet Russia and the Central Powers. The BPR had an area of around 300,000 square kilometres.

After the withdrawal of German troops, in early 1919 the Bolsheviks proclaimed (in Smolensk) the Soviet Socialist Republic of Belarus (SSRB), the territory of which was mostly incorporated – in February 1919 – into the Soviet puppet state of the Lithuanian-Belarusian Soviet Socialist Republic (*Litbel*), which existed for about five months.

As a consequence of the Peace of Riga (March 18, 1921), which concluded the Polish-Soviet war of 1919–1921, the western areas of present-day Belarus were ceded to Poland. In the central areas, a new Soviet republic was established: the Byelorussian (or Belarusian) Soviet Socialist Republic (BSSR) (Box 1.1). Further territory (the eastern regions between Polack and Homiel) was added to this entity in 1924 and in 1926. The boundary established at that time marks the current border between Belarus and Russia.

Following the outbreak of the Second World War and the German-Soviet invasion of Poland (September 1939), the western areas of present-day Belarus and the Białystok area of Poland were attached to the BSSR. During the German occupation (1941–1944), the western areas (under the name of *Generalbezirk Weissruthenien*) formed a part of the *Reichskommissariat "Ostland"*, while the southern areas were included in the *Reichskommissariat "Ukraine"*.

The territorial area of present-day Belarus was established in August 1945 in the aftermath of the Second World War. At that time, the borders of the BSSR prior to the June 1941 German attack were essentially restored, the only difference being the return of the Białystok area to Polish sovereignty. Since the dissolution of the Soviet Union and the proclamation of Belarusian independence, the name of the new state has been the Republic of Belarus.

Box 1.1 Belarus, Byelorussia or White Russia?

The name Belarus stems from *Belaja Rus'*, which means White Rus'. The term Rus' refers to the Kievan Rus' of the 9th to 12th centuries, to the successor (Eastern Slavic) principalities, and to the people (*Rusy*) who lived under their authority. Ruthenia, the Latin name for the Kievan Rus', gave rise to the name White Ruthenia. The western areas of present-day Belarus formed part of historical Black Ruthenia, whereas Galicia constituted Red Ruthenia. Among the three Eastern Slavic nations, it is only in the name Belarus that the reference to the former Rus' has remained.

The Moscow-centric Russian state, Muscovy (or the Grand Duchy of Moscow), introduced the title Grand Duchy of all Rus' in the late 15th century during the reign of Ivan the Great. The term "Russia", or the Tsardom of Russia, appeared at the time of Ivan the Terrible, who, in 1547, had himself crowned Tsar of All Rus' (*Tsar vseya Rusy*), in a clear reference to the former Kievan Rus'. With the establishment of the Russian Empire in 1727 during the reign of Peter the Great, the term Tsar was forged with that of Emperor of All Russians (*Imperator Vserossiyskiy*). The English word "Russian" can be translated in two different ways into Russian: "*Rossiyskiy*" was used to designate an inhabitant or subject of the Russian Empire, while "*Ruskiy*" or "*Ruskiye*" designates ethnic Russians.

The terms White Rus' (*Belaja Rus'*) and White Russia stem from the 17th century and were used by the Russian tsars to refer to areas of the country acquired from the Grand Duchy of Lithuania. Meanwhile, the term Little Russia was used for areas inhabited by ethnic Ukrainians and the term Great Russia for areas inhabited by ethnic Russians (*Ruskiy*). The term White Russia [Byelorussia, Byelorussia or *Weißrussland* (Ger.)] has a pejorative meaning for Belarusians, in the same way as Little Russia does for Ukrainians. This is because Rus' refers to the ancient Kievan Rus' and its subjects rather than to the Russian ethnic group (*Ruskiy*), which emerged much later in areas that were under the Mongol yoke for a lengthy period and thus became culturally different.

Byelorussia, or the Byelorussian SSR, became the official name of the country in the Soviet era, which was then changed to the Republic of Belarus in 1991. Today, Russians also use the official name Belarus in place of Byelorussia.

Ethnic territory

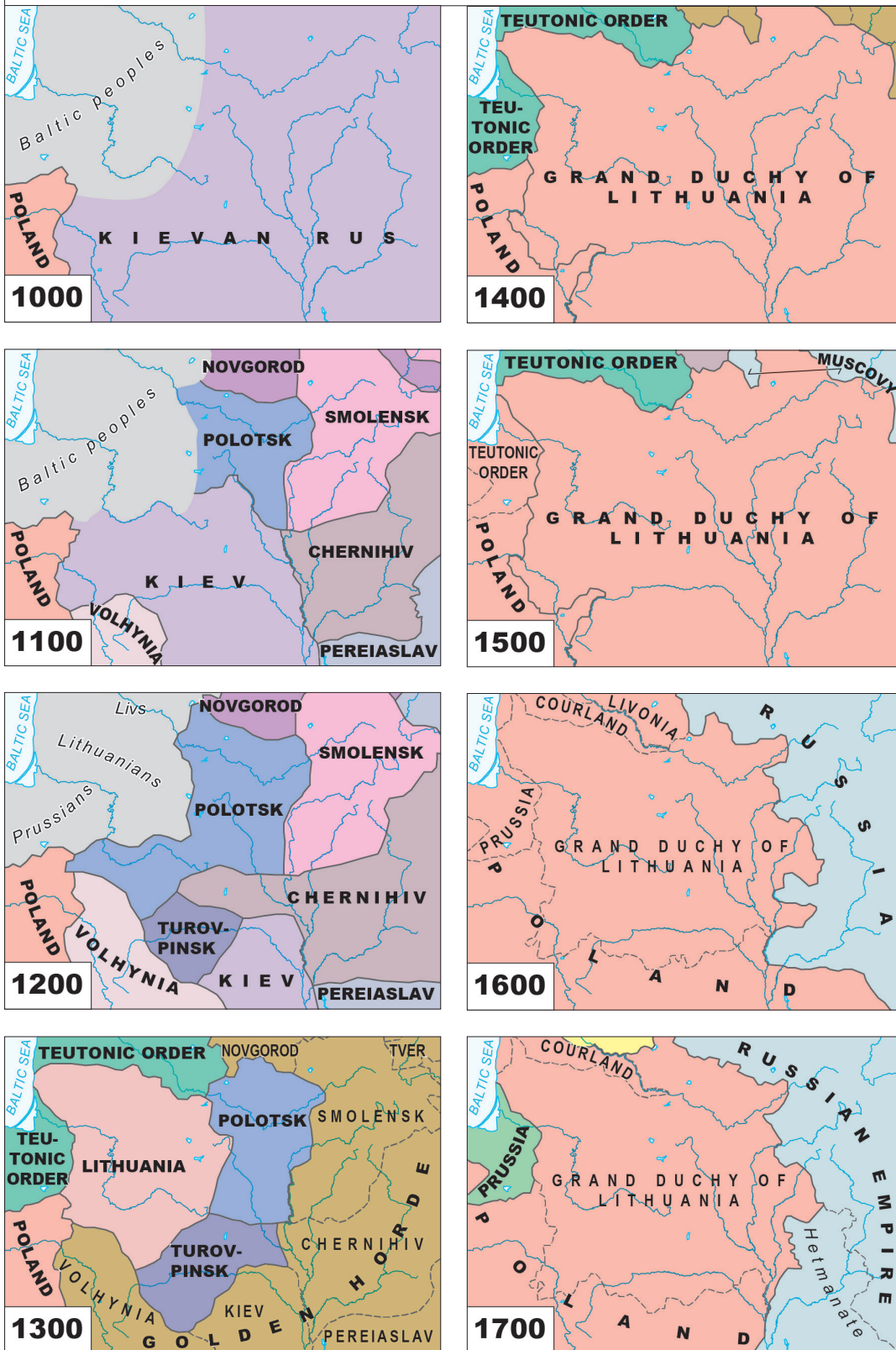
The core Belarusian ethnic area coincides with the territories controlled in the 8th and 9th centuries by Slavic tribal unions (the Dregovich, Krivich and Radimich tribes). These groups inhabited the upper basins of the Zach. Dzvina, Nioman and Dniapro rivers. The Dregovich tribe inhabited the south-western part, the Krivich tribe the northern part and the Radimich tribe the eastern part of modern-day Belarus. The Belarusian ethnos formed gradually at the time of the multi-ethnic Grand Duchy of Lithuania and the subsequent Polish-Lithuanian Commonwealth.

The Belarusian ethnic space, which was formed in areas inhabited by the cited East Slavic tribes, seems to have changed little until the 20th

century. For centuries, the Belarusian-Russian ethno-linguistic boundary lay along what had been, in the 16th and 17th centuries, the frontier between the Polish-Lithuanian Commonwealth and Russia (between Velikiye Luki, Rzhev, Vyazma and Bryansk). Meanwhile, in the north-west, the Belarusian ethnic area extended roughly as far as present-day Belarus's border with Lithuania and Latvia. In the south, the ethnic boundary lay between Białystok and Pinsk and along the River Prypiać. During the 20th century, owing to mass migration and natural assimilation, the Belarusian ethnic boundary retreated in the north and east towards the Belarusian-Russian frontier (and thus to the Russians' favour). In contrast, in the south, the ethnic boundary advanced towards the Belarusian-Ukrainian frontier (and thus to the

Fig. 1.2

STATES ON THE PRESENT TERRITORY OF BELARUS (1000–1700)

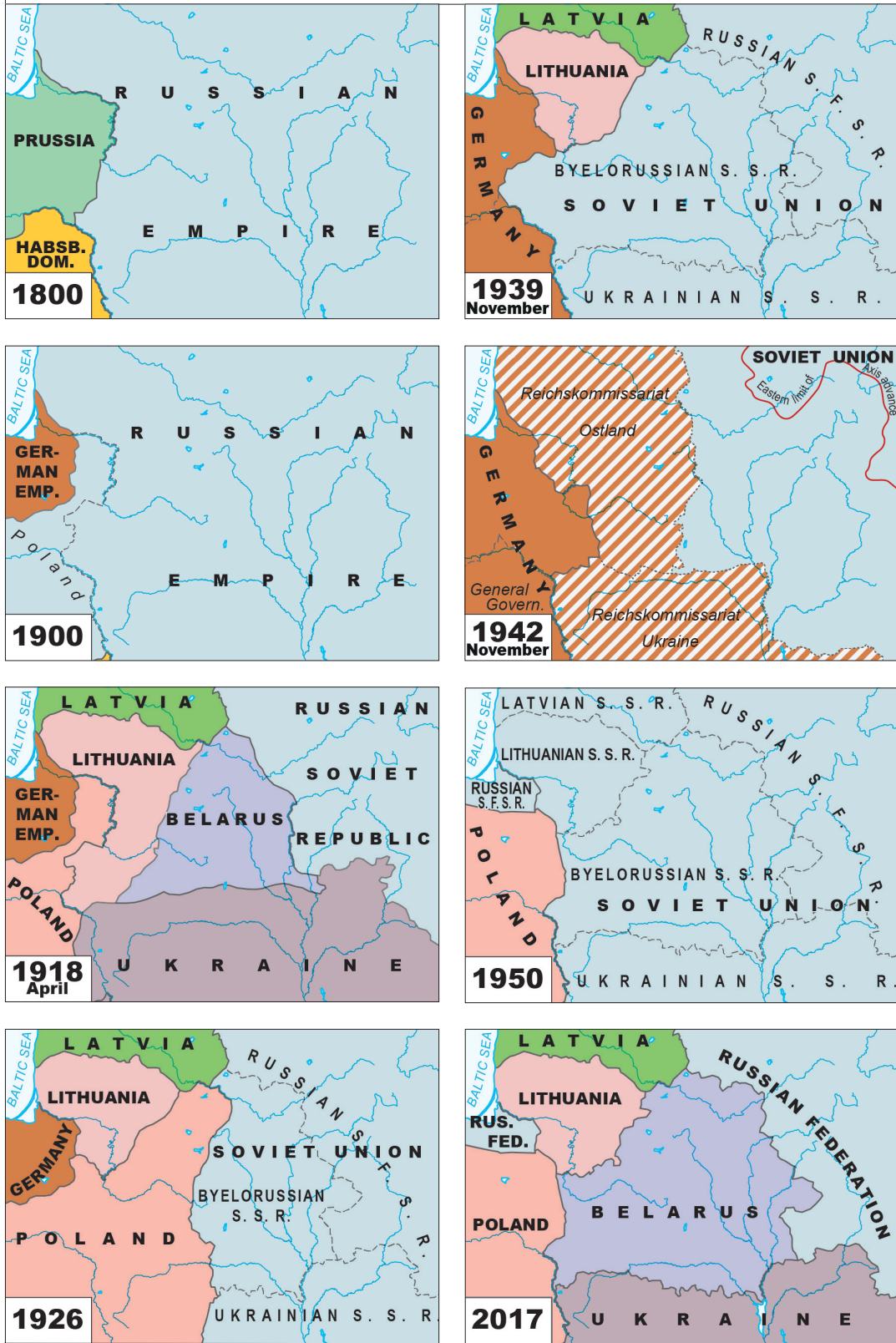


Author: Kocsis, K. MTA CSFK
 Geographical Institute, Budapest, 2017
 Cartography: @szam-tar-kep

0 50 100 150 200 km

Fig. 1.3

STATES ON THE PRESENT TERRITORY OF BELARUS (1800–2017)



Author: Kocsis, K. MTA CSFK
Geographical Institute, Budapest, 2017
Cartography: @szam-ter-kep

0 50 100 150 200 km

Belarusians' favour). In the north west, the population of the region (which formed part of Poland in the period 1922–1939 and now lies alongside Belarus's border with Lithuania and Latvia) became extremely mixed. In earlier decades, it constituted a Polish ethnic buffer zone, but this has now become fragmented.

It was not only in the border areas that the population of the Belarusian ethnic area was mixed. This was also true of the urbanised areas and in the major towns, with the Jews forming large communities in earlier centuries and the ethnic Russians doing so in the 20th century. In the area that is now Belarus, the Jewish population decreased from 911,000 (14% of the total population) in 1897 to 150,000 (1.9%) in 1959. This decrease was the result of the Holocaust (1941–1944) and of emigration. During the same period, the ethnic Russian population, which was also concentrated in urban areas, increased from 224,000 (3.5% of the total population) to 659,000 (8.2%) in consequence of Soviet colonisation and identity shifts (Eberhardt, P. 1996).

In recent decades, the boundaries of the Belarusian ethnic area have become analogous with the Russian, Ukrainian and Polish frontiers in the north-east, east, south and south-west of the country. In the north-west, the ethnic boundary has moved ever closer towards the Polish and Lithuanian borders. This development is reflected in the decrease in the ethnic Polish population – from 539,000 in 1959 to 295,000 in 2009.

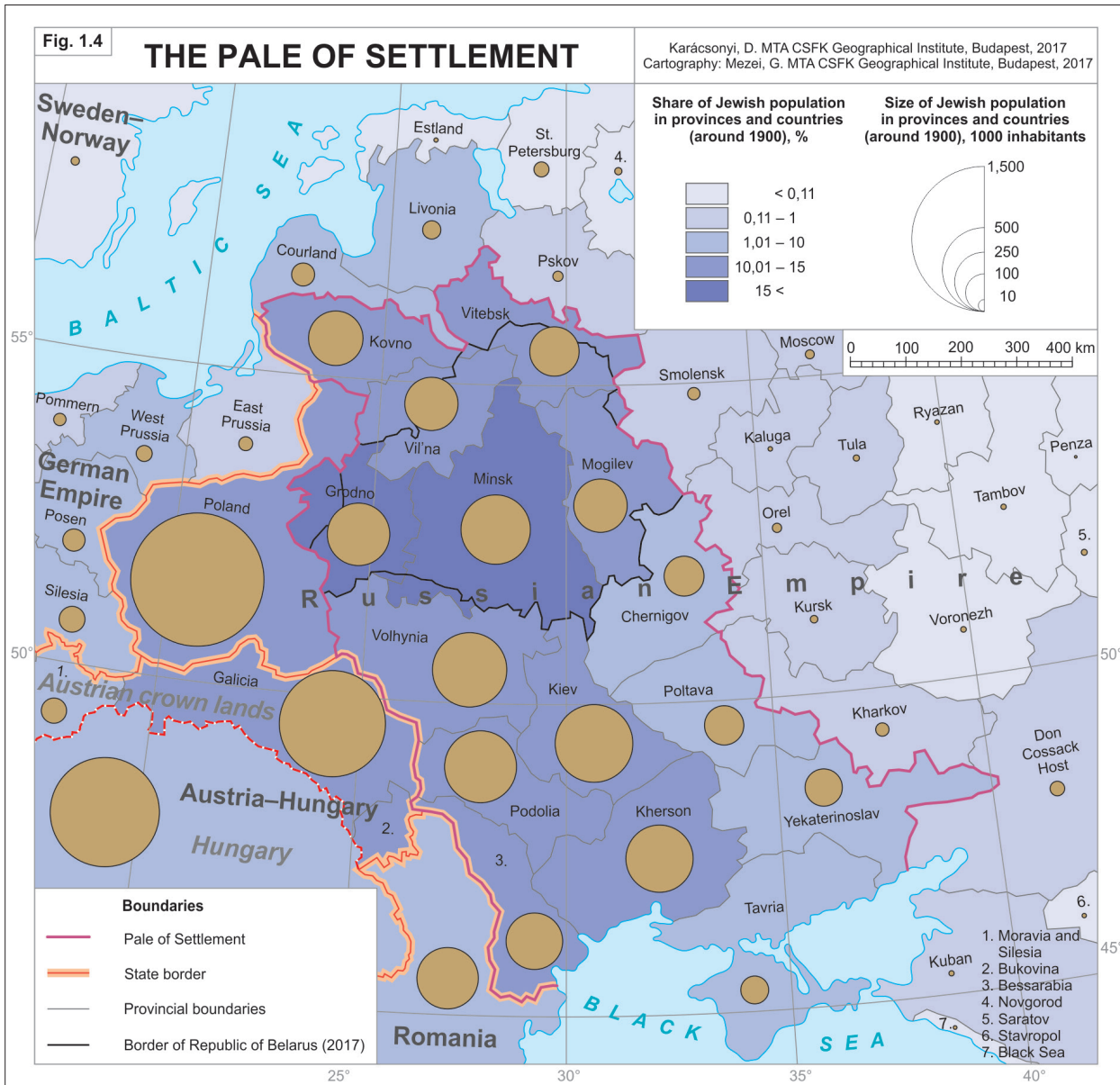
The largest **Belarusian diaspora** population – with a significant number of adherents to Judaism (*Box 1.2*) – is to be found in the United

States (600–800,000), with the largest communities in New York, New Jersey, Cleveland and Chicago. A similar number of Belarusians (521,000 in 2010) live in Russia, where they form two groups: a diaspora established in the 19th century and under Soviet rule and concentrated in the Moscow and St. Petersburg agglomerations, and an autochthonous Belarusian population in the border areas [in Smolensk Oblast (Smalensk, Bel.), in the western part of Bryansk Oblast (Bransk, Bel.) and in the southern part of Pskov Oblast (Pskoŭ, Bel.)]. Significant allochthonous Belarusian minority populations are to be found in Kaliningrad Oblast, in the Kuban lowlands, in SW Siberia and in Karelia. Other than in the Kuban lowlands and SW Siberia, these populations can be traced back to the large-scale Soviet settlement programmes. Industrial workers comprise the largest Belarusian communities in Ukraine (276,000 in 2001); they mainly inhabit the Donetsk and Dnipropetrovsk regions. In Latvia, the Belarusians (68,000 in 2011) live mainly in the Latgale (Latgale) region (South-East Latvia), which includes the city of Daugavpils (Dzvinsk, Bel.). In Lithuania, the Belarusians (36,000 in 2011) reside mainly in Vilnius (Vilnia, Bel.) and in the surrounding area. When the Baltic countries gained their independence (in 1991), many ethnic Belarusians – as in the case of ethnic Russians – were denied an automatic right to citizenship in Latvia and Estonia (Lithuania was the exception). In Poland, an autochthonous Belarusian population (47,000 in 2011) can be found in the Polish-Belarusian border area, east of Białystok (Bielastok, Bel.).

Box 1.2 History of Jews in Belarus

Belarus had a sizable Jewish population prior to the Holocaust. Several leading Israeli politicians, including the first president of the Jewish state Chaim Weizmann, prime ministers Menachem Begin and Shimon Peres, were born here. Today Belarus was also the birthplace of Eliezer Ben-Yehuda who had launched the revival of the Hebrew language. The Belarusian lands formed the core area of the **Pale of Settlement** or **The Pale** (*Myaža aselasci*, Bel., *Cherta osedlosti*, Rus.) within the Russian Empire. Established in 1791 by a decree of Catherine the Great, the Pale became increasingly important after the Second Partition of Poland (1793), when mass of Jews became subjects of the Empire. The decree was purposed to restrict the free movement of Jews within the country (Magocsi, P. R. 1993).

Five million Jews – nearly half of world Jewry – lived in the Pale in the late 19th century. In 1897, 910,000 of them resided within today's boundaries of Belarus (*Figure 1.4*). Prior to the Second



An official letter issued by Academy of Sciences of BSSR in 1940 (displayed by permanent exhibition in Niasviž museum) showing the multicultural Soviet-Belarus: the heading is in Belarusian, Russian, Yiddish and Polish. Just five years after that letter the Jewish and Polish population almost disappeared from the ethnic map of Belarus because of the Holocaust and ethnic cleansing. (Photo: Karácsonyi, D. 2012)

World War, Jews accounted for 40% of the urban population and 14% of the total population of the Byelorussian SSR. According to the census of 1897, Minsk, Mahilioŭ (*Molew*, Yid.), Homiel (*Homl*), Viciebsk (*Witebsk*), Babrujsk (*Babroyksk*) (60%), Polack (*Polotsk*) (61%), Brest (*Brisk*, Yid.) (66%) and Pinsk (77%) were predominantly Jewish cities (Magocsi, P.R. 1993). In the Tsarist Empire, other than Berdychiv (*Berditschew*) and Bialistok (*Byalistok*), all the cities with a Jewish population share of more than 60% were in what is now Belarus (Magocsi, P.R. 1993).

The mainly Orthodox Ashkenazi Jews (Magocsi, P.R. 1993) lived in smaller cities, townships, and local market places – the so-called *shtetls* or *shtetlekh* (plural form). In Belarus, typical former *shtetls* are Slonim (78% Jewish in 1897), Iūje/*Eyvye*, Davyd-Haradok/*David-Horodok*, or Antopal/*Antipolie*. Jews were prohibited from working in agriculture and from living in smaller settlements (i.e. villages). Jewish people usually lived apart, in separate streets or quarters within towns, often in poverty. Many of them were merchants, craftsmen and tailors, but their elite were artists (e.g. Marc Chagall), scientists or teachers. The bitter life of Jewry in the Pale was portrayed in *Fiddler on the Roof*, the famous American musical comedy-drama, a good manifestation of Jewish plight and humour.

The Jewish communities of the Pale had frequently suffered from the pogroms. The major waves of pogroms (Odessa in 1871; Kiev, Warsaw and Odessa in 1881–1884; Kishinev and Odessa in 1903–1906) affected Jewish communities in the Ukrainian, Bessarabian and Polish areas, where antisemitism was most militant. The pogroms and persecutions led to the emigration of 2.4 million Jews from the Pale to the United States between 1880 and 1914. In 1910, one in two immigrants from the Russian Empire to the United States was Jewish (Magocsi, P.R. 1993).

After the tsarism was overthrown by the February Revolution of 1917, the newly established Russian provisional government abolished the Pale. State-sanctioned antisemitism ceased with the end of the monarchy. Jews were granted political and civil rights with free movement and settlement within the country (Bemporad, E. 2013). Even so, during the civil war and at the time of the Polish occupation of Minsk, Jews once again suffered from pogroms. Thus they welcomed the Bolshevik Red Army when it entered the city in July 1920 (Bemporad, E. 2013). Later, during the early years of **Soviet rule**, many local Jews attained high positions in the Bolshevik bureaucracy of Soviet Belarus (including, on one occasion, the post of first secretary of the party). Nevertheless, with the advent of communist internationalism and atheism in the 1920s, non-communist Jewish organizations (especially Zionist groups) were banned, as was also the use of the Hebrew language. Further, many synagogues were closed (Bemporad, E. 2013). Yiddish, the vernacular language among Ashkenazi Jews at the time, came to the fore. Along with Belarusian, Russian and Polish, it had become an official language of the newly established Byelorussian SSR. The period also saw the establishment of a Belarusian State Jewish Theatre in Minsk. Indeed, the largest Yiddish newspaper of the Soviet Union, "*Der Shtern*", was also published in Minsk. It is telling that the magazine was renamed "*Oktyabr*" in 1924. The last edition of the newspaper was published in June 1941. With the wave of **Stalinist Russification** of Belarus, Yiddish-speaking schools (similar to the Belarusian-speaking ones) were closed, and Jews were forced to use Russian from 1937. However, unlike in Germany or in Poland, antisemitism was considered a crime in the Soviet Union (Bemporad, E. 2013).

The **Holocaust** terminated the era of *shtetls* and their Jewish residents perished. Around 40% of the Soviet Union's Jewish population – between 700,000 and 1.2 million people – fell victim to ethnic cleansing by the Nazis between 1941 and 1944 (Magocsi, P.R. 1993). According to the Polish (1931) and Soviet (1939) censuses, there were around 800,000 Jews in Belarus before June 1941. In 1959, at the time of the first post-war Soviet census, only 150,000 remained.

Large death camps, such as Sobibór and Majdanek, were situated on the Polish side of today's Polish-Belarusian border. Most of the local Jewish population was massacred by the so-called *Einsatzkommandos* (special SS killing squadrons) in the aftermath of the German invasion of the Soviet Union (Operation Barbarossa, June 1941). The largest massacre site was Bronna Mount (*Bronnaja Hara*) in the Brest voblaść; around 50,000 Jews, mainly from Brest, Turaŭ and Kobryn, were killed there. Ghettos were established by the Nazis in every major city of today's Belarus,

where members of the Belarusian auxiliary police (*Hilfspolizei Ger., Biélaruskaja dapamožnaja palicyja Bel.*) helped to collect together – and often brutalize and kill – Jewish people. The population of the largest one, the ghetto of Minsk, reached 100,000 people. Minsk itself was home of 50,000 to 70,000 Jews, who made up 40% of the city's population in the interwar period (Bemporad, E. 2013). They were killed in the death camp established on the outskirts of the city at *Maly Trascjaniec*. From the pre-war Jewish population of Minsk, only 2,500 survived (Bemporad, E. 2013). Several of the Holocaust survivors left Belarus immediately after Second World War. They migrated to the newly established Jewish state of Israel or moved to other republics of the Soviet Union.

The only Holocaust monument in the Soviet Union in the Yiddish language and explicitly mentioning the Jewishness of the victims was erected in Minsk in 1945 (www.yivoencyclopedia.org). According to Bemporad (Bemporad, E. 2013), in contrast to the pre-war period, antisemitism started to be encouraged by the Soviets from the 1950s. This was in accordance with the Sovietisation of Belarus, whereby the objective was to erase the **memory of "Jewish" Minsk** and transform the city into a large Soviet worker metropolis (*Box 6.1*). This policy resulted in the emigration wave (*Aliyah*) during the 1970s, when more than 10,000 Jews left the Byelorussian SSR after receiving passports to leave the Soviet Union. At the time of the decline of the Soviet Union and its disintegration in the late 1980s and early 1990s, an even larger wave of emigration resulted in the exodus of 100,000 thousand Jews from Belarus. Many of these people emigrated to Israel, the United States or Germany. By 1999, the Jewish population of Belarus had fallen to 27,000.

In 2009, half of the remaining 12,000 Belarusian Jews were living in Minsk. Nowadays Jewish cultural life is undergoing a revival and links are being forged with Belarusian Jewish emigrés. Jewish periodicals are being published in Minsk once again, and a Jewish centre was opened in 2001. Minsk now has three synagogues, and there are in total 12 synagogues in Belarus.

Boundaries

The present-day borders of Belarus (2,969 km in length) were established in the period 1919–1945, during the first half of the Soviet Union's existence. The boundaries of the BSSR were inherited by the Republic of Belarus in 1991 after the disintegration of the Soviet Union.

The Belarusian-Russian border (1,283 km in length) acquired its current form in 1924 and 1926. In 2011, border controls were abolished along this stretch of the border – an action taken under the framework of the Union State of Russia and Belarus (a politico-economic union). The Belarusian-Ukrainian border (1,084 km in length) was established, in the east, in the period 1920–1926 and, in the west, in 1939–1940. In 1993, Belarus, Ukraine and Russia recognized the inviolability of their respective common borders. The present-day Belarusian-Latvian border (173 km in length) was established in 1924 and in 1939 and then finalized in 1994, after the two countries had won their independence. The Belarusian-Lithuanian border (nearly 679 km in length) was established in 1940, as the result of the Belarusian-Lithuanian negotiations that followed the German-Soviet invasion and par-

titution of Poland in September 1939. In 1995, Belarus and Lithuania mutually recognized this border. Unlike the above borders, which were internal Soviet borders at the time of the Soviet Union, the present-day Belarusian-Polish border (nearly 399 km in length) has been a recognized international border since August 16, 1945.

Administrative divisions

In the early 20th century (in the era of Imperial Russia), the first-level administrative units were the *gubernias* (provinces), which were subdivided into *uyezds* (*paviets*, districts). In 1924, the Soviet government established a new administrative unit called the *okrug* (region). Such regions were established in the BSSR and then subdivided into *raions* (districts). The western areas of present-day Belarus formed part of Poland from 1920 until 1939; they were divided into voivodeships (provinces) and further subdivided into *powiats* (districts). In 1938, the okrugs were abolished in the BSSR and replaced by a voblasć system (oblasts, regions). Since then, the region (voblasć)

has constituted the main subnational unit of administrative division. Between 1954 and 1960, the number of such regions was reduced from twelve to six, which is the current number of regions.

According to its constitution, which was adopted in 1994, the Republic of Belarus is a unitary state. The country is divided into seven first-level administrative territorial units (Figure 1.5): six *voblasćs* (*oblasts* in Rus., regions: Brest, Homiel, Hrodna, Mahilioŭ, Viciebsk, Minsk) and the capital city Minsk as an independent unit.

Belarus's second-level administrative divisions include 118 *raions* (districts) and 11 cities of state or *voblasć* subordination, most of which

have more than 50,000 inhabitants. There are 5 *voblasć* centres in this category.

At the third administrative level, there are towns of raion (district) subordination, townships and *selsoviets* (rural or village councils). Overall, there are 24,591 entities at this level: 113 towns, 90 urban-type settlements (*pasiolak*, townships), 1,159 rural councils (*selsoviets*) and 23,229 rural localities (villages).

The current system of administrative division was established in 1966. At that time, there were 117 districts. An additional raion – Drybin raion – was established in 1989. Thus, the total number of raions increased to 118.



Belarus in the European pattern of economic development

Belarus, a country of almost 10 million inhabitants, counts – in terms of **total GDP** based on PPP – as a small to medium economy in Europe and in the post-Soviet space (*Figures 1.6, 1.7, 1.8, 1.9*). Its economy is larger than Slovakia's or that of Bulgaria, which has a similar population, but it is considerably smaller than Hungary's or Czechia's economy. Evidently, it is far smaller than the economies of Poland, Romania and Ukraine (*Table 1.1*).

The independent, Belarus has taken an economic path different from that of Russia or Ukraine. Except for a short period during the chaotic aftermath of gaining independence (early 1990s), Belarus essentially avoided the transition crisis. Since 1993, in terms of GDP (PPP), Belarus has advanced at roughly the same pace as for example Slovakia (*Figures 1.6, 1.7, 1.8, 1.9*). It is noteworthy that until the 2010s, the economic performance of Belarus (its GDP growth) was no worse than that of Slovakia, which became independent at around the same time. While Slovakia adhered strictly to the neoliberal school for much of the economic transition, and even adopted the euro, Belarus followed its own path and the shock therapy model was firmly rejected. However, similar to Slovakia, industrial output (especially engineering) has been the main contributor to GDP growth in Belarus too. Slovakia attracted significant amounts of capital investment from Germany, and received financial support by means of the EU structural and cohesion funds. On the other hand Belarus enjoyed hidden economic support in the form of Russian hydrocarbon exports which enabled the country to avoid the transitional crisis. Indeed, in the mid-2000s, GDP growth in Belarus – reaching an annual rate of around 8–10% between 2004 and 2008 – was among the highest in Europe according to World Bank data. And until 2010, it seemed the country would be only marginally affected by the effects of the 2008 global crisis (see *Box 7.1* for more details).

Having avoided the transition crisis and wild capitalist marketization of the 1990s, the Belarusian economy – with a dominant state sector and a lack of structural turbulence – could take full advantage of global economic growth

in the first half of the 2000s. The country's unfavourable economic structure did not become an acute problem against the backdrop of a buoyant world economy. Even so, the unsustainable nature of the Belarusian model in budgetary terms has increasingly been on the agenda particularly because in the 2010s Belarus was compelled to take loans (from the IMF, Russia and China) in order to keep on financing the economic system. The GDP growth dropped to a mere 1% after 2010 and it has been on the decrease (–3.9%) since 2015. Despite this fact, the public external debt as a percentage of GDP is still lower than in Poland or Lithuania, two of Belarus's neighbours, albeit it is increasing at a faster rate (*Table 1.2*). The slowdown in the world economy – and the crisis in Russia due to low oil prices – has increasingly surfaced Belarus's structural problems. Hence, an important issue in the future will be how the country addresses the increasing debt burden under conditions of slower economic growth or decline.

In terms of **per capita GDP** (*Figure 1.7*), Belarus, having left Ukraine, Moldova and other former Soviet republics behind, managed to keep pace – until the 2010s – with the growth rates seen in the transition economies of Central Europe (the only exception being its western neighbour Poland, which, having emerged from the crisis of the 1980s, achieved an even higher rate of economic growth). By 2000, Belarusian GDP had exceeded the 1990 level. This had barely been achieved by Ukraine and Moldova even a decade later. In both 1990 and 2010, Belarus was at roughly the same level of economic development as Romania, and yet the latter had adhered to liberal market economics ever since 1990. More recently, however, Belarus has tended – in terms of economic growth – to fall behind the Central European and Baltic regions which have already undergone market reforms.

An economic comparison of Belarus with its neighbours (*Table 1.2*) essentially reflects the general European macro-regional trends and the east-west gradient. Thus, areas to the west and north west of Belarus tend to be more developed, while regions to the south and east are generally less developed (Ioffe, G. 2006). However, unlike Ukraine or Moldova, which are less developed than both their western and eastern neighbours, Belarus is not the typical crisis-ridden buffer country between east and west. Rather, it is an

Fig. 1.6 TOTAL GDP IN SELECTED EUROPEAN COUNTRIES (1990-2015)

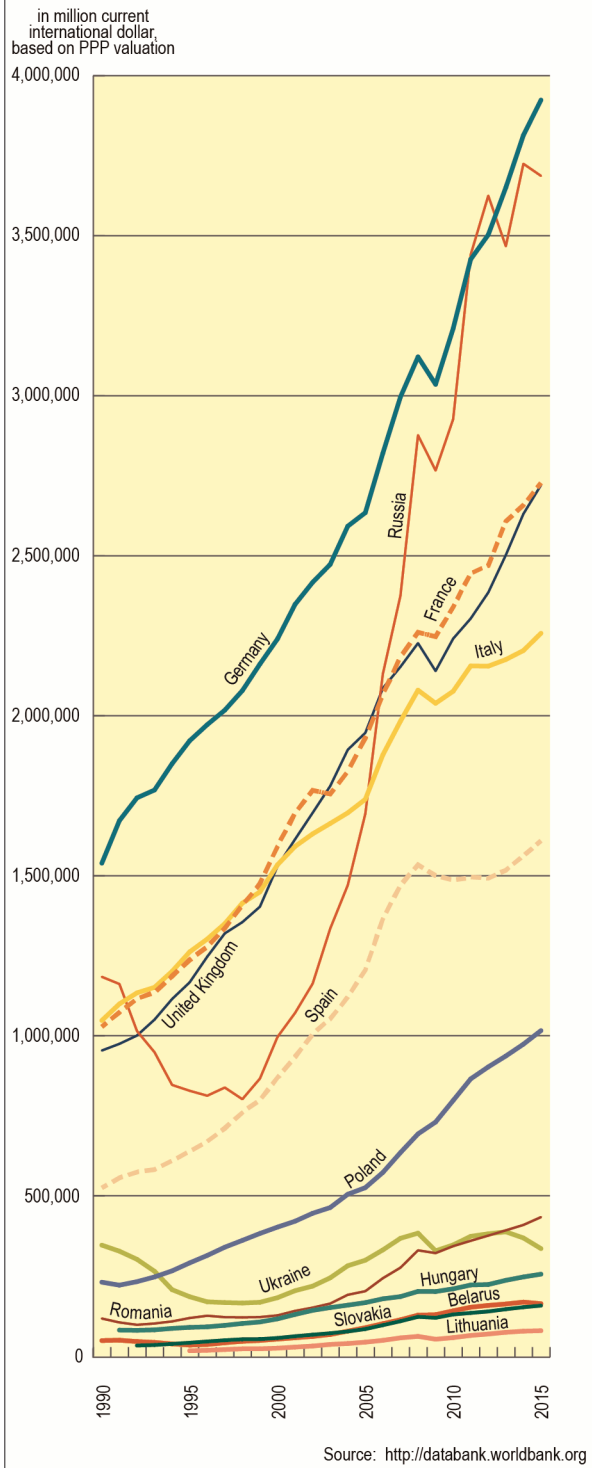
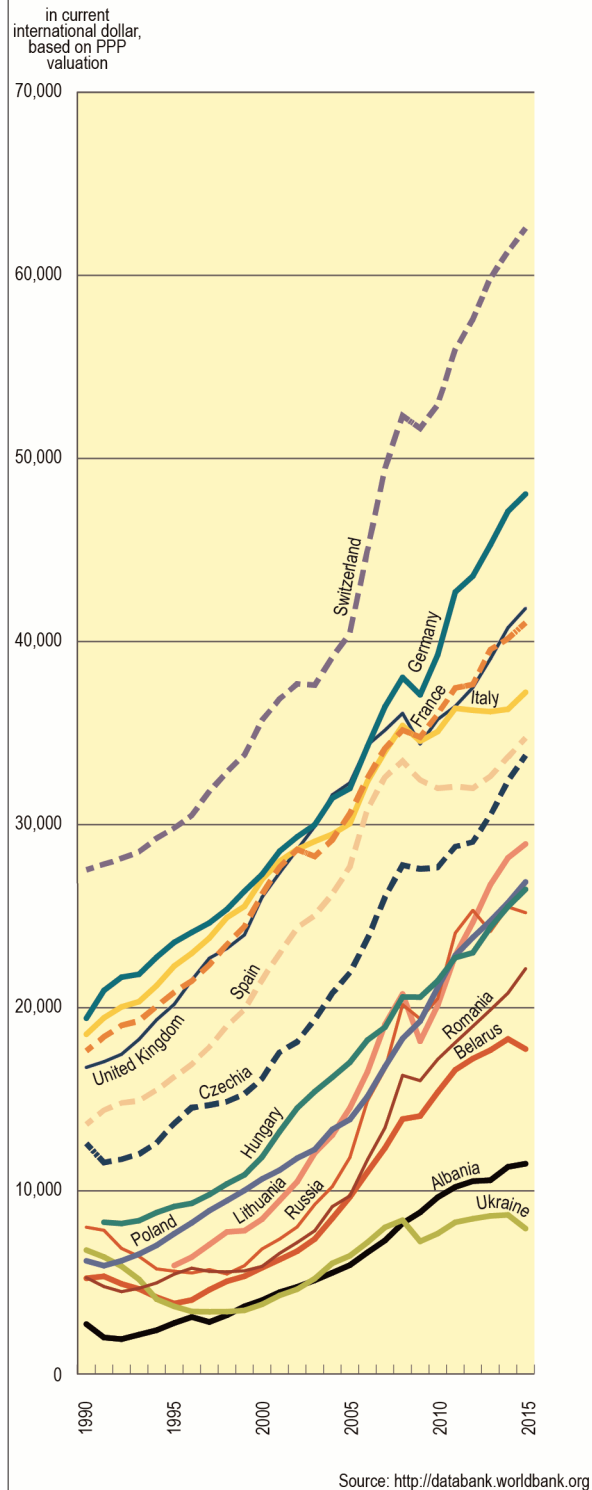


Fig. 1.7 GDP PER CAPITA IN SELECTED EUROPEAN COUNTRIES (1990-2015)



integral part of the Russia-dominated eastern economic space.

In terms of the **Human Development Index (HDI)**, which is a far more complex indicator of

social development than GDP, Belarus is the frontrunner in the post-Soviet area (excluding the Baltic countries). It lies far ahead of such countries as Bulgaria, Romania or Turkey, all

of which have a similar level of per capita GDP (PPP based) (*Table 1.1*). The more favourable HDI ranking (relative to per capita GDP) reflects the fact that Belarusian society was not forced to pay the price of shock therapy and rapid economic transition and has largely avoided the problem of internal economic inequality. Social inequality (based on the Gini coefficient) is relatively low in Belarus, and the percentage of people living below the poverty line is lower than in its neigh-

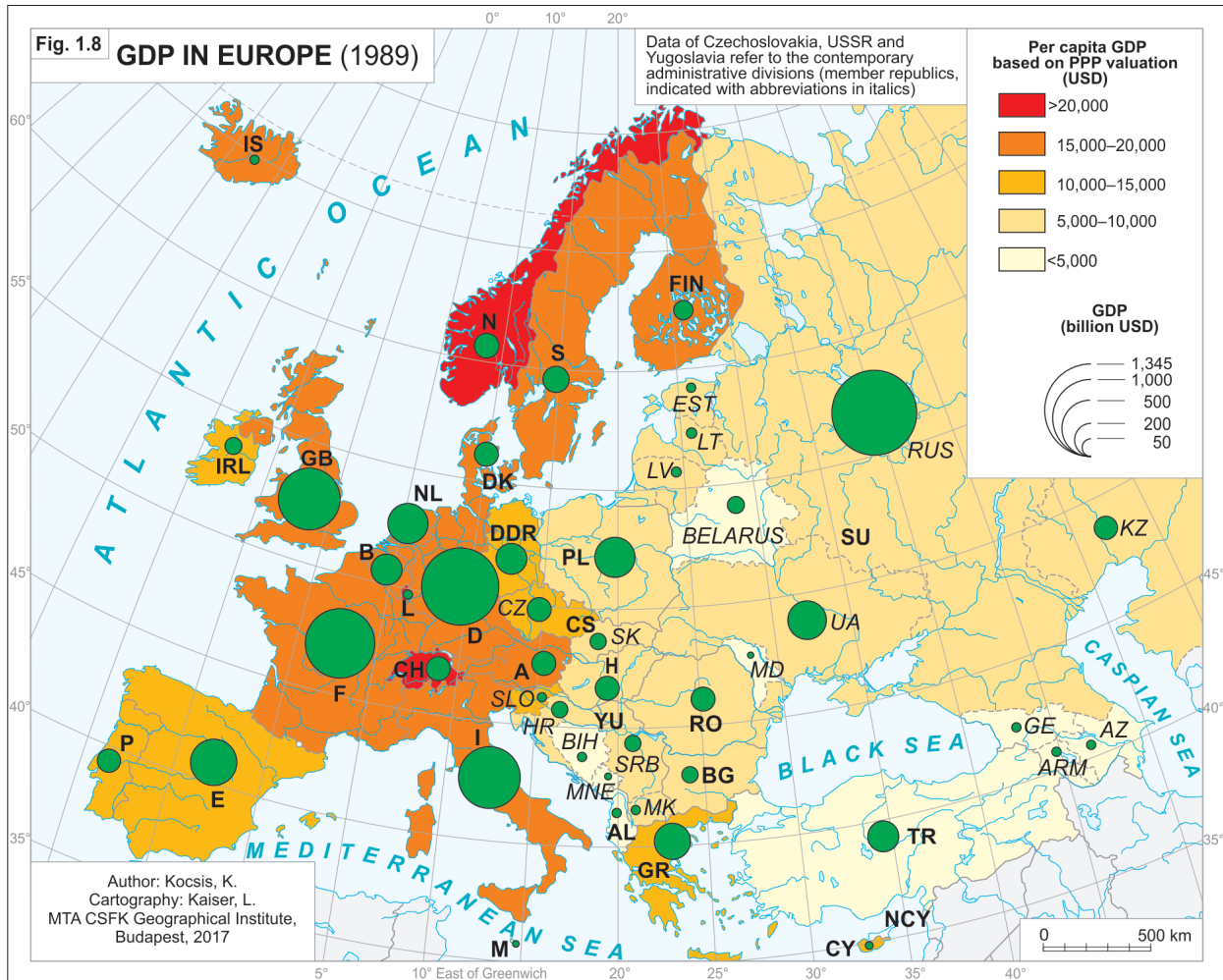
bours (*Table 1.2*), albeit methodological differences may influence the comparability of these data. For similar reasons, the data for unemployment and employment should be treated with caution, too.

As for subjective metrics, it should be mentioned that Belarus is apparently a better organized and maintained country than Russia or Ukraine, as far as general conditions are concerned. Streets are clean, crime is minimal, waste management is organized, road network

Table 1.2 Development indicators of Belarus and some selected countries

Indicator	Country	2000	2005	2010	2014
GDP per capita (current USD)	Belarus	1,273	3,126	5,819	8,025
	Poland	4,493	7,976	12,597	14,337
	Lithuania	3,297	7,863	11,989	16,490
	Russia	1,772	5,323	10,675	13,902
	Ukraine	636	1,829	2,974	3,065
Human Development Index (HDI)	Belarus	0.683	0.723	0.786	0.798
	Poland	0.786	0.805	0.829	0.843
	Lithuania	0.754	0.806	0.827	0.839
	Russia	0.717	0.75	0.783	0.798
	Ukraine	0.668	0.713	0.732	0.747
Gini coefficient	Belarus	29.72	27.78	27.72	–
	Poland	–	33.00	35.86	33.22
	Lithuania	–	31.67	35.30	33.76
	Russia	–	37.09	41.37	40.94
	Ukraine	–	29.02	24.82	24.55
Life expectancy at birth (years)	Belarus	68.9	68.9	70.4	73.0
	Poland	73.8	75.0	76.3	77.3
	Lithuania	72.0	71.3	73.3	74.0
	Russia	65.3	65.5	68.9	70.4
	Ukraine	67.9	68.0	70.3	71.2
Internet users (per 100 people)	Belarus	2	–	32	59
	Poland	7	39	62	67
	Lithuania	6	36	62	72
	Russia	2	15	43	71
	Ukraine	1	4	23	43
CO ₂ emissions (metric tons per capita)	Belarus	5.3	6.1	6.6	–
	Poland	7.8	7.9	8.3	–
	Lithuania	3.5	4.2	4.3	–
	Russia	10.6	11.3	12.2	–
	Ukraine	6.5	7.1	6.6	–
Central government debt (% of GDP)	Belarus	15.0	6.6	19.6	29
	Poland	36.3	46.8	51.0	50.5
	Lithuania	–	–	40.6	40.7
	Russia	62.1	16.7	9.1	–
	Ukraine	45.3	–	29.9	–
Poverty ratio at national poverty lines (% of population)	Belarus	41.9	12.7	5.2	4.8
	Poland	14.8	19.1	17.7	–
	Lithuania	–	20	19.2	–
	Russia	–	17.8	12.5	11.2
	Ukraine	–	–	8.6	–

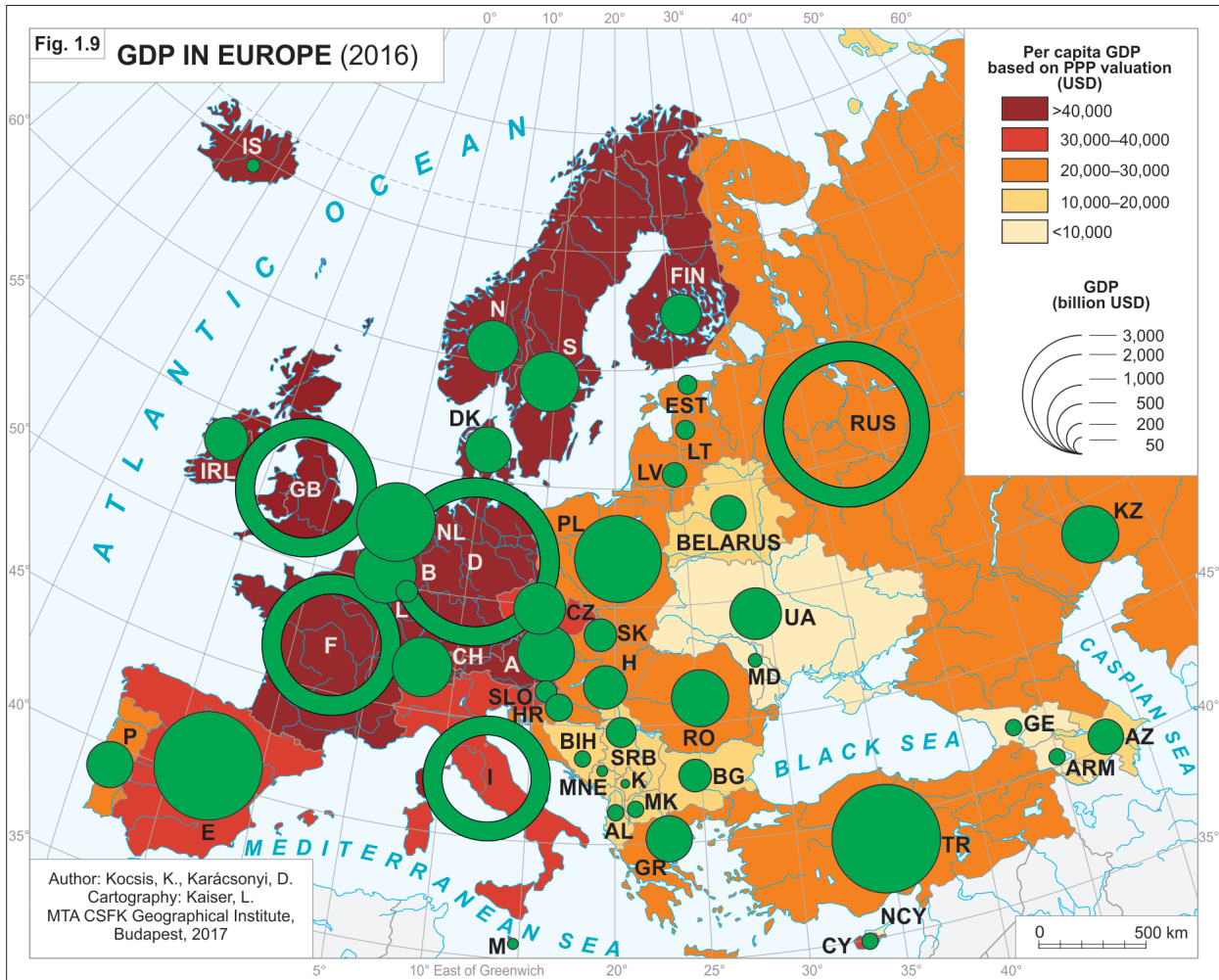
Sources: hdr.undp.org data.worldbank.org



is well-maintained, there are significant high-way development, housing construction and rehabilitation, governmental and social services are well-organized, traffic police and border guard are well-trained and polite, there is a lack of everyday corruption etc. Social gap between poor and rich is almost invisible. Unlike in Moscow or in Kiev, one can rarely see luxurious jeeps in Minsk, on the other hand former Soviet-made cars (e.g. *Zhiguli*, *Zaporozhets*, *Moskvitch*) have also disappeared from the streets even in the countryside. Not only the development of Minsk is impressive but also the countryside benefited a lot from the economic growth of the 2000s (new supermarkets, housing developments and government-constructed resorts for local people). These are the striking features of Belarusian “socially oriented market economy” for a western traveller, who not only get informed by the media.

Belarus and the European and Eurasian international organisations

Belarus was – together with Russia and Ukraine – a founder member of the **Soviet Union** on December 30, 1922 (Union Treaty, Moscow) (*Figure 1.10*). On December 8, 1991, the leaders of the three founding members signed the Belavezha Accords, an agreement that declared the dissolution of the Soviet Union. The agreement was signed in Belarus (Viskuli, Bielaviežskaja Pušča), and it was here that the decision was taken to establish the **Commonwealth of Independent States (CIS)**. In the spirit of decentralization, Minsk (rather than Moscow) was chosen as the capital of the CIS. By the end of the 2000s, the CIS, which had functioned as an umbrella organisation for the post-Soviet space, had declined in significance. This decline could not be effectively counterbalanced by the establish-



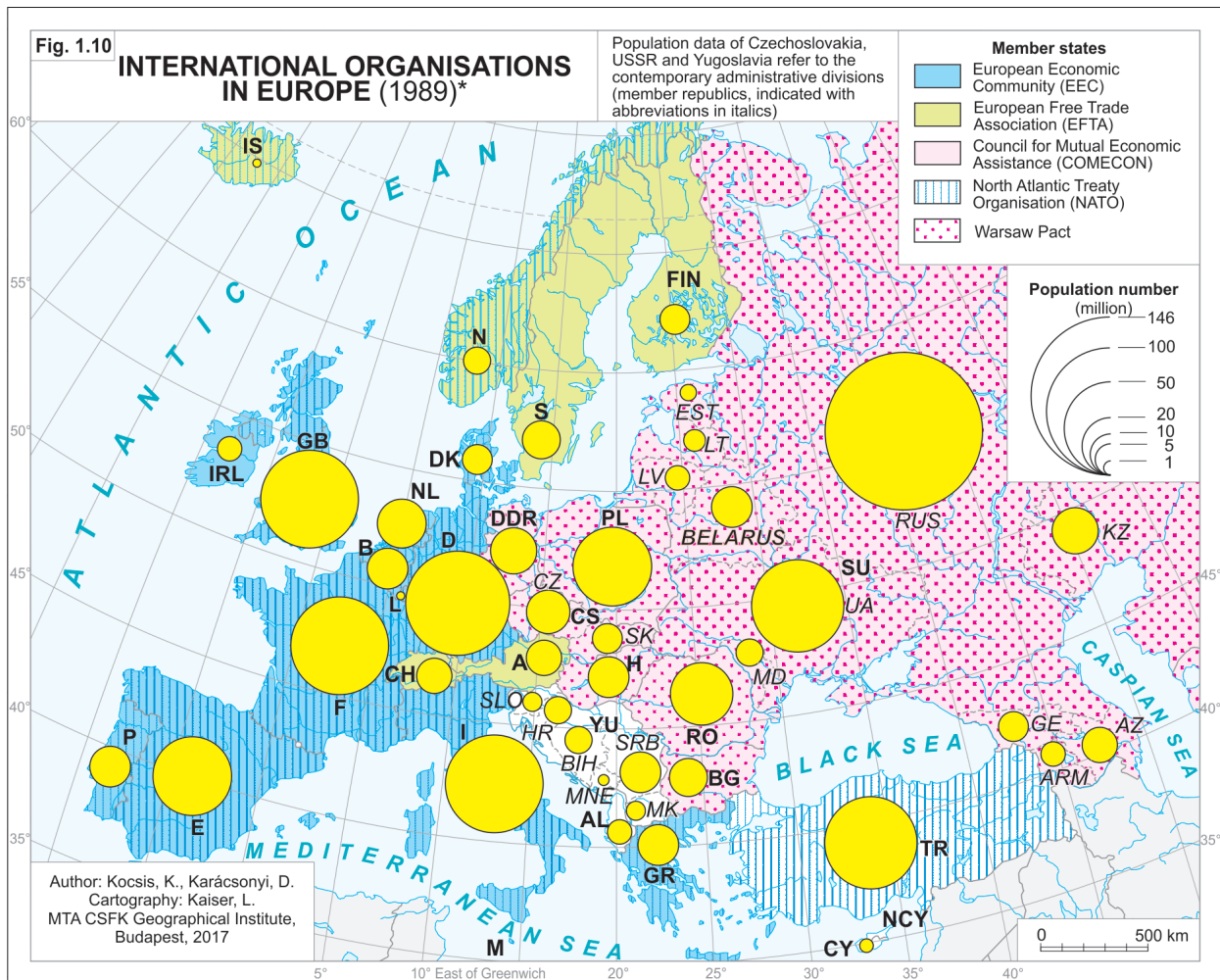
ment, in 2012, of the CISFTA (Commonwealth of Independent States Free Trade Area).

Alongside the politico-economic community, in 1994 nine former Soviet republics, among them Belarus, established the CSTO (Collective Security Treaty Organization) (Figure 1.11). The CSTO constitutes the most important body for military co-operation in the post-Soviet space, even though Ukraine, Moldova and Turkmenistan never joined and Azerbaijan, Georgia and Uzbekistan left the organization in 1999.

Belarus has shared a border with NATO since 1999 and with the European Union since 2004. Even so, unlike its southern neighbour Ukraine, Belarus had never aspired – as part of its foreign policy – to accede to either of the two bodies. Nevertheless, until the mid-1990s, Belarus took part in the EU’s TACIS programme (Technical Aid to the CIS) and since 1994 it has participated in NATO’s Partnership for Peace Programme.

Further, signalling an improvement in relations between the West and Belarus, the country has been a member – alongside Ukraine, Moldova, Georgia, Armenia and Azerbaijan – of the EU’s Eastern Partnership since its foundation in 2009.

Unlike Ukraine or Moldova (which have traditionally been torn between East and West), Belarus committed itself in the aftermath of the collapse of the Soviet Union to far closer relations with Russia. It did so on the basis of its historical and economic links with Russia. In 1996, the two countries agreed to establish the Commonwealth of Belarus and Russia, which became – in 1997 – the Union State of Belarus and Russia (abbreviated form: Union State). The signing of further agreements in 1998 and 1999 strengthened the Union State, which has been functioning in its present form since 2000. The process of integration advanced more slowly in the 2000s. The momentum of integration only picked up in the



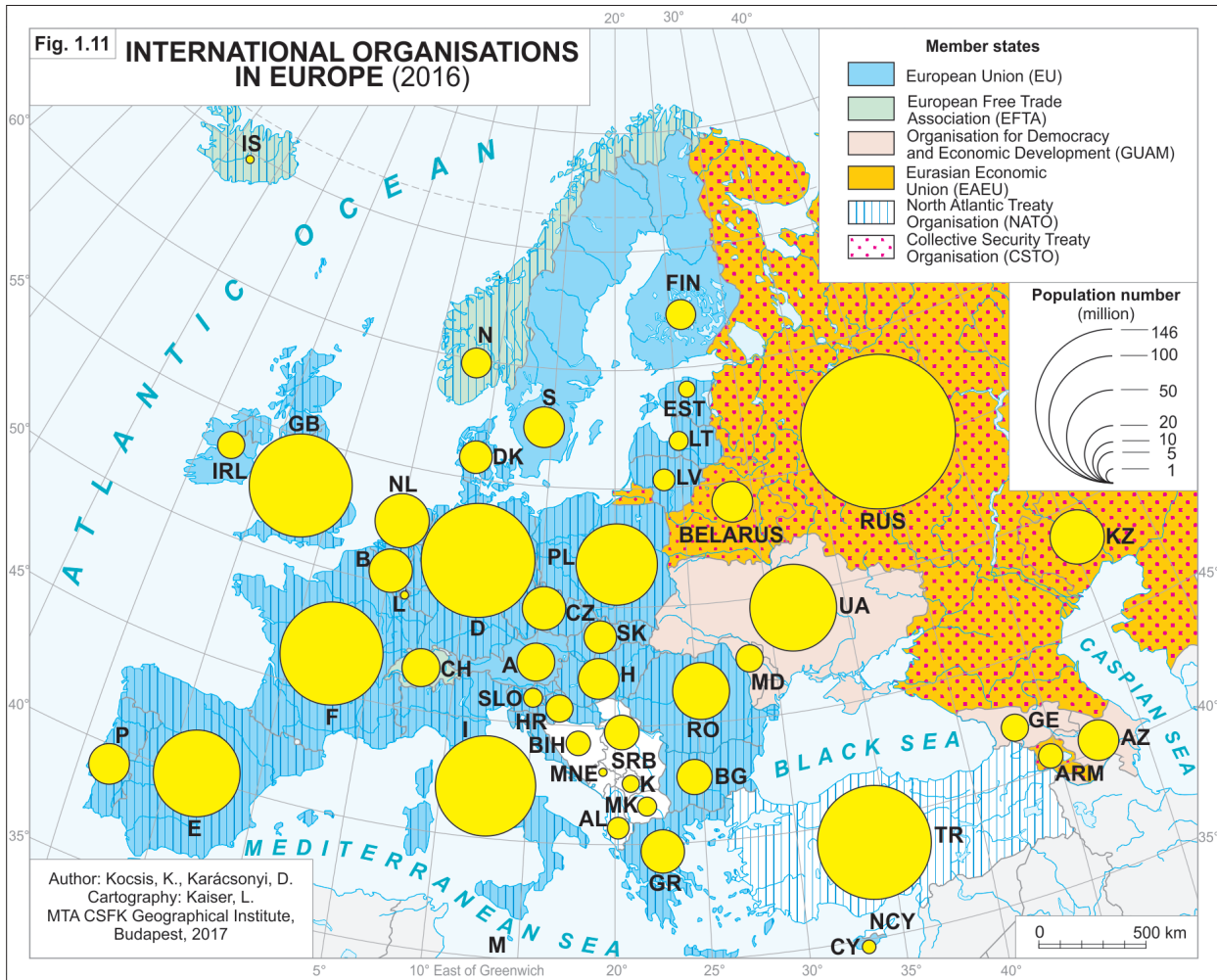
2010s with the formation of the Eurasian Union. Among other factors, this was a consequence of Belarus's unfavourable external economic environment and its weak competitiveness, which, in turn, stemmed from internal structural problems. One of the stated objectives – the introduction of a common currency – had not been realized, but freedom of movement of goods and labour has been established.

In addition to the Eurasian Economic Community (EURASEC), whose members are Belarus, Russia, Kazakhstan, Kyrgyzstan and Tajikistan (with Uzbekistan being a member until 2008) and which represents a market of 200 million people, there also exists the Eurasian Customs Union, which was formed in 2010 when Kazakhstan joined the customs union between Belarus and Russia. In 2012, the customs union was transformed into the Eurasian Economic Space, where in principle the free flow of goods,

capital, services and labour has been realized in full, albeit corruption and bureaucracy remain major obstacles.

Within the framework of the new “post” post-Soviet (Buckler, J. 2009) geopolitical situation that has been evolving since 2008 and was crystallized during the Ukraine conflict of 2014, the complex Eastern, Eurasian integration structures became more simplified with the formation, on January 1, 2015, of the **Eurasian Economic Union**, a successor organization to the EURASEC. In addition to Belarus, Russia and Kazakhstan, this new organization also included Armenia and Kyrgyzstan as members. At present, the Eurasian Economic Union is – alongside the Union State – the organization pursuing the closest economic integration in the post-Soviet space.

In the spirit of eastern integration efforts, since 2015 Belarus has had observer status at the Shanghai Cooperation Organisation (SCO),



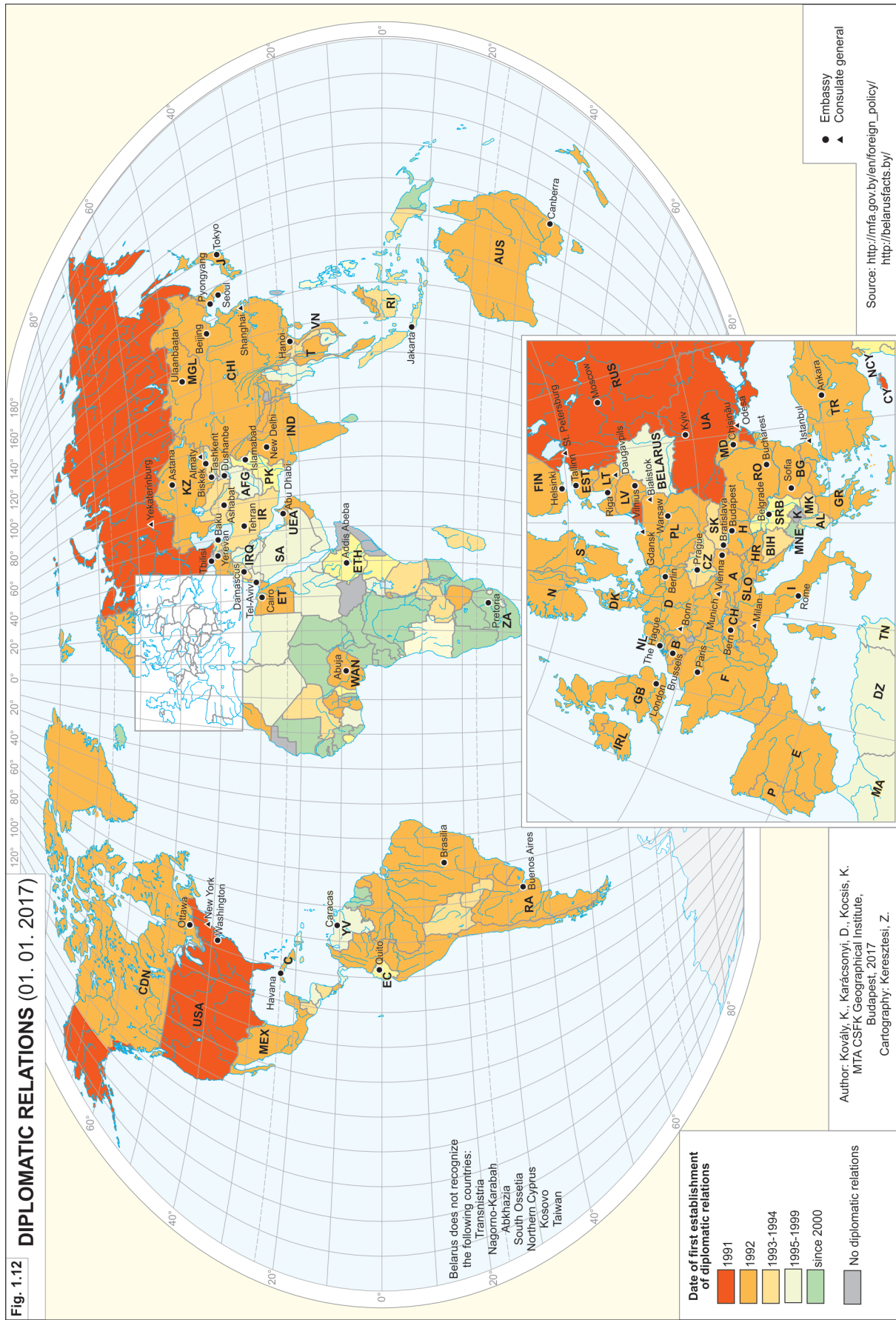
which is dominated by China and Russia. Belarus aspires – uniquely among the fully European countries – to become a member of the SCO. Belarus is the only European member (since 1998) of the Non-Aligned Movement (NAM), established in 1961 in Belgrade, hallmarked in the past by Tito’s Yugoslavia, Sukarno’s Indonesia, Nasser’s Egypt, Nehru’s India, influenced by anti-imperialism, anti-colonialism and anti-racism as well as by anti-block politics. Belarus had also close ties to Venezuela until the early 2010s.

Alongside the eastern orientation, Belarus was diplomatically isolated in the late 1990s and in the 2000s compared with other countries in Europe. At that time, the Western media often labelled Belarus as “Europe’s last dictatorship”. Since 1993, the country has sought membership of the Council of Europe, which includes all the European countries as well as Russia and Turkey. However, in 1997, even its observer status was

withdrawn. Almost uniquely in Europe (Serbia, Bosnia-Herzegovina and various mini-states are the other exceptions), Belarus is not a member of the World Trade Organization (WTO), which includes Ukraine (since 2008) and Russia (since 2012). Belarus merely has observer status at the WTO, which it acquired in 1993. Democratization and human rights iterated by Western countries versus interference in domestic affairs repeated by the Belarusian government have given rise to diplomatic spats, which have, on occasion, resulted in deterioration of relations with the United States and with the European Union. A critical point was reached in 2012, with the reciprocal closure of the Swedish and Belarusian diplomatic missions (it was reopened several years later). Recently the relationship with the EU and the US has partly been normalized (Freedom House 2017). The 1994 constitution proclaimed that Belarus is a democratic social state, a presidential multiparty par-

Fig. 1.12

DIPLOMATIC RELATIONS (01. 01. 2017)



liamentary democracy, with secret and universal suffrage and with elections. On the other hand, according to the US government funded Freedom House it is an “authoritarian regime”. The view of the West on Belarus has always been influenced by political-ideological issues, however, because of changing geopolitical patterns, their attitude recently became more pragmatic.

Like Ukraine, Belarus has been an independent member of the United Nations since 1945, but its UN membership had merely formal significance during the Soviet era. In 1992, it inherited participation in the OSCE (Organisation for Security and Co-operation in Europe) from the Soviet Union. After independence (1991), most countries immediately recognized Belarus and reciprocal diplomatic relations were estab-

lished (Figure 1.12). In terms of its diplomacy, Belarus has been consistent in its refusal to recognize countries that do not have UN recognition, such as the de facto states of the post-Soviet space, as well as Northern Cyprus, Kosovo and Taiwan. In 2008, Belarus chose not to join Russia in recognizing Abkhazia and South Ossetia. When the Russian-Ukrainian conflict broke out in 2014, Belarus played a neutral and mediatory role, keeping its distance from Russia, its military ally. Belarus has not recognized Crimea as *de jure* Russian territory after its Russian annexation in 2014. The increasing foreign political activity of Belarus since 2014 has – even if only temporarily – transformed Minsk into a hub of international diplomacy.



“We Belarusians!” – Street advertisement in Homiel for strengthening national identity. (Photo: Karácsonyi, D. 2015)



The Mir castle (16th century) – UNESCO world heritage site since 2000. (Photo: Karácsonyi, D. 2011)

2. HISTORICAL, CULTURAL AND ETHNIC ROOTS¹

General features of ethnic identity evolution in the eastern part of Europe

Differences may be observed between Eastern and Western Europe in terms of the ethnogenesis of the peoples and the development of their ethnic identity. In the eastern half of the continent, rather than be tied to the confines of a particular state, community identity and belonging have tended to emerge from the collective memory of a community of linguistic and cultural elements or, on occasion, from the collective memory of a state that existed in an earlier period (Romsics, I. 1998). The evolution of the eastern Slavic and Baltic peoples constitutes a particular aspect of this course. We can, therefore, gain insights into the historical foundations of the ethnic identity of the inhabitants of today's Belarus – an identity that arose in the era of modern nationalism – by examining the states that were formed by other peoples in the same geographic area, changes in those states, the Belarus language, and the various cultural dimensions which have been determined by such factors (Abdsiralowitsch, I. 2009/2010).

With the collapse of the Soviet Union, its constituent republics in Europe became independent countries. Among these countries, the Baltic states became members of the European Union (EU) at the time of the 2004 EU enlargement. Much of the region, however, became part of the European Union's neighbourhood, retaining multiple ties to Russia. Today, this post-Soviet region (which was a border zone in earlier centuries too) comprises three countries: Belarus, Ukraine and Moldova. Although the people of the region have attempted, in the course of their

history, to develop autonomous state structures, their lives have mostly been determined by outside forces with diverse geopolitical interests.

The uncertain political situation of past centuries gave rise – along the linguistic, cultural and political fault lines – to several ethnic groups with uncertain identities, disputed allegiances and divergent political interests. Even now, there exist among the various groups overlaps, differences and conflicts which arose in earlier periods. The characteristic features of the groups have not been placed in a clearly definable framework.

In the eastern half of Europe, the various ethnic groups are at different stages of development in terms of their ethnic identity. The Belarusian people, who speak an eastern Slavic language, occupy a special place among these groups. On several occasions, the attention of international public opinion has been drawn to Belarus, on account of its political system (which does not conform to the standards of the North Atlantic area), the deepening political and social fault lines (which stem from this same difference), and the escalation of these problems in the immediate neighbourhood of the European Union.

Whereas, after the breakup of the Soviet Union, most of the new independent states emphasized their detachment from the former empire, which now lay in ruins, Belarus – its political leadership – sought, from the second half of the 1990s onwards, to establish ever-closer political ties with Russia. This process raises several questions: Why did the political changes and the possibility of independent statehood fail to strengthen community consciousness in a significant part of society? Why was there a weakening

¹ The present chapter reflects only the view of the Hungarian author, Zsolt Bottlik. It does not reflect neither the view of Belarusian authors asserted in other parts of the present book nor the official Belarusian standpoint nor the viewpoint of the domestic institutions of the Belarusian authors opined in other parts of the present book.

of local (Belarusian) identity by using of Russian language in everyday life instead of Belarusian (Golz, S. 2011; Savitzkaya, N. 2011)?

Early frames of cohesion

In view of the weakness of the regional power centres and the absence of stable local state structures, the territory of Belarus was already regarded as a buffer zone as early as the medieval era. In the region of modern Ukraine, Belarus and Russia, much of the forest steppe area was inhabited by Slavic and Finno-Ugric peoples, who were formed into an organised state (the *Kievan Rus'*) by Viking (Varangian) warriors arriving in the area from the north west. On the territory of today's Belarus, cohesion among the local Slav tribes (e.g. the Drevlians and the Dregovichs) first occurred in the 8th and 9th centuries within the **Principality of Polotsk** (now Polack), which formed a part of the Kievan Rus' (Lojka, P. 2001a).

The Kievan Rus' differed from contemporary state formations in Western Europe in that it was initially no more than a loose alliance of distinct tribes. The adoption of (Byzantine) Christianity in the late 10th century, however, enhanced cultural cohesion. It was this factor that fundamentally distinguished the inhabitants of the area from the western Slavs – the Czechs and Poles – who were living nearby but who fostered closer relations with Western cultural circles (with Rome). After the Great Schism of 1054 the differences became even more marked, as manifested in the official use of the so-called **Church Slavonic language**. Covering such a large area, the state organisation proved insufficiently strong to establish firm central authority. Consequently, the era saw the emergence of partial principalities (lordships) with differing political interests (Lojka, P. 2001b).

In the 11th century, as the power positions of the Rus' weakened and following subsequent attacks by the nomadic peoples of the steppe, the empire disintegrated into partial principalities. In the absence of central power, the state proved unable, in the 13th century, to resist the Tatar (Mongolian) onslaught from the east and, following the fall of its centre, Kiev, it ceased even to exist. This juncture marked the beginning of the differentiated development of the eastern

Slavic peoples. Tatar control was weaker in the south-western part of the dissolved state, and so that area, which lay between the Black Sea and Poland, was able to orient itself to the West. In the north-eastern area of the former state, the same period saw the emergence of such local power centres as Vladimir, Suzdal and (subsequently) Moscow, where Western European political and social patterns barely played a role.

In the geopolitical vacuum that arose following the demise of the Rus', the Tatars proved unable to consolidate their power in the long term over the entire area. In the 13th century, the Tatars were driven out of the western areas by the still pagan Lithuanians, who then moved relatively quickly to occupy large areas that had formerly been under the rule of the Rus'. In this way, the territory of today's Belarus came under the rule of the Grand Duchy of Lithuania, an evolving state (Sahanowitsch, H. 2001), which then opted to make the local Slavic language variant the "official" language of the Chancellery, thereby integrating the Slavic population of the area and also fostering the heritage of the Rus'. It should be noted that on the territory of Belarus the Slavic dialects have been influenced by Baltic and Finno-Ugric elements, particularly in the linguistic contact zones of the north and west (*Box 2.1*).

Within the framework of the **Polish-Lithuanian personal union** (est. 1386), the Grand Duchy of Lithuania, which adopted Catholic Christianity on the establishment of the personal union and which included the territory of modern Belarus, retained significant capacity for domestic political action up until the 17th century.

In this large country, a centralized power centre could not be established in the long term, but **the advance of Western cultural influence** was a factor from the 15th century onwards. This process particularly affected the local aristocracy. At the same time, the peasant masses continued to adhere to their Orthodox Christianity and to the collective memory of the former Rus'. This distinguished them in terms of identity from the ruling groups (Sahanowitsch, H. 2001).

The so-called Polish-Lithuanian Commonwealth, which achieved regional great power status in the late medieval era, was prevented by its domestic problems from addressing the political and economic challenges of the peri-

od. Accordingly, as a consequence of long-term domestic decline and the growing political dynamism of the neighbouring states (Prussia, Russian Empire, Habsburg Empire), three partitions of Polish Rzeczpospolita took place in the late 18th century (the partitions of 1772, 1793 and

1795). The entire territory of today's Belarus thus fell under the sovereignty of Tsarist Russia, a development that determined the region's history in the era of the emergence of modern nationalism in the 19th century.

Box 2.1 The Rise of the Grand Duchy of Lithuania

The conditions for development of the Grand Duchy had arisen by the early 13th century, largely as a result of a change in the broader geopolitical environment, namely a decline in the foreign policy expansions of the Kievan Rus' and of Poland (Bojtár, E. 2011). The Grand Duchy of Lithuania was created by Slavic Principalities (Polack, Turaŭ) and by representatives of Baltic tribes. The founder of the Grand Duchy was Mindaug (1203–1263), one of the most significant princes of the era. He sought to bring together the tribes living in the Lithuanian area of settlement. He achieved this aim using means typical of the era: power, marriage, and financial reward. In the end, he could adopt the title of Grand Duke.

Inherent to the evolution of Lithuanian state and society was an eastward expansion. This development particularly affected the territories of the crisis-ridden eastern neighbour, the Kievan Rus'. The area was inhabited mainly by people of Orthodox faith who spoke an eastern Slavic dialect. Mindaug sought to strengthen the tribal alliance by having himself crowned king, having received the royal insignia from the Pope of Rome. The political nature of this act is shown by the fact that he later returned to his pagan beliefs, when his interests so demanded.

Mindaug failed to make the throne a hereditary one. This was achieved somewhat later on by Gedimin (1275–1345). The latter's foreign policy was similar to that of his great predecessor: in the west, defence against the knights of the Teutonic Order; in the east, the seizure of territory from a strengthening Duchy of Moscow and in particular from the Tatars, while also annexing the principalities that sought the protection of Lithuania. Gedimin's two sons shared power in line with the above strategy. Algird (1296–1377) took the title of Grand Duke and the responsibility for conquest in the east, while Keistut (1297–1382) defended the country from the Teutonic knights. The son of Algird, the dynasty-founding Jogaila (Jagełło) (1362–1434), married the queen of Poland, whereby he not only adopted Christianity but also the title of King of Poland. Meanwhile, his cousin Vytaut (1350–1430) became the ruler of the Grand Duchy of Lithuania. In the meantime, Moscow had scored a decisive victory over the Tatars (Battle of Kulikovo, 1380), as a consequence of which the Metropolitan of Kiev moved to the centre of the strengthening principality. These events resulted in the development of a new power centre with significant influence over the large number of eastern Slavs living in the Grand Duchy of Lithuania, which reached its zenith during the reign of Vytaut in the 15th century (Bojtár, E. 2011).

The Grand Duchy reached its greatest geographical extent under Vytaut. With a territory of a million square kilometres, it was Europe's largest state at that time. Although a significant defeat was inflicted on the Teutonic Order during Vytaut's reign (1410, Battle of Grunwald, one of the most glorious victories of Litvins which is also the pride for today's Belarusians), the election of a Lithuanian metropolitan ended in failure. In consequence, Moscow became the "third Rome", and the Lithuanian territories with their millions of eastern Slavic and Orthodox inhabitants remained in the Polish, and thus Western, cultural sphere (Rykała, A. 2013). After that severe wars occurred between the Grand Duchy and Moscow (Russian Tsardom) during the 16th century. In the Russian-Polish war (1654–1667, "The Bloody Deluge") half of inhabitants of today Belarusian territory was lost.

The first dimension of Belarusian identity: Language use (up to the 18th century)

The multiple changes in the political backdrop have greatly influenced language use in today's Belarus. Even at the time of the Kievan Rus' a well-defined duality characterised the use of language. The educated classes spoke **Church Slavonic**, while the lower social strata usually spoke local Slavic dialects. At the time of the Rus', the differentiation of the Slavic languages was still an incomplete process (Horalek, K. 1967; Zoltán, A. 2002).

With the southward expansion of Lithuania from the 13th century onwards, the majority of the population increasingly spoke the local Slavic dialects. In consequence, the **language of the chancellery** became a language that was based on these local dialects but which differed from the language of the chancellery in Moscow. It was a language made up of so-called "Old Belarusian" (and to a lesser extent, "Old Ukrainian") elements. This language, referred to as Ruthenian, was not, however, the same as today's Ukrainian or Belarusian languages. Yet it also differed from Church Slavonic, which continued to be used by the Orthodox Church (and which was generally distinct from the language used in everyday life).

Changes in this language situation came about when ties within the personal union became closer, resulting in a strengthening of Polish culture even in the eastern parts of what was then Poland. Polish came to be more extensively used, principally among the nobility and in the immediate vicinity of their courts and in the towns. In the chancellery and thus in the official milieu, Polish increasingly took over the role of Ruthenian with

its eastern Slavic elements (Radzik, R. 2002). The use of Polish was also enhanced by the lack of the codification of the Ruthenian language. Even more so than Latin, Polish opened a window to the Western world, where the Catholic Church was dominant. The Union of Brest (1596) encouraged Orthodox Christians to emphasize their special status by reverting to the use of Church Slavonic, which they considered to be the purest Slavic language (Oswalt, J. 2001). Even so, among its speakers there did not arise the stable dual use of language (Ruthenian – Church Slavonic) that characterised people in the Polish cultural sphere (the concurrent use of Polish and Latin).

In the area of today's Belarus, Polish-Ruthenian bilingualism could be observed at the time of the personal union. Since the functional use of the two languages was similar, however, it was the Ruthenian language, with its lesser prestige, that got squeezed out. The use of Ruthenian gradually diminished in the course of the 17th century, and the government ban on its use (1697) encoded in law what was already the status quo. Popular forms of Ruthenian lived on, however, in the peasant milieu of rural areas, as the Polonised nobles used it in everyday life. Moreover, Ruthenian was the language of sermons at Greek Catholic church services (Church Slavonic was reserved for the liturgy).

Later on, when the area of today's Belarus fell under the sphere of influence of Russia, which was expanding westwards at Poland's expense, the official language in use grew increasingly distinct not only from the earlier local dialects but also from the western Slavic variants (Polish) (Ioffe, G. 2003a).

Box 2.2 The Ruthenian language in the early modern era

Born in Polack, the Renaissance humanist **Francišak Skaryna** (1486–1541) was the publisher, in 1517–19, of the first printed Bible translation in the Belarusian language. The language of the translation was based on the Church Slavonic in official use at that time, but it also bore the effects of the regional dialects of the region. In essence, therefore, it contributed to popular literacy in the Slavic world.

The language of Skaryna's bible was called "western Russian" in earlier periods and "Old Belarusian" (or "Old Ukrainian") subsequently. Today, the language variant tends to be referred to in linguistics as Ruthenian, thus indicating the eastern Slavic language that was developed

and spoken as a local variant in the region (and which was present in earlier linguistic relics). This concept emphasizes the differences of “Old Belarusian” (Ruthenian) from the other eastern Slavic languages, but it is also at odds with the idea of continuity with today’s Belarusian language (Dingley, J. 2001).

In the 16th century, Ruthenian increasingly became the representative language of the Grand Duchy of Lithuania, as evidenced by several linguistic relics – mainly ecclesiastical ones as well as, subsequently, works on secular subject-matters. The Statutes of Lithuania (1529, 1566, 1588), a collection of civil, criminal and procedural laws, represent the zenith of this development.

When the Polish-Lithuanian Commonwealth came into being with the Union of Lublin of 1569, the personal union became a real union, and the use of Ruthenian gradually declined. Polonization soon became so strong that the language in use was in effect Polish written in the Cyrillic script. Under such conditions, Ruthenian as an official language was no longer used in writing, and so it survived only in popular use.

The second dimension of Belarusian identity: The Church

In addition to language, another factor influencing the pre-modern sense of community in the field of cultural identity was the **Orthodox Church**. In society and particularly among the lower social strata, this factor was manifested in a degree of detachment from Western culture. Still, the centre of gravity of the Orthodox faith became increasingly distant from the region, a development further enhanced by the presence in the region of the Polish-Lithuanian government administration.

The increasingly powerful Moscow Patriarchate sought to exert control over the Orthodox believers living in the eastern border areas of Poland. The Polish response was to negotiate the **Union of Brest (1596)**, when the Ruthenian Church of Rus’ broke off relations with the Eastern Orthodox Church and placed itself under the authority of the Pope of Rome.

Indirectly, this was a means of compensating for the large decrease in the number of Catholics in Poland that had occurred at the time of the Reformation.

The eastern-rite **Greek Catholic Church**, which thus came into being, had the greatest numbers of followers of any denomination in the region. In this way, the broader Catholic Church won many followers in the Catholic-Orthodox contact zone (Tschakwin, I. 2001). At the same time, the provisions of the Union were not universally successful, and there began a process of alienation from the Polish state affecting a part

of the population. These developments added to the buffer zone nature – in social, linguistic and cultural terms – of the territory of today’s Belarus.

The religious diversity of the populace, which had an eastern Slavic culture but resided in a state with a Western orientation, and the peculiar (non-integrated) language situation, resulted in a particular consciousness of identity. At the same time, this local (Belarusian) identity was rather unstructured, and so it was weaker than the identity of the Poles living in the adjacent areas or, indeed, than the pre-modern identity of the Russians (Ioffe, G. 2003b).

In the 18th century, with the **partition(s) of early modern Polish-Lithuanian Commonwealth**, the area of today’s Belarus fell under the sovereignty of the Russian tsar. As part of its empire-building strategy, the Tsarist administration sought to promote the integration of the area by assimilating the inhabitants of the western periphery into Russian culture. As far as the various local particularist elements are concerned, it was the coerced fusion of the Greek Catholic Church into the Orthodox Church (1839) that had the greatest effect in terms of distancing the inhabitants of the Belarusian area from the Poles.

Under Soviet rule, religious faith (its institutions and leaders, as well as people who practised their religion openly) was pushed to the margins of society. For this reason, the percentage of atheists in Belarus was the highest in the Soviet Union. After the fall of communism, however, many historical and modern churches were (re-)established (Box 2.3).

Box 2.3 The geography of religions in today's Belarus

Since Belarus achieved independence, denominational factors have played a prominent role in the political life of Belarus. According to a 2012 survey, 71.5% of respondents indicated a belief in God. The vast majority of the population (93.5%) identify themselves as belonging to one of the various religious denominations: Orthodox (81%), Catholic (10.5%), Jewish (1%), Protestant (0.5%), Muslim (0.5%). These data stem from the Information-Analytical Centre of the President of the Republic of Belarus. The discrepancy between the denominational composition of the population (93.5%) and the number of believers (71.5%) indicates a particular religious identity of Belarusians which goes beyond actual religious practice. Belarus is a multi-denominational state. There are 26 registered religious denominations and groups in the country. The total number of religious organizations recently reached 3488. In accordance with Belarusian law, 173 of these religious organizations have been recognized as being of general social value (religious associations, monasteries, missions, brotherhoods, sisterhoods, religious educational institutions).

In Belarus there are traditional Christian (Orthodox, Catholic, Old Believers, Protestants) and non-Christian (Islam, Judaism) denominations.

Orthodoxy is the oldest Christian denomination in Belarus. It arose here in the late 10th century with the formation of Polack Diocese (992). The year 1989 saw the establishment of the Archdiocese of the Belarusian Orthodox Church of the Moscow Patriarchate. Currently, the Belarusian Orthodox Church includes 1612 religious communities, divided in 15 dioceses. The dioceses are also home to 35 monasteries, 12 brotherhoods and 8 sisterhoods. Today, there are more than thousand functioning Orthodox churches, while almost two hundred churches are under construction. Over the last decade 810 religious and other buildings were received by the Belarusian Orthodox Church. The Orthodox Church makes great efforts to achieve the spiritual and moral revival of Belarusian society. In cooperation with associations and government agencies, the Orthodox Church holds several events that have already become traditional features of Belarusian life: the St. Euphrosyne pedagogical readings, the International Cyrill and Methodius Readings, the Annual days of Belarusian writing and printing. The Orthodox Church, accounting for more than 80 per cent of religious believers in Belarus, forms the basis of the country's religious life, with denominational stability, tolerance and peace.

The Roman Catholic Church is the second largest religious denomination in Belarus. Catholicism officially came to Belarus at the end of the 14th century. In 1387, the privilege of Jogaila gave rise to the Vil'na (today Vilnius) episcopal see, which covered, among other areas, almost all of the Belarusian lands. In the late 1980s, the canonical legalization of the Catholic Church in Belarus was initiated. In 1989, a Catholic diocese was formed in Belarus. In 1991, on the territory of Belarus, three Roman Catholic Dioceses were created: Hrodna, Pinsk, Minsk-Mahilioŭ. Currently, the Roman Catholic Church comprises 479 parishes, and there are four Roman Catholic dioceses and a Catholic Bishops' Conference, 8 monasteries, 9 religious missions, and two senior Catholic seminaries. The Catholic Church is actively involved in charity work. In this field, "Caritas", which has offices in all the dioceses, plays an important role.

Protestantism began to play a unique role in the political, ecclesiastical, religious and cultural life of Belarus in the second half of the 16th century. Various social forces were involved in the Reformation, and their different political goals led to a reform movement in the Belarusian lands of the Grand Duchy of Lithuania. The three main strands of Protestantism in Belarus were Calvinism, Lutheranism, and Antitrinitarianism. In Belarus the first Calvinist communities appeared in Brest, Niasviž, Klieck, Zaslaŭje, Minsk, Polack. Since the end of the 19th century, additional Protestant groups have established themselves in Belarus: Baptists, Stundism, Evangelical Christianity, and Seventh-day Adventism. Today, there are 16 Protestant organisations in the

country, comprising around 1,000 religious communities. Among them the most numerous are the Christians of Evangelical Faith.

Under Article 16 of the Constitution of Belarus of March 15, 1994, as amended following the national referendums of November 24, 1996 and October 17, 2004, “religions are equal before the law”.

Identity and ethnic space during the Russian Imperial era

In the first half of the 19th century, imperial Russia encountered the emergence of nationalism in several parts of the empire (principally in Ukraine). In response, as part of the Russification campaign that was a feature of Russian empire-building, an official ban was imposed on the use of Belarusian in all its aspects (book-printing, education and culture) (Brüggemann, M. 2014; Lagzi, G. 2001). The Belarusian national movement, which arose in reaction to Tsarist Russification, emerged relatively late, in the final third of the 19th century. It was a moderate force, offering, above all, a critique of the political regime (Mark, R.A. 2011).

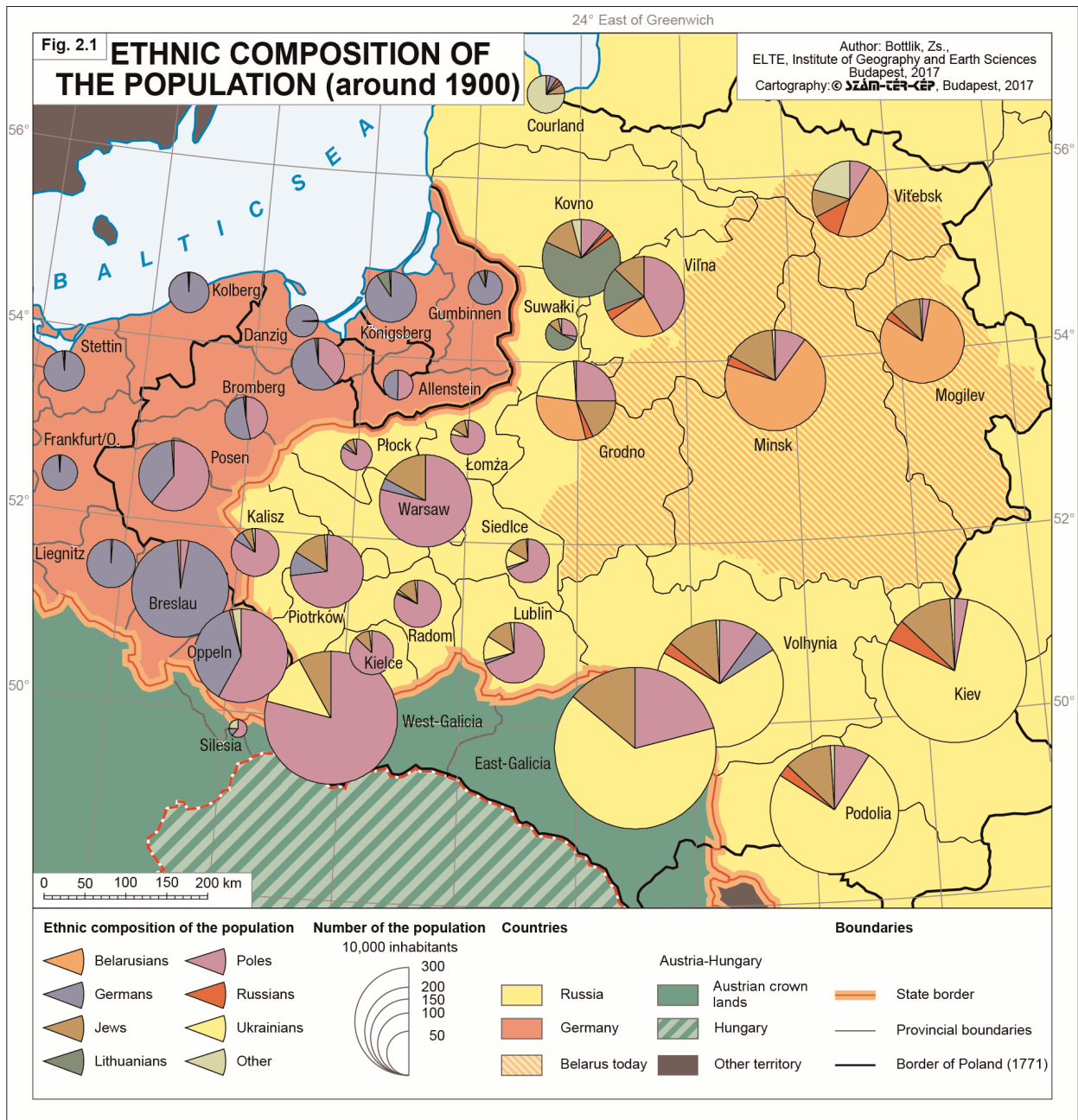
The Russian state, having implemented its policy of Russification, permitted the use of the term Belarusian dialect (language). It did not allow, however, the operation of Belarusian-language schools (Trepte, H-C. 2004). At the turn of the 20th century, the Belarusian territories strove for autonomy. In this struggle, a modest achievement was the appearance, in 1906, of the first press publication in Belarusian. In this process, however, Belarusians tended to stress their differences (in terms of identity) from the Poles. In contrast, in relation to Russians, they were inclined to exhibit a passive stance or a sense of detachment. Despite these developments, one cannot speak of a firm and well-defined Belarusian identity in this period (Brüggemann, M. 2014).

As a result of the aforementioned trends, the population had a complex ethnic composition (*Figure 2.1*). The first full population census in Tsarist Russia took place in 1897, and respondents were asked about their native language and religious affiliation. At that time, almost the entire area of today's Belarus was covered by the governorates of Minsk and Mogil'ov (today Mahilioŭ), and in part by the governorates of Grodno (Hrodna, Bel.), Vil'na, and Vit'ebsk

(Viciebsk, Bel.). In view of the fluctuations in people's identity, the mapping of the data on native language and religious affiliation is difficult. Moreover, in many cases, social status was an additional determinant of the language identified as the mother tongue in the questionnaires (Zeraschkowitsch, P. 2001).

At the time of the **1897 population census**, around 6.5 million people were living in the area of today's Belarus, and the number of Belarusian speakers (4.7 million) and the number of Orthodox Christians (4.6 million) appeared to correspond. However, if we subtract from the number of Orthodox Christians the Ukrainian- and Russian-speaking populations (287,000 and 281,000), then we find that in this area there were around 700,000 non-Orthodox Belarusian-speaking people who were Catholics. Moreover, the number of Roman Catholics (880,000) was significantly greater than the number of Polish speakers (156,000), which again leads to an approximate figure of 700,000 Belarusian-speaking Catholics. Based on the data, it would appear that – on account of their social status – many people who were Catholics and thus had Polish cultural ties, indicated Belarusian or Russian (rather than Polish) as their native language in the census. All of this appears to correspond with the data of the Polish statistician Włodzimierz Wakar (Wakar, W. 1917), according to which there were around 830,000 Poles living in the area under investigation (a population share of 13%). This meant that, after the Jews (910,000; 14%), the Poles constituted the second largest minority in the area at the turn of the century (Eberhardt, P. 2001) (*Figure 2.1*).

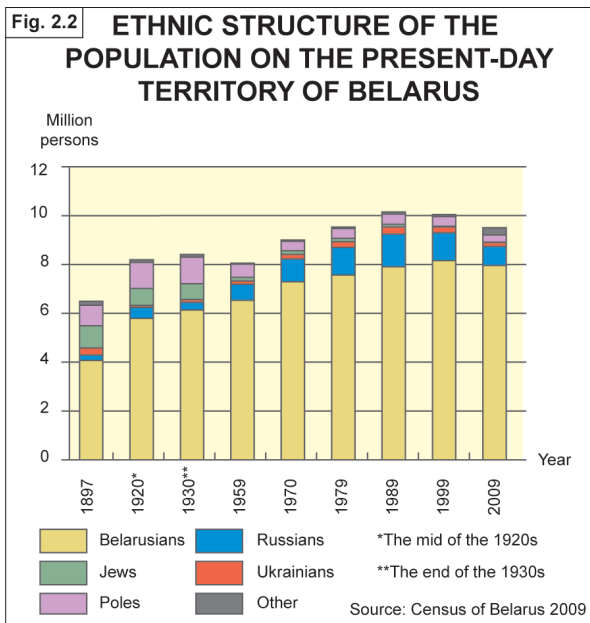
As far as the spatial ethnic composition is concerned, a significant share of the nobles and the well-educated – the latter being concentrated in urban areas – defined themselves as Polish. The Jewish population and Russian native speakers – the latter being principally employed in the state administration – were urban dwellers. For this reason, their ethnic distribution varied little



at the level of the governorates. People with a Belarusian identity (of varying strength) inhabited rural areas with a low population density. They usually defined themselves merely as “locals” (*tuteyshy*) (Abushenko, V. 2004). In many instances, when asked about their religious affiliation, they would respond that they were Polish or Ruthenian believers (Trepte, H-C. 2004).

In the hinterlands of major urban centres in the western part of the region (Grodno, Vil’na), a process of Polonization could be observed even in peasant society. This explains the higher num-

ber and population share of Poles in the western governorates (the Vil’na and Grodno governorates) (Figure 2.2). Between Brest and Dvinsk (today Daugavpils), Poles inhabited a contiguous settlement area in the rural area that lay along the River Neman (Nioman in Bel.). In the eastern areas, however, the effect of Russification was stronger, which explains the slightly greater Russian presence in the eastern governorates (Mogil’ov, Vit’bsk). Although Polish cultural ties were weakened by the lack of Polish statehood and schools and by discrimination against the



The third dimension of Belarusian identity: Soviet Rule

The collapse of the Russian Empire (1917) greatly increased the political potential of the Belarusian national movement, which had gained influence and strength in the first decade of the 20th century (Smalianchuk, A. 2007). The same year (1917) saw the formation of the Belarusian National Council. In March 1918, when German troops occupied the western regions of today's Belarus, there was a resurfacing of the cultural duality that had roots in the area. In the German-controlled area, the modern Belarusian language was born in the spirit of linguistic pluralism (Box 2.4), for the invaders had an interest in strengthening those facets of identity in the local culture that differed from Russian culture (Bieder, H. 2001). The Belarusian People's Republic – with Belarusian as the state language – was short-lived, but all political forces (including the Bolsheviks) had to reckon with it. Thus, in the Soviet Union, following a period of consolidation, the Byelorussian Soviet Socialist Republic (BSSR) was formed. After the Peace of Riga (1921), which concluded the Polish-Bolshevik war and divided the area of today's Belarus into two parts, the BSSR covered no more than the area of the former Governorate of Minsk, albeit it was subsequently expanded to cover the Mahilioŭ-Viciebsk region. Importantly, however, for the first time in their history, the Belarusian people of the region were placed within exact state borders of a country named after them.

Polish language, the presence of such ties (with their roots in the past) acted to slow down the process of Russification. This factor, however, prevented the development and subsequent strengthening of Belarusian identity in the eastern areas.

Since the linguistic criteria (the language data) cannot provide an accurate picture of the ethnic situation in the period, it is necessary to examine the religious composition of the area. Orthodox believers were concentrated in the central, eastern and southern parts of today's Belarus, while Roman Catholics tended to live in the Polish-Lithuanian and Polish-Belarusian contact zones, where there was a greater affinity for Polish culture and language (Eberhardt, P. 2001).

Box 2.4. Modern variants of Belarusian – *Taraškievica*, *Narkamauka*

Taraškievica is the name given to the first codified version of the modern Belarusian language. This standard variant was based on the Vil'na dialect, and the first descriptive grammar was published in 1918 (Knappe, E. *et al.* 2012). The volume's editor was the politician and linguist **Branislaŭ Adamavič Taraškevič**, who is therefore regarded as the creator of modern Belarusian. He was born in 1892 into a Catholic peasant family in the village of Matsiulishki (now Mačiuliškės). The village lay in an area that now belongs to Lithuania but at the time belonged to Russia. Like other speakers of the local eastern Slavic language, he attended high school in Vil'na, which functioned as the region's cultural centre. He then attended university between 1911–1916 in Saint Petersburg (Petrograd between 1914–1924). It was there that he began to write a Belarusian grammar.

After the publication of the first Belarusian grammar, favourable trends in the early decades of the 20th century assisted the development of the modern Belarusian language (Bieder, H. 2001), albeit the territory of today's Belarus belonged to two political spheres of interest. Following the German occupation of the First World War, the western half became a part of Poland, while the eastern areas were annexed by the Soviet Union.

Conditions for the further development of the Belarusian language were more favourable in the eastern areas until the end of the 1920s. In the early years of the Soviet Union, the official minority policy – *korenizatsiya* ("nativization" or "indigenization") – resulted in a strengthening of "Belarusianization" or *albo-ruthenization* (Vaškevič, J. 2009). Minority languages were protected to a certain degree (in addition to Belarusian, the other official languages were Russian, Polish and Yiddish), but Belarusian became the primary means of communication. The 1930s, however, saw the return of Russification, and the first step in this process was the new codification of the Belarusian language. The resulting literary norm, *Narkamauka*, brought the Belarusian language significantly closer to Russian. An aim of domestic policy in the Stalinist era was the unification of Soviet society, and so there was no room for *Taraškievica*, the manifestation of Belarusian self-determination. Consequently, this language variant was completely abandoned, and its inventor, Taraškievič, who had become active in politics, was murdered during the Great Purge in 1938 (Golz, S. 2011).

Although the two language variants do not differ significantly, *Taraškievica* has since become the symbol of a free Belarus (reforms, democracy and the market economy), while *Narkamauka* is more neutral. Use of the latter, however, tends to indicate an orientation towards Russia.

After the Peace of Riga, the western areas of today's Belarus (called **West Belarus** by Belarusians and *Kresy* or Eastern Borderlands by the Poles) were ruled by Poland until the collapse in 1939. As part of a process of **ethnic homogenization (Polonization)**, Belarusians living in these areas were assimilated, repressed (*pacyfikacja*), discriminated or at least pushed to the margins of society especially after the mid-1930s. Moreover, efforts to reduce the deprivation of the Belarusian-inhabited areas and develop regional agriculture failed. The Belarusian national movement (which in many instances had the backing of the Soviet authorities, e.g. the *Hramada* was closely linked to the illegal Communist Party of West Belarus) was insufficiently strong to determine events.

In contrast, in the **Soviet-ruled areas**, the 1920s saw a decline in the Polish influence of earlier periods and a **strengthening of Belarusian identity**. This trend was most observable among urban intellectuals. Improvements in the living conditions of peasant farmers strengthened the use of the Belarusian language in their communities, and this process was enhanced at state level with the foundation of schools, theatres and libraries (Marples, D.R. 1999). Further developments included the establishment of a university

with Belarusian as the language of tuition in 1921 and the foundation of the Belarusian Academy of Sciences in 1926 (after 1936 Academy of Sciences of the BSSR, since 1991 National Academy of Sciences of Belarus). From 1927, the Belarusian language was given precedence over the other minority languages of the region (Yiddish, Polish and Russian). "Belarusianization" (or *albo-ruthenization*) thus went together with Sovietization, resulting inevitably in a distortion of the already delayed development of Belarusian national identity (Šibeka, Z. 2002). At the same time, the suppression of the influence of the churches in society led to a weakening of Belarusian identity particularly among the lower social strata (Bieder, H. 2000).

The consolidation of the **Stalinist regime in the 1930s** fundamentally altered the conditions for the further development of Belarusian identity. Not only did Stalinist policy on the nationalities and on language become more aggressive towards the minorities, but also peasant society – the bearer of the Belarusian language – was completely crushed by the forced Sovietization of rural areas, the liquidation of the *Kulaks* (higher-income farmers), and Stalinist collectivization. The local ecclesiastical and secular elites, which had mediated national

sentiment, were almost completely destroyed. Moreover, by intensifying the **Russification** campaign, the Soviet authorities gave a boost to the presence of the Russian language both in government administration and throughout the education system. In the interwar period, the cultural and linguistic impulses received by the Belarusian national movement did not allow it to formulate additional goals or to take a political stand for such goals (Ackermann, F. 2011).

Under the terms of the **Molotov-Ribbentrop Pact**, in September 1939, the Soviet Union annexed West Belarus. Although the Soviet occupation brought with it the unification of the Belarusian-inhabited areas, Stalinist repression was immediately imposed on the western part of the country. Indeed, 330,000 inhabitants were deported to Siberia. Among the deportees, in addition to the Poles and Jews, there were also Belarusian intellectuals who advocated Belarusian national identity. The Soviet authorities gave support at most to Belarusian folk culture and folk traditions, doing so under their own auspices.

By the late 1930s and despite Polonization, the socio-economic situation was far more favourable in West Belarus than it was in Soviet Belarus. Indeed, after the Soviet annexation of West Belarus, border controls were maintained at Negoreloe (Nieharelae, Bel., border station of the Soviet Union to Poland until September 17, 1939) as the two parts of the country differed so greatly in terms of social development. Thus, although the whole of Belarus lay within the Soviet Union, it is erroneous to speak of a true unification at that time.

After June 22, 1941, the area of today's Belarus became a target for the Wehrmacht, as Germany launched its attack on the Soviet Union (Operation Barbarossa). The German invasion began at the new border of the Soviet Union, which had been pushed forward to the Brest Fortress only two years earlier. Today, the Brest Fortress symbolizes Belarus's western gateway. The Nazi *Einsatzkommando* squads then proceeded to murder almost the entire Jewish population of Belarus; in 1942–43, around half a million Belarusian Jews fell victim to the Holocaust. There were about 6–700,000 military casualties (incl. partisans) and around 1.6–1.7 million civilian casualties (incl. Jewish population) between 1941 and 1944. 25% of population of today territory of Belarus died

during Second World War, which is the highest ratio among Soviet republics (Erlíkman, V. 2004).

The **wartime partisan resistance movement** served in a way to strengthen Belarusian identity. Although the partisan resistance could only function as an underground movement, it had a degree of autonomy within the Soviet power structures on account of the foreign occupation. Belarus became the main fighting arena for the Soviet partisan movements during the Soviet Great Patriotic War. It was during this period that the country's "partisan republic" image arose (Ioffe, G. 2006). Meanwhile, however, the Germans established the Generalbezirk Weißruthenien and, in 1943, the Belarusian Central Rada, which was a collaborative puppet government. Evidently, this entity did not enjoy broad public support, but its flag was the same white-red-white tricolour as that of independent Belarus in 1918 and in the early 1990s. All of this raises further political debates about Belarusian identity (e.g. discredited symbols).

When the Second World War ended, the Allies "pushed" Poland westwards, whereby its former eastern territories, including West Belarus were ceded to the Soviet Union (becoming parts of the Ukrainian Soviet Socialist Republic and the Byelorussian Soviet Socialist Republic). The borders of Belarus in the west differed only marginally from those of late September 1939 (i.e. after the Molotov-Ribbentrop Pact). Indeed, the differences affected only a few raions in the vicinity of Białystok, which had been awarded to the new Poland.

After the political consolidation of 1945, a Polish-Belarusian population exchange occurred as part of a migration process that fundamentally altered the ethnic map of the new West Belarus areas. The significant decline in the number of Poles living in Belarus was a consequence of the war and the subsequent repatriations (Lagzi, G. 2001). In the course of these developments, it has been estimated that nearly 400,000 Poles moved from West Belarus to the new Poland (the official figure is only 275,000). Meanwhile, 37,000 persons of Belarusian identity found a new home in Soviet Belarus in the first wave of migration, as did 70,000 additional persons in subsequent waves. Concurrently and particularly in the 1950s, there was an inflow of Russian native speakers, who filled the demographic vacuum caused by the wartime human losses. On account

of the Sovietization of the newly acquired territories, most of this migration was directed at the major urban centres of the region (Eberhardt, P. 2000; 2001; 2002) (*Figure 2.1*).

After the Second World War, the official Soviet position identified the aims of the national movements with those of the Fascist aggressor. Such attitudes struck another blow to Belarusian identity, which was already weak. Meanwhile, the industrialization of the areas that had formerly belonged to Poland, the collectivization of agriculture, and the repression of groups in society that clung to religion, resulted in a worsening in the situation of speakers of the local Belarusian dialects. In the western areas of Belarus, on the other hand, a higher natural increase of population made up for the wartime losses, and so the number of Belarusian speakers increased (*Figure 2.1*). Yet their Belarusian identity was still uncertain and many of the local communities had been broken up. Many people migrated to the Russian-speaking towns, where, in the evolving process of post-war Soviet industrialization, they became members of the urban working class, which was losing its identity.

The **post-war Soviet censuses** (1959, 1970, 1979, 1989) showed a significant increase in the number of Russians (and Ukrainians) and a modest increase in the number of Belarusians. In part, the figures reflected a significant “cross-over” between the two groups. Alongside an intensification of Russification, the period also saw the emergence of *Trasianka*, a mixed language that arose after a campaign emphasizing the similarities of the two literary languages (rather than their differences) and owing to the spread of Russian language tuition (*Box 2.5*). The use of *Trasianka* did not favour the further standard development or widespread use of Belarusian, which was actually the official language. In consequence, the differences between the two languages became blurred, and much of the Belarusian population came to view Russian as a higher form of their own dialect rather than as a foreign language. Unsurprisingly, between 1959 and 1989, the share of Russian language users among ethnic Belarusians more than doubled, increasing from 13 per cent to 28 percent.

These processes were enhanced by the concept of the “new Soviet people”, which gave precedence to social cohesion rather than to eth-

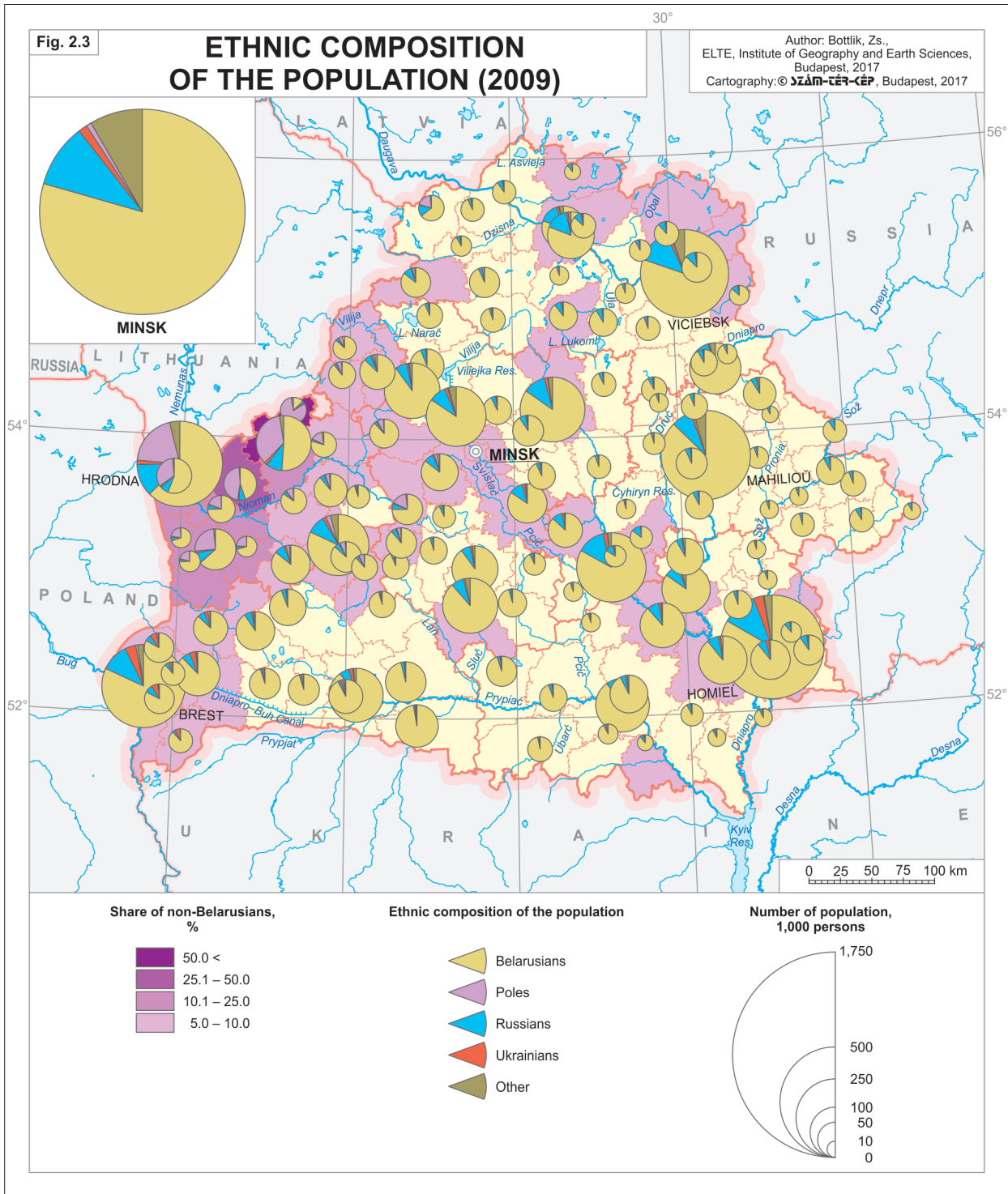
nic group consciousness. The concept fell on fertile soil in Belarusian society, with its fluctuating sense of identity. The effect was greatest in the small-town milieu (Šibeka, Z. 2011). Meanwhile, the linguistic assimilation of the Jewish and Polish communities, both of which had declined numerically during wartime, was due more to their distorted social structure and their narrow strata of intellectuals (Ackerman, F. 2006).

Identity forming and its uncertainties since the independence

Since independence the demographics of Belarus have been characterized by population decline, which is a typical feature in Eastern Europe. Thus, the fall in the total population has been caused by the combined decrease in the Russian, Ukrainian and Belarusian populations (Rowland, R.H. 2003). Although political developments in the 1980s activated formerly repressed national feelings in several regions of the Soviet Union and the Belarusian language began to be used in schools, the changes here were mainly due to shifts in the external circumstances rather than to internal developments, a detachment from the Soviet regime, and an emphasis on local particularity (Lagzi, G. 2001).

Based on the ethnic data from the most recent census in 2009 (*Figure 2.3*), Belarus is not a homogeneous nation-state, as only 83 per cent of its 9.5 million inhabitants belong to the “state-constituting” Belarusian ethnic group. The country’s 800,000 Russians comprise the largest minority, with 8.2 per cent of the population. In addition, there are sizeable Polish (294,000; 3.2%) and Ukrainian (158,000; 1.6%) groups.

Concerning the **ethnic spatial dispersion**, a further observation is that the Russians tend to live in the major urban centres, while the Poles live in areas that formerly belonged to Poland and were most influenced by Polish culture (*Figure 2.3*). The distribution of the Russian population is relatively even; they comprise more than 10 per cent of the population in 19 raions, of which one is a municipality and six are predominantly urban. Without exception, the largest Russian communities – those with more than 15,000 persons – are in urban areas. The Ukrainians are concentrated in the region of Brest, principally in two districts where their



population share exceeds 7 per cent (Kamieniec 7.4%; Malaryta 7.2%). There are, in addition, significant Ukrainian populations in the seats of the regions, and in two such cities (Brest, Homiel) the Ukrainian population exceeds 10,000. It should be noted, however, that neither of these two minority groups (i.e. the Russians and Ukrainians)

form an absolute majority of the local population in any region.

The ethnic space of the Poles living in Belarus, whose identity has strengthened since the collapse of communism, is fundamentally different (Iwanow, N. 1994). Among the various minorities, the concentration of the Poles is

greatest – forming a virtually contiguous area of settlement – in the Hrodna region (Eberhardt, P. 2000). Among the 13 raions where the Polish population share exceeds 10 percent, only one lies in the Brest region and one in the Minsk region. Their concentration along the Lithuanian border is such that it forms a contiguous Polish area of settlement in the Voranava and Ščučyn raions. Poles make up an absolute majority (80%) in the former and a relative majority in the latter.

Among the other groups, the first that should be mentioned is the Jewish community, with 12,000 persons. Jews have been living in the area of today's Belarus since the 15th century. Other significant minorities are the Roma (7,079 persons), who live mostly in the Homiel

region, and the Germans (2,474 persons). Other minorities include groups originally from other former Soviet regions who have mostly been living in Belarus for many generations. In addition to smaller communities of the population groups living in the neighbourhood of Belarus (Lithuanians: 5,087; Moldovans: 3,465; Latvians: 1,549 persons), there are also significant population groups from the Russian steppes (Tatars: 7,316; Chuvashes: 1,277 persons), from the Caucasus region (Armenians: 8,512; Azeris: 5,567; Georgians: 2,400 persons) and from Central Asia (Turkmen: 2,685; Uzbeks: 1,593; Kazakhs: 1,355 persons). The presence of small Chinese (1,642) and Arab (1,330) communities adds further colour to the country's ethnic composition.

Box 2.5 *Trasianka*

Trasianka is a “mixed language” used in the area of today's Belarus. It is a fusion of Belarusian and Russian language elements. *Trasianka* has less prestige than Belarusian and considerably less prestige than Russian. The word itself means the low-quality hay that is produced by mixing fresh grass with last year's dried hay. Since the 1980s, the word has been used to refer to this mixed language. In the buffer zone formed by the Belarusian territories, the use of mixed language has a relatively long history. The reason for this phenomenon is the concurrent use of local dialects alongside whatever was the official language (Polish and subsequently Russian), while a further contributory factor was their varying status/authority (Hentschel, G., Kittel, B. 2011).

In Belarus, the development of a mixed language, a characteristic feature of multilingual societies, can be traced principally to the social changes of the post-war era. The period saw large-scale rural-urban migration on account of the economic policies of the Soviet authorities. Increased industrialization led to a greater demand for labour in urban areas, and new workers were recruited from rural areas where labour was in surplus supply owing to the collectivization of agriculture. In addition, a large number of people migrated from the inner Russian areas to the peripheral regions. Accordingly, people arriving from rural areas who spoke local dialects and had no knowledge of Russian had to adapt to the use of the Russian language, and in this they were not always fully successful.

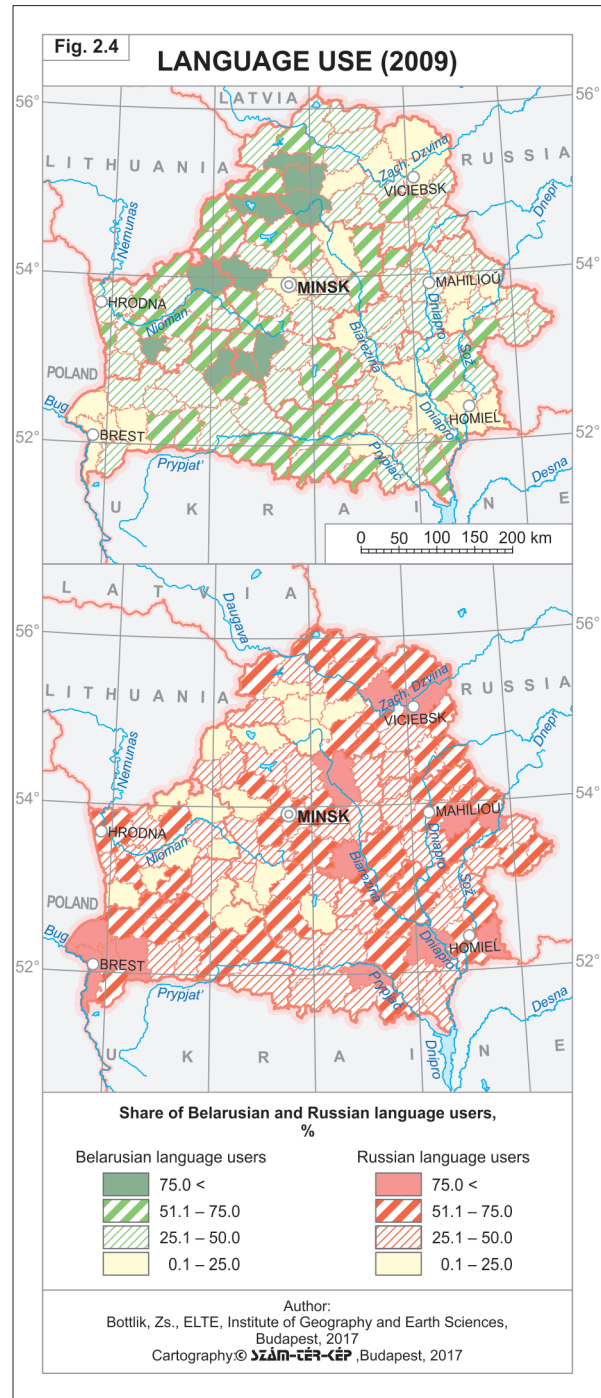
It should be noted, however, that efforts to adapt were not mutual. Further, in terms of status, both Belarusian and *Trasianka* lagged behind Russian. The more two languages resemble each other, the greater is the likelihood of the development of a mixed language. This is particularly true in the case of Belarusian and Russian. Over time *Trasianka* was standardized, and today it is the first language of many people. For this reason, its use is not determined by spontaneous processes; rather, it is spoken over several generations in accordance with more or less accepted conventions (Kittel, B., Lindner, D. 2011).

Until the 1980s *Trasianka* tended to symbolize the common fate of Russians and Belarusians. Following the political changes of the early 1990s, it became a manifestation of certain political orientations. For those who understand the language, it sounds a bit like Russian spoken with a Belarusian accent (Ioffe, G. 2006). It is difficult to determine how many people speak *Trasianka*. In eyes of most of Belarusian and Russian native speakers *Trasianka* represents an irregular mixed language.

In Belarusian identity consciousness, which has been described as delayed or belated, local identity-forming factors have remained the main determinants. Wars and the political purges elicited by Soviet ideology acted not only to marginalize or destroy the bearers of the national idea; they also impacted on language use.

In the passage of time, political intentions have led to changes in the language use of the population on several occasions (Brüggemann, M. 2014). Differences in the census data from 1999 and 2009 reflect Belarusians' uncertain identity. On the one hand, the data showed a significant increase in the population share using Russian. On the other hand, such a substantial shift seems unrealistic in the course of a single decade. The aforementioned uncertain identity may lie behind this discrepancy. Or it may simply have been caused by transitory political factors. "Defections" on such a scale are made possible by the proximity of the two languages. The difference between the current official forms of Belarusian and Russian is not particularly great. Consequently, as in earlier periods, the expression of ethnic identity is not primarily the native language, a fact reflected in the language use of Belarusian society (Burlyka, I. 2004).

Regarding **native language and language use**, differences may be observed in the various areas of the country (Figure 2.4). Generally, it can be stated that among people who self-identify as ethnic Belarusians the number of Belarusian native speakers is higher than the number of actual users of the language. The use of Belarusian is higher in the villages, where local linguistic peculiarities are generally more isolated from the urban areas. Further, more people identified Belarusian as their native language than did use the language. Meanwhile, in the towns (excluding the district of Brest) the population percentage using the Belarusian language is more or less equal to the population percentage of Belarusian native speakers. Evidently, a majority of ethnic Belarusians give precedence to the Russian language, largely owing to the historical, cultural and linguistic historical factors discussed above and partly owing to the fact – itself a consequence of the aforementioned factors – that Russian has received since the 1995 four-question referendum (on state symbols, integration with Russia, status of Russian language and constitutional



changes) official status in the country (Bieder, H. 2003; Törnquist-Plewa, B. 2005).

Those districts where a majority of the population give precedence to the Belarusian language in the course of everyday life are concentrated above all in the less urbanized north-western areas of the country. In the past, these regions were more closely tied to the Polish power centre and/or belonged to interwar Poland. In

these areas, we find, in the field of language use, tangible evidence of attitudes that functioned as counter-points to Western (Polish) culture in earlier centuries and to Russification during the Soviet era. At present, therefore, the observable differences in language use indicate above all the country's transitional cultural (linguistic and ethnic) nature (Savitzkaya, N. 2011). At the

same time, however, Belarus's noticeable pivot towards Russia in the social dimension and in its economic orientation means that it is still not possible to emphasize language-based differences. Generally, therefore, language use is a kind of political statement (*Box 2.6.*) (Golz, S. 2011; Alexandrova, O., Timmermann, H. 1997).

Box 2.6 The symbols of the independent state

Belarus left the Soviet Union in 1991. Independence was accompanied by the explicit return of the (former) national myths and symbols (as was generally the case in post-Soviet societies). Generally speaking, in the post-Soviet region these processes – amid the political changes that followed the collapse of communism – strengthened collective identity as envisaged and directed by the state.

In Belarus, similarly to most of the new countries, the state symbols (return of the national flag, coat of arms, and anthem used in 1918) changed suddenly. At the centre of this development was an emphasis on the memory of the Polack Principality and the Grand Duchy of Lithuania (both of which embodied earlier forms of statehood), on cultural proximity to Western Europe, and on the autonomy of the Belarusian language. At the same time, however, there was only meagre public support for the political system that was manifested in the old/new coat of arms and flag of the post-Soviet era. Their durability (or fixed nature) did not only depend on societal traditions but was also greatly influenced by the economic situation at the time. Social discontent at the time of the political and economic transition – a period of crisis – is linked with a critical stance towards the new political system (Radzik, R. 2006).

Even so, many people did not necessarily associate the Soviet symbols with the old regime and with communism. Rather, they associated them with the Soviet Union's victory in the Second World War (Scharf, R. 1999). In the given economic milieu, it is unsurprising that there was a failure to consolidate the idea of national independence on the aforementioned pillars. For this very reason, from 1994 onwards, the focal points of historical memory gradually shifted from the first Belarusian state to the Great Patriotic War, in which the Russian nation featured as a fraternal people. This process also meant a return to the Soviet style symbols after the 1995 four-question referendum, which the government at the time then emphasized in all areas of the media (Temper, E. 2011). In this respect, a good example of the anomalous situation in Belarus relates to Independence Day, which, unlike in the other post-Soviet states, is not celebrated on the anniversary of the date of independence from the Soviet Union (August 25, 1991), but is tied instead to the liberation of Minsk from German occupation (on July 4, 1944) (Marples, D.R. 2005).

The transitional nature of Belarus in terms of politics, culture and language (a characteristic which has accompanied it throughout its history) impacts today on its national symbology. The symbols used in the period 1991–95 and those are currently used reflect different political stances – a proximity to Western cultural circles and to the EU or an attraction to Soviet times and to Moscow.

In summary, it can be stated that the identity-forming factors that are characteristic of the eastern half of Europe and their weaknesses and deficiencies, as well as the predominance of vari-

ous alien power structures based on other ethnic groups, have rarely favoured the development of Belarusian identity. A historical overview of the ethnic spatial dispersion reveals that, in the

20th century, the ethnic composition of the inhabitants of the area of today's Belarus slowly but surely moved towards (Russian) homogenization. Even now, however, the country cannot be considered a homogeneous nation-state.

In the geopolitical buffer zone that arose in an area that was surrounded by peoples with strong national identities and consolidated state structures, the prevailing circumstances prevented in the long term both the formation of an independent state and a strengthening of dimensions representing a separate linguistic and cultural status. In the absence of a firm national identity, Soviet ideology and human ideals gained a strong footing. Unsurprisingly, therefore, in the past two decades, politics and society in Belarus

have tended to envisage the national independence that was attained after the collapse of communism and the dissolution of the Soviet Union as an opportunity for turning to the former power centre in the east rather than as an opportunity for consolidating local ethnic identity.

Consequently, there has been a weakening of the multiculturalism that was manifested in the ethnic spatial structure of earlier periods and which had strong historical roots. At the same time, these changes are reflected principally in the current language use of the population and can be observed first and foremost in the traditional geographical and social dimensions (provincial/rural-capital city, east-west, poor-rich).



Easter in Belarus. The country is the meeting point of the Eastern Orthodoxy and the Roman Catholicism. (Photo: Konkoly-Thege, G. 2013)



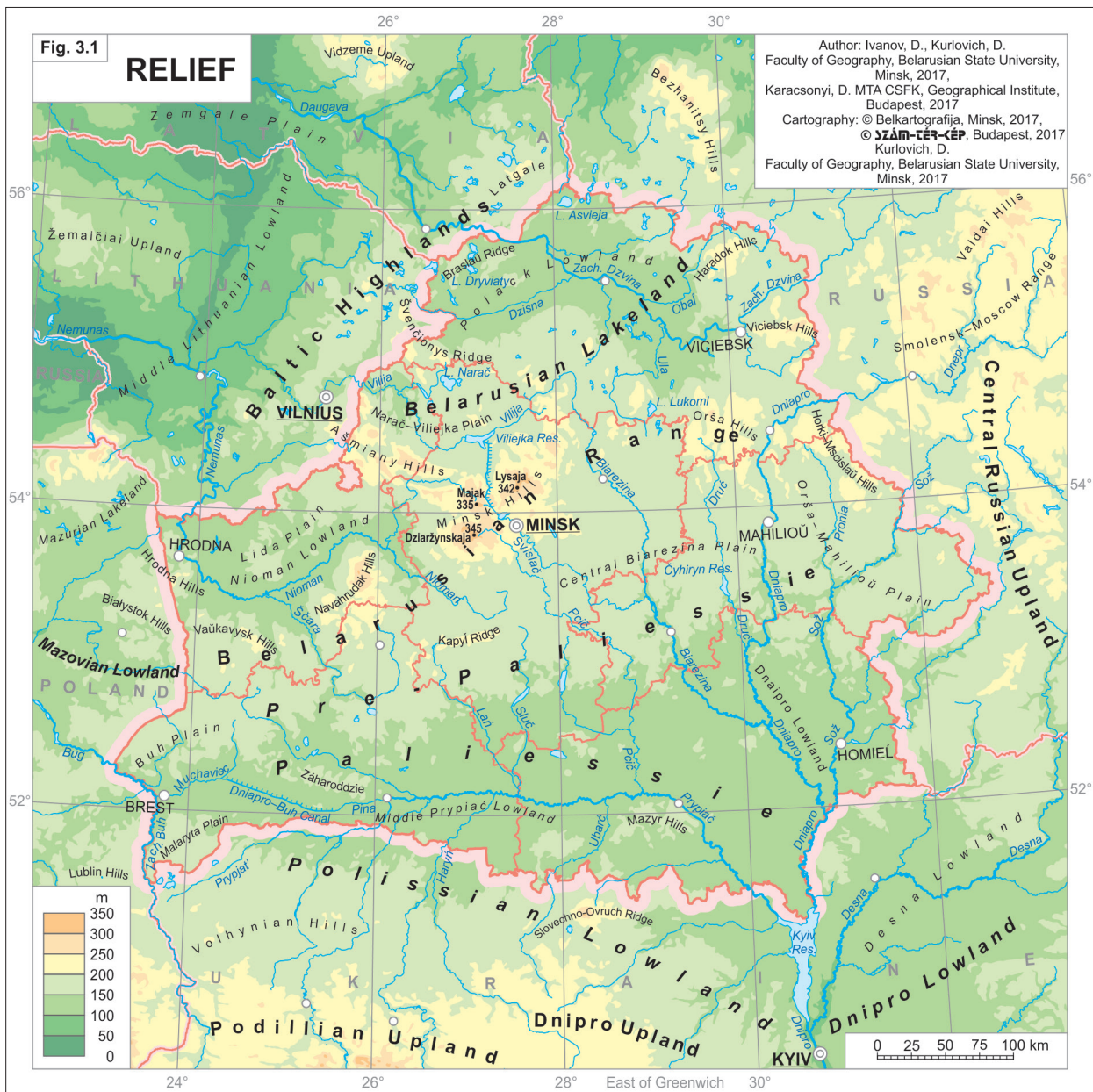
Ubarc river in the Paliessie. (Photo: Karácsonyi, D. 2011)

3. NATURAL RESOURCES

Geology, relief

Belarus is located on the East European Plain Europe's most homogenous landscape (Figure 3.1). The area often called as East European Platform

because it is characterised by a **crystalline rock basement** which has been covered by several thousand meters of sediments (Nemerkenyi A. 2007). Major tectonic structures of this basement, so called **anticlises** (large uplifted structures),

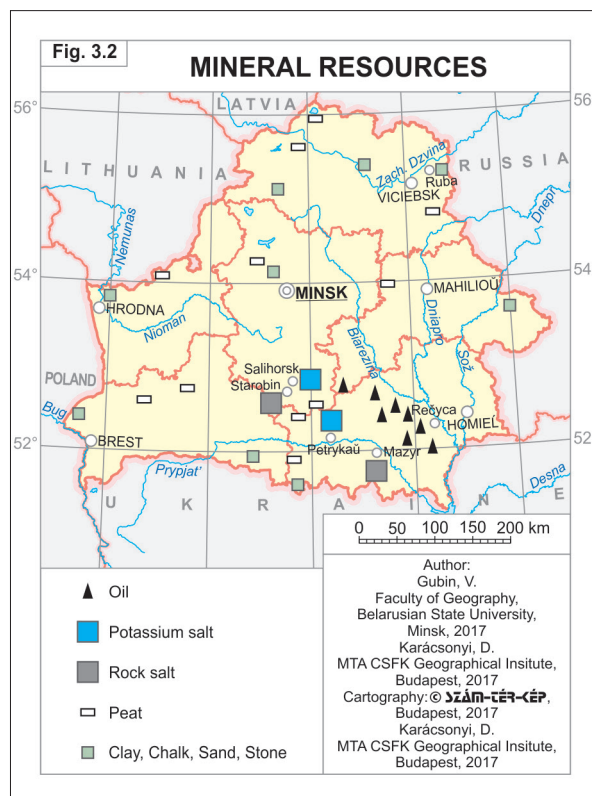


sineclises (large depressions) and troughs influence the thickness of the sediment. In Belarus this old crystalline bedrock is the closest to the present surface in the Belarusian Antecline, while the depth of the basement surface is greatest within the Prypiać Trough – ranging from 1.5 to 6.2 km. These large subsurface structures also influence the present relief. Above the anteclines we find usually ridges, while the location of the sineclises mostly coincide with the area of lowlands (e.g. the Prypiać Marshes have been preformed by the Prypiać Trough).

The **sedimentary cover** consists of the strata of the Upper Proterozoic and all the geological systems of the Palaeozoic, Mesozoic and Cenozoic. Palaeozoic formations include Cambrian, Ordovician and Silurian complexes, which comprise mostly sandstone and clay as well as carbonate strata. The Mesozoic formation also presents all systems. Jurassic formations consisting of limestone, sandstone, clay and other marine sediments are common in the west, east and south-east of Belarus. Cenozoic formations are also widespread. Palaeogene deposits (sandstone, marl and, rarely, clay) are to be found in the Prypiać Trough, the Podlasie-Brest Depression, the Paliessie Saddle and on the southern slopes of the Belarusian Antecline. Neogene accumulation has given rise to sandy-clay rocks, mainly in the south. Quaternary strata (sands, sandy loams, loams) cover the deposits of older systems and form the surface relief.

The **most important mineral resources** of Belarus, potash, rock salt and some oil are located in this sedimentary cover (Figure 3.2). Resources of potash and salt are globally significant. Belarus is the world 3rd largest potash producer.

The landscape has been formed by continental ice sheets during the Pleistocene (Ice Age), the main epoch of the Quaternary. Pleistocene climate was characterised by re-



peated cooling and warming periods generating glacial cycles in which continental ice sheets pushed to the south and then retreated during the so called interglacials, affecting the entire territory of Belarus. These continental ice sheets when they stopped pushing forward, left at their maximum extension terminal moraines formed by accumulation of glacial debris, mostly sand and rocks. These terminal moraines form a series of hills and ridges, while on the area covered by ice sheets different glacial and fluviglacial formations emerged, e. g. elongated accumulation embankments and moulds like eskers and kames (Figure 3.3). In the territory of Belarus there are two large terminal moraine hill lines, at the limit of the so called Paazierje glaciation

Table 3.1 Glaciation names and ages

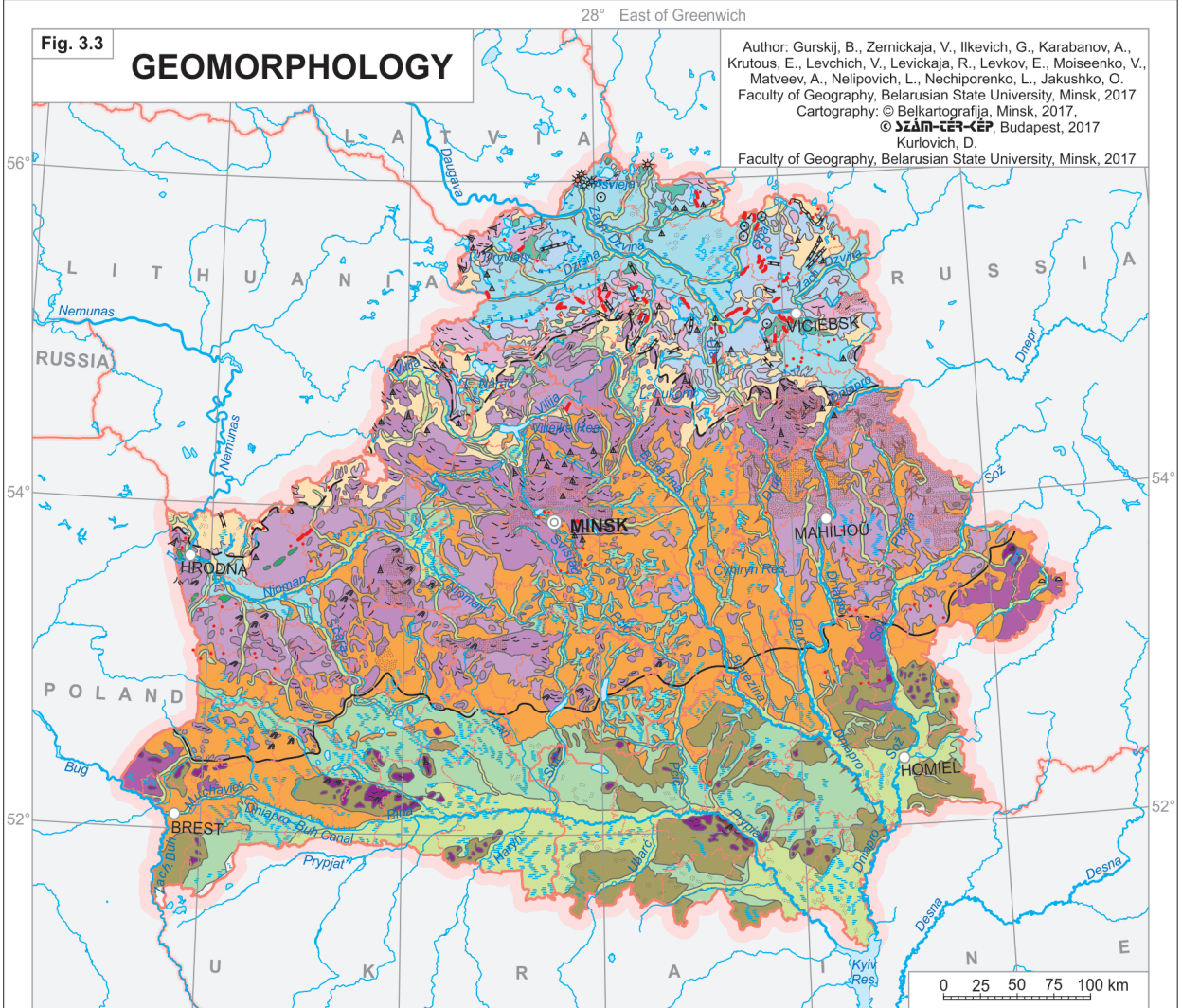
Alpine	Northern European	Russian	Belarusian	1000 years BP
Würm	Weichselian	Valdai	Paazierje	115–12
Riss	Saalian	Dnepr	Sož/Prypiać/Dniapro	200–130
Mindel	Elsterian	Oka	Biarezina	480–420
Günz	–	–	–	700–600

Source: Székely A. 1978, modified

Fig. 3.3

GEOMORPHOLOGY

Author: Gurskij, B., Zernickaja, V., Ilkevich, G., Karabanov, A., Krutous, E., Levchich, V., Levickaja, R., Levkov, E., Moiseenko, V., Matveev, A., Nelipovich, L., Nechiporenko, L., Jakushko, O.
 Faculty of Geography, Belarusian State University, Minsk, 2017
 Cartography: © Belkartografija, Minsk, 2017,
 © SZÁM-TÉR-ÉP, Budapest, 2017
 Kurlovich, D.
 Faculty of Geography, Belarusian State University, Minsk, 2017



— Limit of Paazierje (Weichselian) glaciation

— Limit of Sož (Warthe stage of Saalian) glaciation

Relief of the Paazierje (Weichselian) and Holocene age

Alluvial lowlands and river valleys

Relief of the Paazierje (Weichselian) age

Lacustrine-alluvial lowlands

Glacial-lacustrine lowlands

Kame massifs

Fluvioglacial plains and lowlands

Ground moraine plains

Marginal glacial landforms

Relief of the Sož (Warthe stage of Saalian) age

Kame massifs

Fluvioglacial plains and lowlands

Ground moraine plains

Marginal glacial landforms

Relief of the Dniapro (Drenthe stage of Saalian) age

Fluvioglacial plains and lowlands

Ground moraine plains

Marginal glacial landforms

Swamps

Loess-like deposits

Eskers

Kames

Angular massifs

Marginal glacial ridges

Glacioidislocations

Pingo

„Mosary”

„Šalomy”

Fluvioglacial deltas

Abrasional cliffs

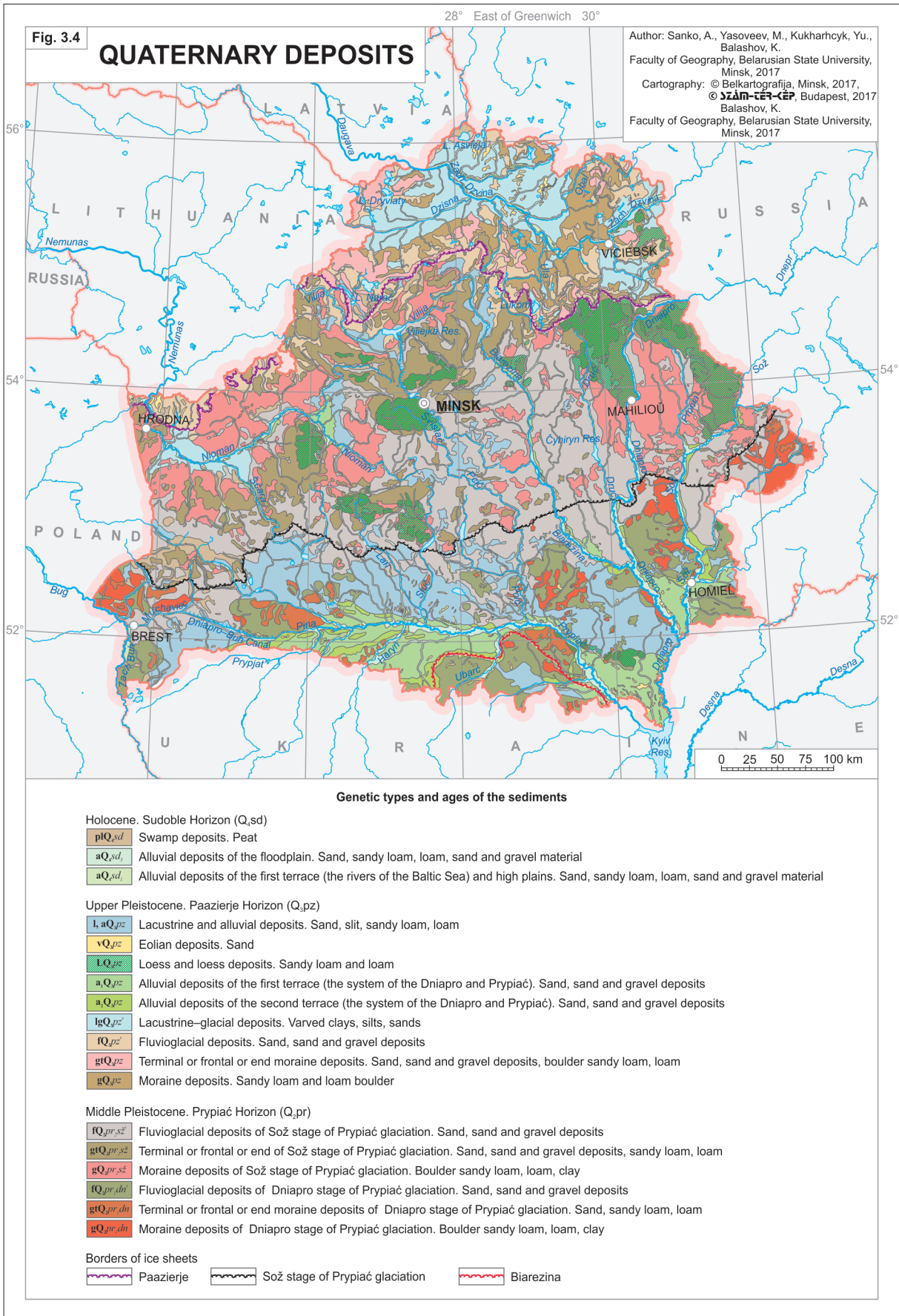
Ravines

„Zvony”

Eolian hills and ridges

Glacial ravines

Valleys of ice-melt water discharge



in the North and the Sož glaciation in the South. The southern one is the older, and by expanding from the North to the South it has overwritten all earlier moraine forms. The stages of Pleistocene glaciation have been explored first on the East European Plain because their geomorphological and relief forms are there particularly well-marked on the landscape (Székely A. 1978). The glaciations have usually been named after local rivers, thus they are not the same in different countries. However the stages can be compared to each other (Table 3.1).

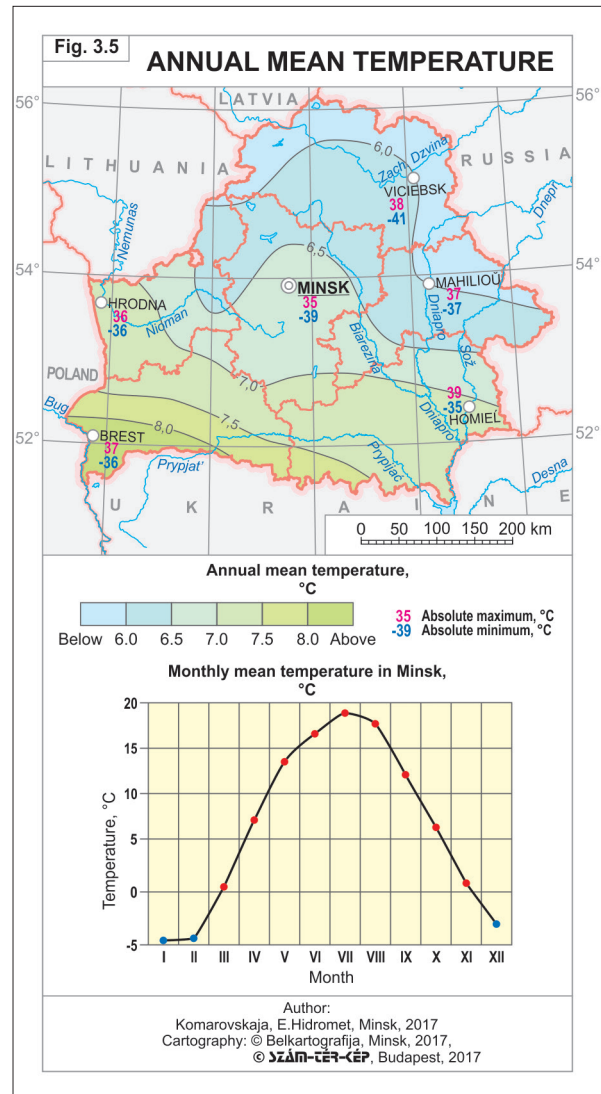
The thickness of Quaternary deposits is around 70–80 m, but in some places is as much as 300 m. The deposits of three glacial horizons account for up to 90% of the Quaternary strata (Figure 3.4). The Weichselian (*Paazierje*) glaciation reached merely the northern part of the country where this glacial horizon is widespread. The deposits of the *Prypjac* (*Sož* and *Dniapro* – Saalian) and Elsterian (*Biarezina*) glacial horizons prevail in Central and Southern Belarus. Pleistocene interglacial and Lower Pleistocene horizons are of minor importance. Fluvioglacial sands and moraines dominate in the deposits occurring on the surface. Loess and loess loam were formed in the periglacial areas in front of the last (*Paazierje*) ice sheet. Morainic hills, morainic plains, outwash fields, glacial-lacustrine plains emerged in the strip of dead ice blocks. Alluvial, lacustrine and aeolian sands are also widespread.

Climate

The climate of Belarus is determined by its location in the forest belt of the northern temperate zone and by the flat or slightly undulating terrain of low elevation. According to the Köppen-Geiger classification system it belongs to the warm-summer humid continental (Dfb) type with severe winters and no dry season. This climate has in Belarus a definitely transitional character: the mild, humid air masses coming from the Atlantic Ocean strongly influence the weather in the western part of the country, while eastward the continental nature of the climate becomes more and more pronounced. This manifests itself mainly in the temperature regime: the harsh winters and relatively warm summers result in higher annual temperature ranges.

The capital city of Minsk, lying close to the geometrical centre of the country and having an almost continuous meteorological record since 1891, lends itself quite well to represent the climate of Belarus. According to the climatological normals of the WMO for the period 1961–1990, the average mean temperature in Minsk was 5.8 °C, while July proved to be the warmest (17.3 °C) and January the coldest month (−6.9 °C). Vicebsk, lying in the north-eastern corner of the country is a bit colder with particularly severe winters (year: 7.4 °C, July: 17.1 °C, January: −8.2 °C). On the contrary, Brest at the south-western border of Belarus stands out with considerably milder temperatures (year: 7.4 °C, July: 18.0 °C, January: −4.5 °C).

The 1980s saw the onset of warming in the climate of Belarus that evolved at a pace strongly outperforming the global trend of this pro-

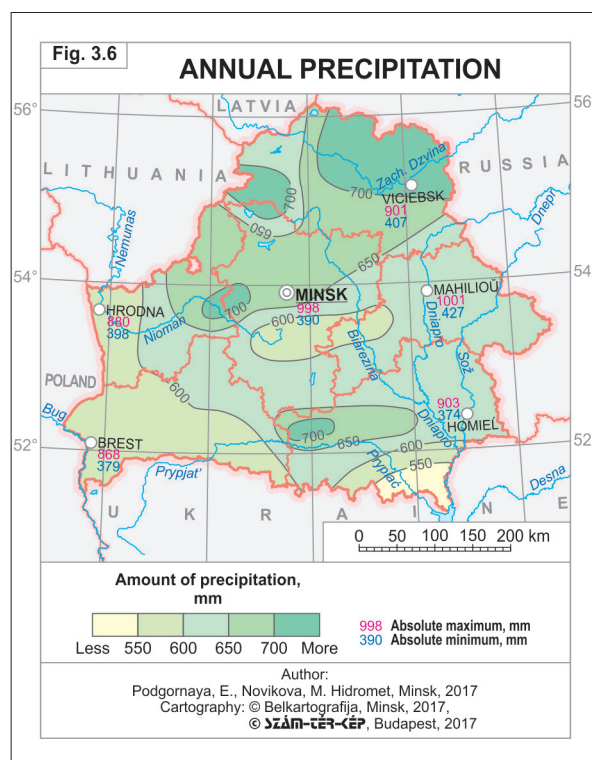


cess. The annual mean temperature of the last three decades (1981–2010) in Minsk increased by 1.3 °C, thus slightly exceeding 7.0 °C. The July mean temperature of this period rose to 18.5 °C. The warming of the winter was even more conspicuous with the average January means rising to –5.0 °C (Figure 3.5). The pattern of the regional differences, however, did not change: the mean annual temperature increases from north-east to south-west. In winter the isotherms run almost exactly in meridional direction, whereas in summer they are guided mainly by the parallels of latitude. The length of the period with daily mean temperatures above 0 °C varies between 240 and 270 days. The growing season ($t \geq 10$ °C) is lasting up to 150–170 days after it had witnessed a recent increase of 10–12 days. The sum of active temperatures (degree-days) for the growing season generally amounts to 2100–2600 °C. This is not sufficient for crops demanding more heat (e. g. sunflower, corn) and scarcely enough even for wheat, while it meets the modest requirements of rye, barley, oats and potato. The cultivation of fruits is largely limited to frost-tolerant varieties of pear, apple and berries, quite a few of them being native to the domestic forests.

Wind patterns in Belarus are determined by the general circulation of the atmosphere with light dominance of the westerlies. The average annual wind speed in open areas is close to 4 m/s, in the valleys and flat plains about 3 m/s.

The frequent fogs, the cloudy or often overcast sky and the short daylight add a good deal to the unpleasant features of the Belarusian winter. According to the long-time record of Minsk, in December the inhabitants of the city can enjoy only an average of 48 minutes sunshine, equal merely to 11% of the theoretical length of daylight. The average daily duration of sunshine has its peak in June with 9.5 hours, i.e. 51% of the potential maximum. The annual mean of sunshine hours amounts to 1815, i.e. 41% of the daylight time.

The mean annual precipitation is usually sufficient, with the climatic normal of Minsk amounting to 677 mm. There are no great regional differences in this figure: the lowlands receive about 600–650 mm precipitation which increases to 650–700 mm in the hills (Figure 3.6). The maximum annual precipitation registered during the entire observation period at most stations is between 850 and 1000 mm, while in extremely



dry years it may decrease to 350–450 mm. About 70% of the annual precipitation comes in the form of rain during the warmer months with a slight maximum in July (Minsk: 88 mm). In the summer months there are 15–16, in winter 19–20 days with precipitation of more than 0.1 mm. In an average year there are 3–4 periods with no rain for 10 consecutive days, while drought periods lasting 20–25 days occur every second year. Although the amount of precipitation has not shown any significant change during the last decades, drought became more frequent and the drop of humidity due to the higher temperatures has caused perceptible damage to the spruce forests in the northern regions of the country.

Snow lies on the ground for at least a month, typically from early December in the north-east of the country and from the end of December in the south-east. The snow cover can melt several times and then appear again, especially at the beginning and toward the end of winter. According to the meteorological record of Minsk from the recent decades (1990–2012), chances of finding snow cover on the ground are highest at the end of January (65%). Snow depth ranges from 6–7 cm in the south-west to 20–30 cm in the central and north-eastern parts of the

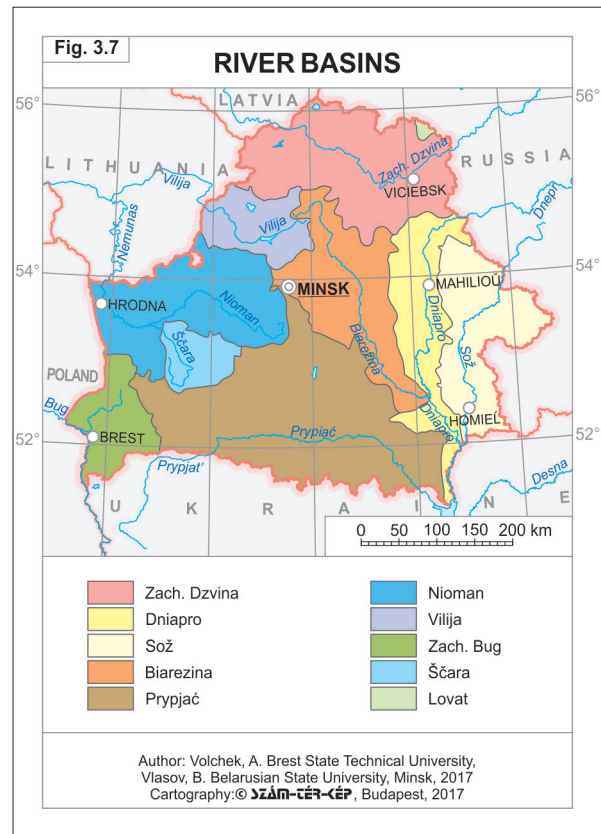
country with the maximum usually observed in the first days of March. The mean depth of the snow in Minsk reaches then about 22 cm, but in every tenth year it exceeds even 42 cm. The sudden transition from winter to an extremely warm spring and the rapid melting of snow often induce extensive floods inundating the flat lowlands along the rivers.

The long-term estimates based on the regional downscaling of the general circulation model HadCM2 (Hadley Centre, United Kingdom) indicate the continuation of the recent warming tendencies of the climate which would rise the temperatures by 1.6–4.8 °C above the climate normals of the previous decades till the end of the 21st century. At the same time the amount of precipitation would only slightly increase, mainly in the cold season. While the expected warming seems to be favourable, the adaptation to the drier conditions of the growing season may present a challenge for the agriculture of Belarus.

Waters

The **rivers** of Belarus lie in the catchment area of the Black and Baltic Seas. The Black Sea drainage basin covers about 57% of Belarusian territory and accounts for 50.3% of water courses. Meanwhile, the Baltic Sea basin covers 43% of the territory and accounts for 49.7% of water courses. The hydrographic network is dense, with 20.8 thousand mostly small rivers (total length: approx. 90.6 thousand km) flowing across the country. The river network density for the whole territory of Belarus is about 0.44 km/km². In the higher northern part of the country this figure increases to 0.60–0.80 km/km², while in the low southern part it decreases to 0.23–0.30 km/km².

The main rivers are: Zachodniaja Dzvina, Dniapro, Sož, Biarezina, Prypjac, Nioman, Vilija and Zachodni Buh. Most of them are transboundary rivers, usually coming from abroad, and after crossing Belarus their courses continue in other countries again. Dniapro, (Black Sea drainage basin), the the biggest river has a length of 700 km in Belarus and a catchment area of 63,700 km² (Figure 3.7). Prypjac, the main tributary of Dniapro, originates in the Volyn Region of Ukraine; it flows in a latitudinal direction

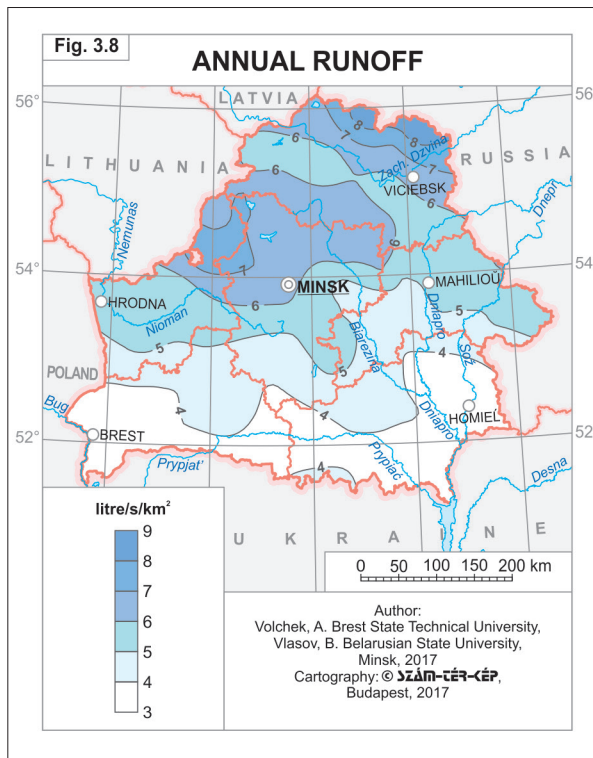


through the southern part of Belarus and then re-enters Ukraine. The length of this river in Belarus is 500 km, and its water catchment area covers 53,000 km².

The biggest river in the Baltic Sea drainage basin is the Zach. Dzvina, with a length of 1,020 km and a catchment area of 87,900 km². The Belarusian part of the river is 328 km long and has a water catchment area of 33,200 km². The Nioman, and its tributary the Vilija, are major rivers in the Baltic Sea drainage basin; both originate in Belarus and flow to Lithuania. The length of the Nioman in Belarus is 459 km, while the length of the Vilija is 264 km.

In terms of the availability of **water resources**, the situation in Belarus is relatively favourable. The mean annual discharge of all rivers is about 57.9 km³ with 34.0 km³ of this amount coming from the territory of Belarus. The average annual runoff in Belarus ranges from 8.5 l/s/km² in the northern part of the country to 3.5 l/s/km² in the south (Figure 3.8).

In Belarus there are around 10,780 **lakes** with a total surface area of 1,500 km² and total water volume of 5,874±341 million km³. The geological



formation of lakes was associated with the glaciation (till 12–13,000 years ago), to much less extent by karst processes, and the generally high water content of the soil. Most of the lakes are concentrated in the Belarusian Lakeland (*Paazierje*) in the north of the country and in Belarusian Paliessie in the south. Lakes of small surface area (less than 0.01 km²) prevail. The biggest lake is Narač in the Miadziel district (79.8 km²), while the deepest is Doŭhaje in the Hlybokaje district (53 m).

Wetlands originally covered 19.9% of the country (4.13 million ha). Most of the wetland comprised peatlands, which occupy 14.2% (2.9 million ha) of the total area of Belarus. There are three types of wetlands which are classified on the base of mineral nutrient supply and vegetation: mires (fen, low-moor; eutrophic), transitional (poor fen; mesotrophic) and bog (high-moor, raised bogs; oligotrophic). Mires account for 77% of the total wetland area of Belarus (*Figure 3.9*); the share of bogs is about 19%, and that of the transitional type is about 4%. By now only 860 thousand ha of wetlands remained in their natural state. One of the largest bogs is Jehnja (20 thousand ha), which lies in the northern part of Belarus.

Wetlands in a natural state are important for the conservation of biological and landscape diver-

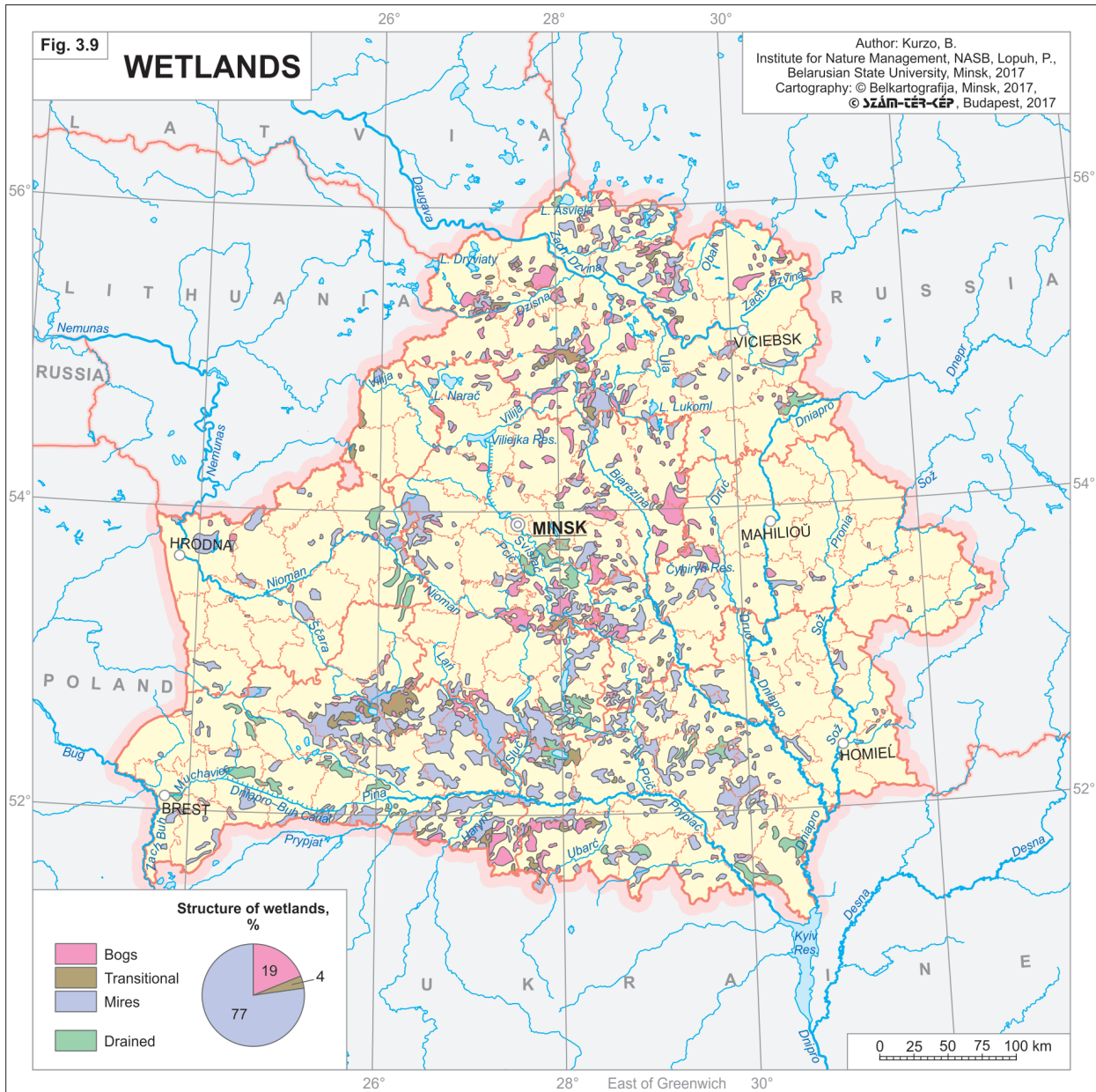
sity and for the regulation of the hydrological and biochemical cycles. Each year, peatlands remove about 900 thousand tonnes of carbon dioxide from the atmosphere and produce 630 thousand t of oxygen. About 500 million tonnes of carbon has been accumulated in the peatlands of Belarus. Drained **peatlands** are widely used in agriculture and forestry. For many years, peatlands were used for peat extraction for combustion or as organic fertilizers. Over the past five years, the annual production of peat was 1.7–3.2 million tonnes, which is used mainly as fuel. Around 500 thousand ha of peatlands have been degraded, owing to drainage, peat extraction and intensive agricultural use.

Soils

The soils of Belarus were formed through the interaction of soil forming factors in a temperate and moderately humid climate with mostly high groundwater levels. The soils of Belarus developed on a base of glacial deposits and alluvial, aeolian and peat sediments. The most common soil-forming processes are humus-accumulation, podzolization, gleying, and peat accumulation.

Belarusian soil cover is highly heterogeneous. In general, one can find the following main types of the soils in the country (*Figure 3.10*): retisols – about 45%, luvisols –19%, histosols –15%, fluvisols –9%, gleysols and stagnosols –9%, as well as some podisols and leptosols. There is a clear predominance of semi-hydromorphic soils over auto-amorphic soils. The fertility of the soils is mostly moderate. The conditions for biomass production vary significantly. The generally favourable agro-ecological potential is limited principally by soil degradation processes, acidification, an extreme moisture regime, and unfavourable changes in the biogeochemical cycles of elements.

The main **soil degradation** process is erosion. Eroded soils account for about 10% of arable land, while around 40% are at risk of erosion. Eroded soils are confined mainly to the hills. Deflation is a major danger in the southern part of Belarus, where sand and drained peat soils predominate. Permanent soil acidification is caused by wash-out with average losses of 300 kg/ha CaCO₃. Half a century of liming in Belarus has significantly reduced soil acidity: the average pH has increased from 4.9 to 5.9 on arable soils. Now only 5% of the

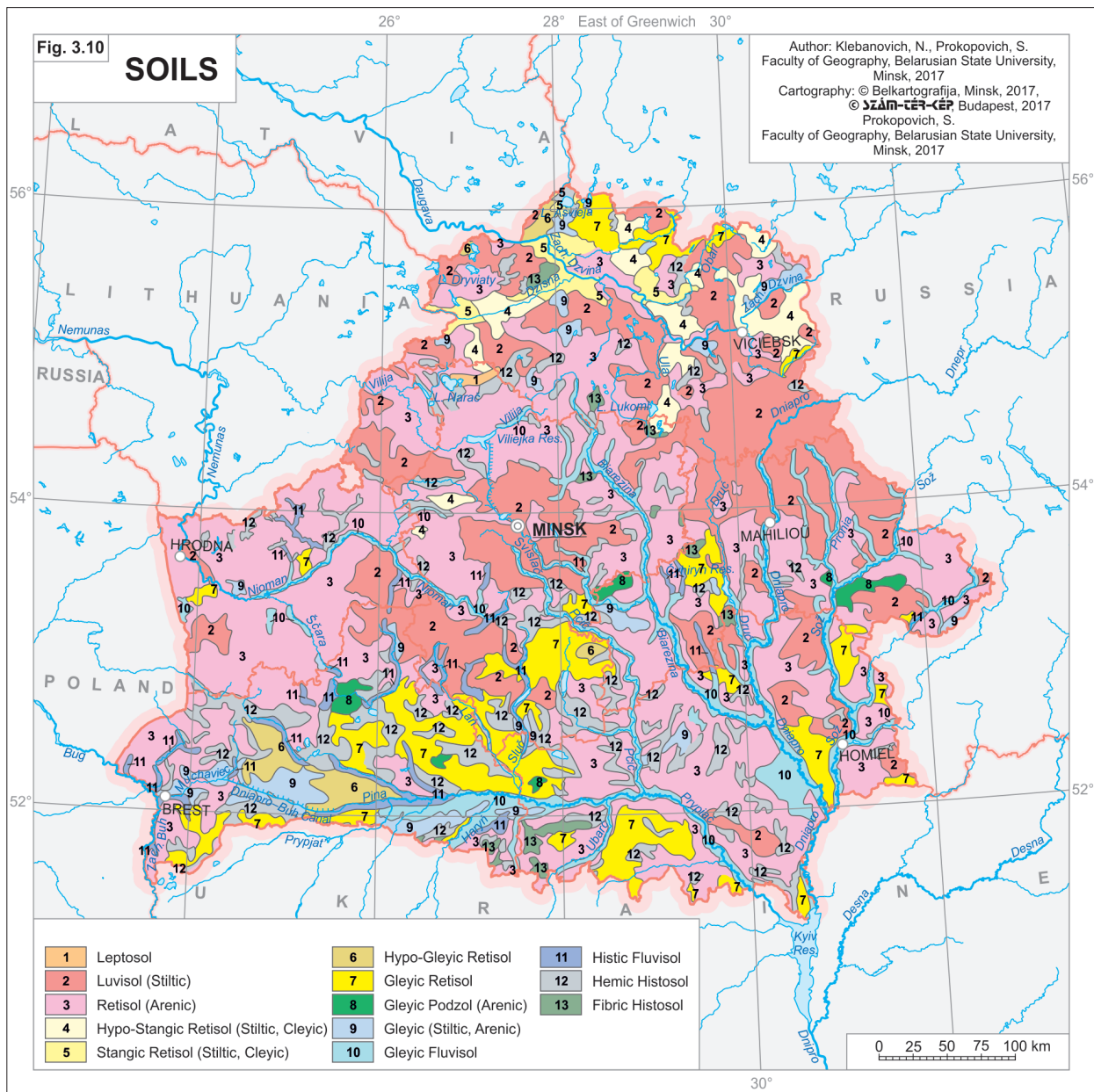


arable soils have a pH of less than 5.0. The soils of Belarus have a low humus content. Over the past two decades, the average content of humus in arable soils has steadied at 2.2%, an increase over the previous 30 years of 0.5%. Belarus has a relatively high proportion of peat soils.

Vegetation

Two biomes meet on the territory of Belarus: the Eurasian taiga and the European deciduous forest. The proximity of the forest-steppe zone

and the complex history of evolution have resulted in a wide variety of flora and vegetation. Natural vegetation covers 66% of the territory of Belarus, comprising forest, meadow, wet shrubs and aquatic vegetation. Forest vegetation is predominant, accounting for 8.2 million ha or 39.4% of the total area (Figure 3.11). Belarusian forests are very diverse, with 111 types of forest and more than 800 plant associations. In terms of tree species, the forests are divided into coniferous, mixed, broad-leaved and secondary types. The main forest-forming species is pine, accounting for 50.6% of forested lands. Birch makes up



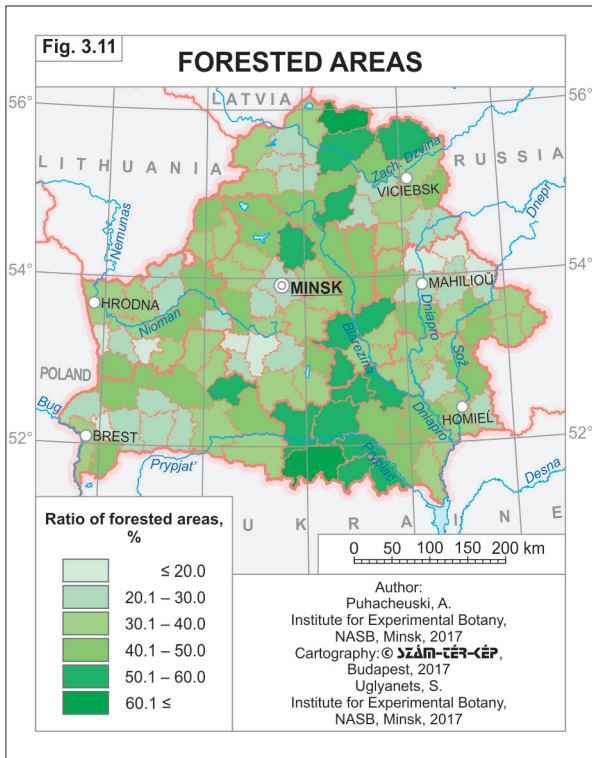
23.2% of forested lands, spruce – 9.3%, black alder – 8.6%, and oak – 3.4%. Intrazonal meadow vegetation covers 3.2 million ha or 15.6% of the territory of Belarus. Only 873 thousand ha or 2.3% of the territory of the country comprises azonal vegetation of natural swamps, while water vegetation accounts for 470 thousand ha.

Land use

According to the State Land Cadaster of January 1, 2015, the total land area in Belarus is 20.76 million ha, including 8.4 million ha

(41.4%) of agricultural land, 9.4 million ha (45.3%) of forest land, 540.0 thousand ha (2.6%) of meadows, 859.2 thousand ha (4.1%) of bogs, 469.2 thousand ha (2.3%) of water areas, 504.2 thousand ha of built-up areas and 396.0 thousand ha of transport and communication areas (Figure 3.12).

During the period 1950–2015, substantial changes were seen in the structure of land use. There was a steady fall in the amount of agricultural land, with a decrease of about 2.2 million ha in the 65-year period. At the same time forests and land with shrub vegetation increased by 3.1 million ha.



About 5.5 million ha or 2/3 of agricultural land is arable land. Thus, there are 0.92 hectares of agricultural land per person in Belarus and 0.56 hectares of arable land. Much of the drained land is used by the agriculture. The drained agricultural land area includes 1.8 million ha of mineral soils and 1.1 million ha of peat soils.

The areas affected by Chernobyl radioactive fallout are generally agricultural or forested. More than 1.8 million ha of agricultural land in Belarus (about 20% of its total area) was affected by Cs-137 contamination. Owing to high density contamination, 265.4 thousand ha of agricultural land was withdrawn from use. Over the 30-year post-accident period, the area of agricultural land contaminated by caesium decreased by 35.7%.

Landscapes and physical geographical subdivisions

Two kinds of **landscapes** are dominant in Belarus, covering about 35% of the country: fluvio-glacial and secondary-moraine types (*Figure 3.1*). Fluvio-glacial landscapes with mixed forests (coniferous and deciduous) on soddy-podzolic sandy soils are widespread at elevations of

140–190 m. These landscapes are mostly uncultivated with a high percentage of forest coverage (up to 40%). Secondary-moraine landscapes with mixed forests on soddy-podzolic sandy-loam soils have arisen on the plains with underlying deposits of moraine with an elevation of 150–180 m.

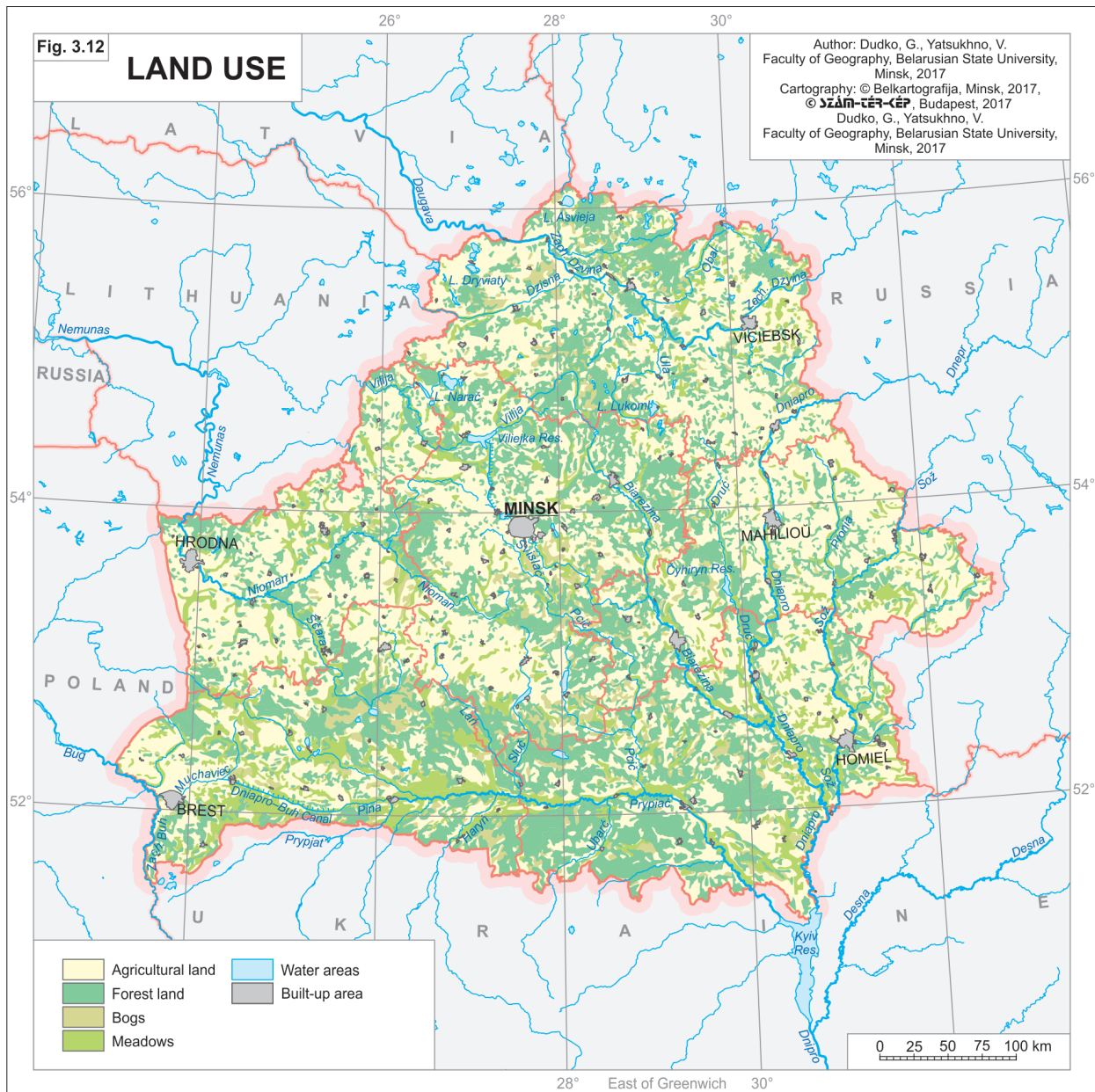
In terms of denudation and geomorphology, conditions change in Belarus from north to south, resulting in latitudinal zonation. The **Belarusian Lakeland** (*Bielaruskaje Paazierje*) in the North is characterized by young geological features that were formed predominantly through the glacial accumulation of the Weichselian (*Paazierje*) glaciation. The main genetic types of relief include marginal glacial uplands and escarpments, as well as ground-moraine plains, which are surrounded by vast areas of flat glacial-lacustrine lowlands and plains with numerous lakes.

The predominantly glacial-accumulative and significantly denuded relief of the Warthe stage of the Saalian (*Sož*) glaciation prevails in the region of hills and ridges of Central Belarus. As a unique geomorphological feature, the WSW-ENE stretching hills of the **Belarusian Range** (*Bielaruskaja hrada*) form the watershed between the drainage basins of the Black and Baltic Seas.

The main relief feature of the **Pre-Paliessie** (*Peradpaliessie*) region are the gently undulating plains, the elevation of which decreases gradually from north to south. In terms of their origin, fluvio-glacial (outwash) and moraine-fluvio-glacial plains prevail.

The **Belarusian Paliessie** (*Bielaruskaje Paliessie*) includes vast flat and swampy plains with the ancient and flattened relief of the Drenthe stage of the Saalian (*Dniapro*) glaciation, including remnant fragments of marginal glacial formations. In terms of relief genesis, heavily swamped alluvial, lacustrine and lacustrine-alluvial lowlands predominate. Landforms of aeolian accumulation, as well as lake hollows of the remnant and oxbow types, are widespread and various.

The complex **physical-geographical subdivision** developed by Belarusian geographers reflects the structure, diversity and hierarchy of the studied entities. The taxonomic units of the subdivision are as follows: country – province – region (*voblasć*)- district (*Figure 3.13*). The provinces were established based on their orographic characteristics and elevation. The borders of the



physical-geographical provinces and districts tend to reflect geological or geological-geomorphologic factors.

Environmental quality

The ecological situation of Belarus has been relatively stable in recent years. The national environmental management system, coupled with a high proportion of natural ecosystems (63.6% of the country), provides an acceptable level

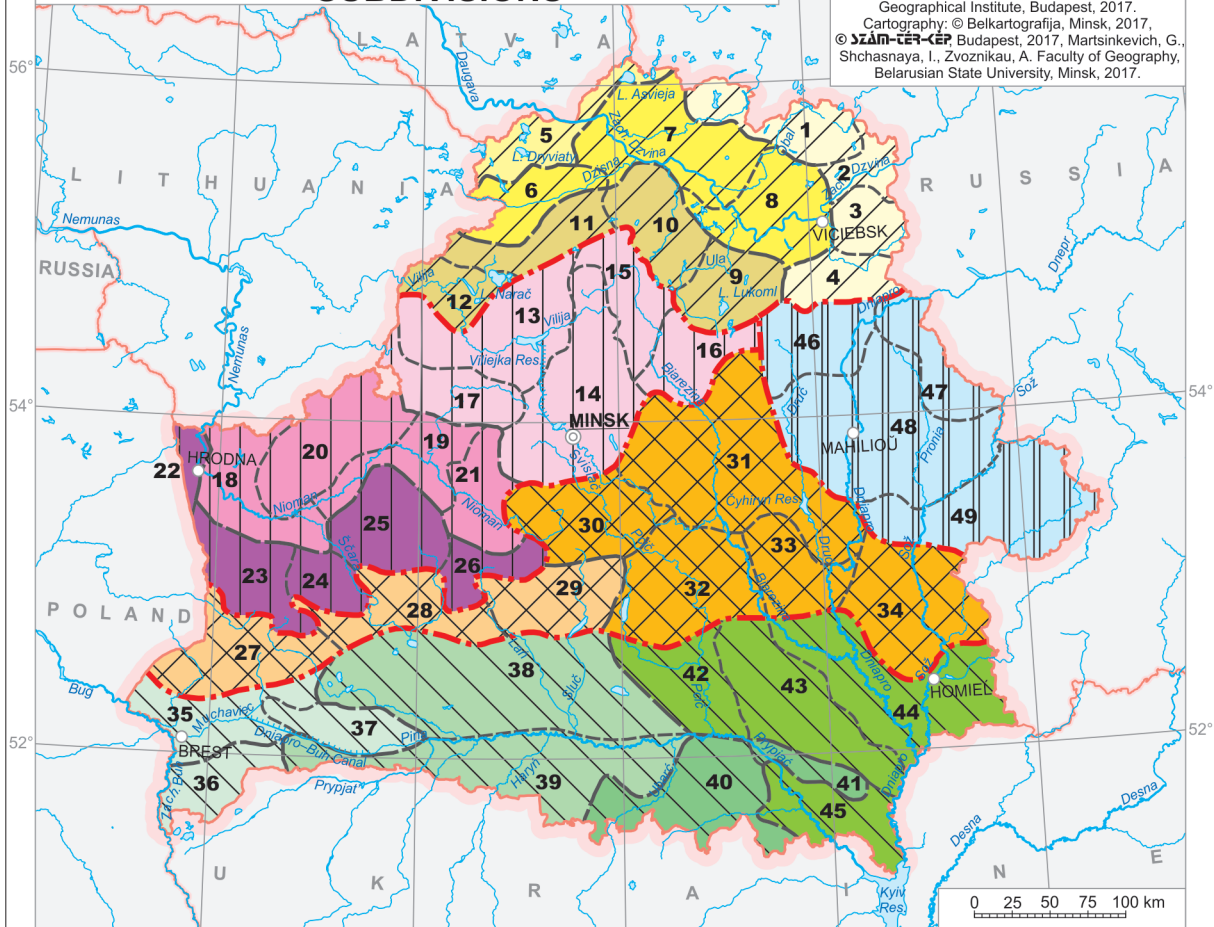
of environmental quality. Belarus does suffer, however, from environmental problems relating to radiation (see the chapter on Chernobyl), air pollution, pollution of surface and ground water, soil degradation, and waste accumulation.

Air pollution in Belarus is determined by emissions and pollutants from local and transboundary sources. According to research conducted under the auspices of the EMEP Program (Cooperative Program for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe), the following pollut-

Fig. 3.13

PHYSICAL-GEOGRAPHICAL SUBDIVISIONS

Author:
 Martsinkevich, G., Shchasnaya, I., Zvoznikau, A.
 Faculty of Geography, Belarusian State University,
 Minsk, 2017. Karácsonyi, D. MTA CSFK
 Geographical Institute, Budapest, 2017.
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 Shchasnaya, I., Zvoznikau, A. Faculty of Geography,
 Belarusian State University, Minsk, 2017.



Provinces

- Lakeland
- Western Belarus
- Pre-Paliessie
- Paliessie
- Eastern Belarus

Regions

- Viciebsk Lakeland
- Braslaŭ Lakeland
- Dzvina
- Narač-Ušacy Lakeland
- Central Belarusian Ridge
- Nioman
- Southwestern Belarusian Ridge
- Western Pre-Paliessie
- Eastern Pre-Paliessie
- Bresckae Paliessie
- Prypiackae Paliessie
- Mazyrskae Paliessie
- Homiełskae Paliessie
- Dniapro

Boundaries

- Provinces
- Regions
- Districts

Districts

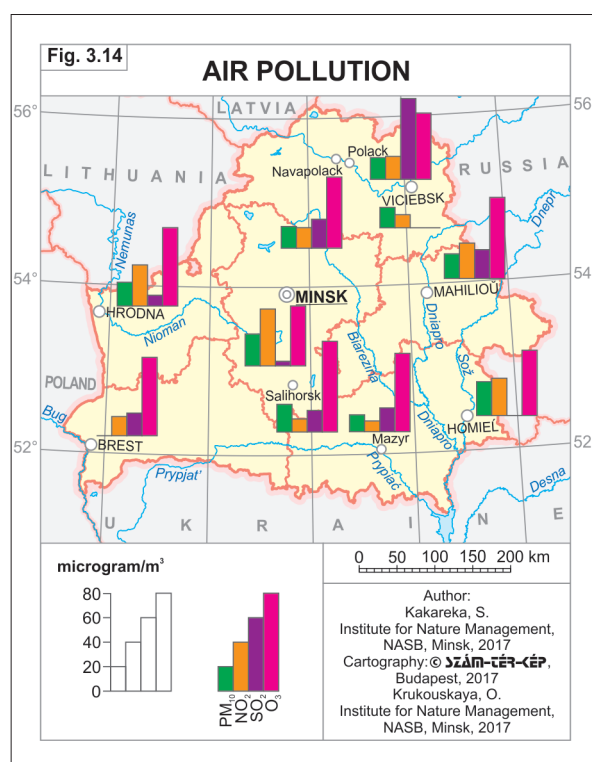
- 1 Nieščarda–Haradok Upland
- 2 Suraž Lowland
- 3 Viciebsk Upland
- 4 Lučosa Lowland
- 5 Asveia–Braslaŭ Ridge
- 6 Dzvina Lowland
- 7 Polack Lowland
- 8 Šumilina Plain
- 9 Čašniki Plain
- 10 Ušacy–Liepieł Upland
- 11 Švenčionys Ridge
- 12 Narač Plain
- 13 Viiiejka Plain
- 14 Ašmiany Upland
- 15 Minsk Upland
- 16 Upper Biarezina Lowland
- 17 Barysaŭ Plain
- 18 Middle Nioman Lowland
- 19 Upper Nioman Lowland
- 20 Lida Plain
- 21 Stoŭbcy Plain
- 22 Hrodna Upland
- 23 Vaŭkavysk Upland
- 24 Slonim Plain
- 25 Navahrudak Plain
- 26 Kapył Ridge
- 27 Pružany Plain
- 28 Baranavičy Plain
- 29 Sluck Plain
- 30 Puchavičy Plain
- 31 Central Biarezina Plain
- 32 Babruisk Plain
- 33 Ola Plain
- 34 Čačersk Plain
- 35 Vysokae Plain
- 36 Malaryta Plain
- 37 Zaharadze Plain
- 38 Jasielida–Sluck Lowland
- 39 Middle Prypiač Lowland
- 40 Mazyr–Lielčycy Plain
- 41 Chojniki–Brahin Plain
- 42 Kapatkievičy Plain
- 43 Vasilievičy Lowland
- 44 Rečyca–Sož Lowland
- 45 Kamaryn Lowland
- 46 Orša Upland
- 47 Horki–Mscislaŭ Upland
- 48 Orša–Mahilioŭ Plain
- 49 Kastiukovičy Plain

ants were annually deposited on the territory of Belarus (2012): 92.9 thousand tonnes of oxidized sulphur, 58.6 thousand tonnes of oxidized nitrogen, 96.0 thousand tonnes of reduced nitrogen. In 2013, annual emissions from local sources amounted to 51.3 thousand tonnes of sulphur dioxide (main sources: power stations, oil refineries), 162.5 thousand tonnes of nitrogen oxide (main sources: road and off-road transport, power stations), and 150.1 thousand tonnes of ammonium (main source: livestock). Since 1990, the national emissions of sulphur dioxide and nitrogen oxide dropped by more than 90% and 63% respectively.

The reduction of ammonium emissions was less significant. In combination with a decreased transboundary flows of sulphur, these developments have resulted in a substantial reduction of acidification loads and a slight decline of eutrophication loads. Since 1980, Belarus has experienced a 79% reduction in total sulphur deposition and a 38% reduction in oxidized nitrogen deposition.

Air pollution levels in Belarus's urban areas are monitored under the National System of Environmental Monitoring. Regular monitoring covers an area inhabited by 87% of the national population. There are 14 automatic and 66 manual monitoring stations (The State of Environment..., 2014). In 2013, the average annual concentration of particulate matter (PM₁₀) in most cities was in the range of 14–31 µg/m³ (Figure 3.14); in most cases, the concentration does not exceed 60% of the annual mean Maximum Permissible Level (MPL), but in Minsk the concentration is 70–90% of the MPL. In several cities, the maximum daily average concentration of PM₁₀ in the air exceeded the MPL by a factor of 1.5 to 3. In 2013, the PM₁₀ daily average exceeded the double of MPL on 17.8% of all days in Minsk and on 11% of all days in Homiel (The State of Environment..., 2014).

In 2013, the annual average concentration of nitrogen dioxide in the urban air of Belarus ranged from 11 µg/m³ to 58 µg/m³. The daily MPL of nitrogen dioxide was sometimes exceeded in Minsk and Mahilioŭ. Sulphur dioxide usually did not exceed 40–50% of MPL; the daily MPL of sulphur dioxide was sometimes exceeded in Polack and Navapolack. In 2013, in all monitored cities, the daily MPL of ground-level



ozone concentration was exceeded on some days. The number of days with excessive ozone concentration ranged from 14 (in Polack) to 115 (in Salihorsk) and from 6 to 19 in Minsk, depending on the monitoring station.

Surface water quality in Belarus is negatively affected by waste water getting into rivers or lakes. The total amount of waste water entering such bodies of water is approximately 950 million cubic metres per year. The largest amount of waste water is produced by the residential sector and by the power plants. The largest volume of waste water (617 million cubic metres or 69%) is produced in the cities, especially in Minsk, which accounts for around 30% of petroleum products discharged into rivers with sewage, 24% of suspended solids and 21% of organic substances.

Agriculture is the main source of the diffuse pollution of surface and groundwater. The widespread use of inorganic nitrogen and phosphate fertilizers leads to excessive levels of nitrates and phosphates in the groundwater and the eutrophication of surface water.

In this regard, the major pollutants of surface waters are nutrients (ammonium-nitrate, nitrites and phosphates) and organic matter.

According to an assessment using a water pollution index (WPI), the status of surface water in Belarus is satisfactory. In the assessment, most rivers (91% of the observation points) were deemed to be in Quality Class I or Class II (“clean” and “relatively clean”). Some sections of certain rivers (including the Muchaviec and Svislač rivers below Minsk and the River Sož below Homieł) were placed in Class III (“moderately polluted”).

The water resources of Belarus are sufficient to provide for current and future water needs for different purposes. The water exploitation index in Belarus (2.8–3.0%) indicates that the total water supply for all sectors of economic activity does not significantly affect the quantitative parameters of the country’s water resources. Domestic water consumption per capita in Belarus is in line with the level of water consumption in most European countries.

Drinking water in Belarus comes mainly from groundwater. In 2013, the Ministry of Health reported that 19.3% of the samples failed to meet health standards based on the sanitary-chemical indicators and 1.4% of the samples failed to accord with standards of microbiological indicators.

The main reason for the poor quality of the groundwater used in the central water supply is the high content of iron and, to a lesser extent, manganese, which is caused by natural factors. In some instances, however, groundwater is polluted by nitrates, ammonium, chloride and other chemicals due to human activities.

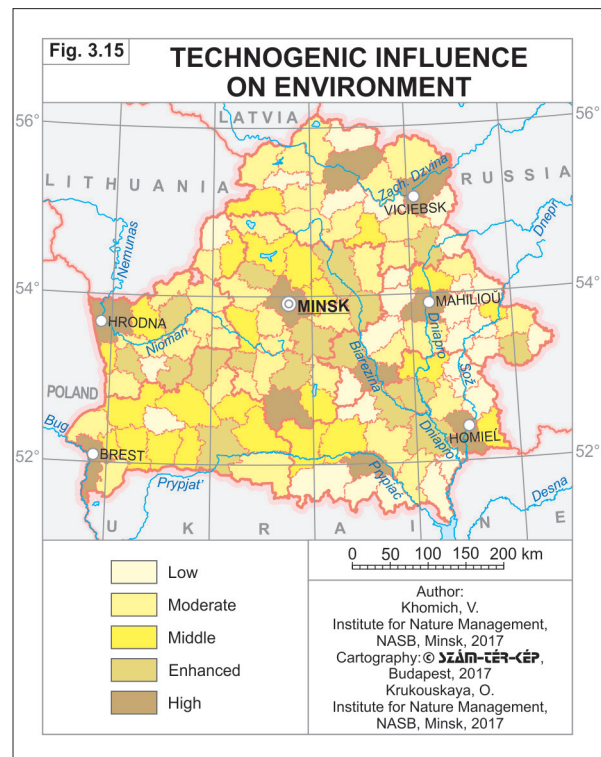
Soil pollution. The problem of the chemical contamination of soil is less acute in Belarus than in Western Europe. This reflects a less intense and less prolonged anthropogenic impact on the environment. However, chemical contamination of soils can be observed in certain urban and industrial areas and near major transport routes, municipal and industrial waste dumps, gas and oil facilities, former military bases, mining and other excavation areas.

In urban areas, the major soil pollutants are petroleum products, heavy metals and – to a lesser extent – sulphates and nitrates. Lead and zinc are the principal metal pollutants. The National Environmental Monitoring System revealed that, in one of two of the surveyed settlements, the oil content of the soil exceeds the maximum permis-

sible concentration by a factor of five to fifteen. Meanwhile, zinc exceeds the permissible level by a factor of two or more in 14 cities, as does lead in 9 cities.

The share of zinc-contaminated soil varies from 2.9% in Mazyr to 56.8% in Minsk (2013). The main pollutants in soils near mechanical engineering plants are zinc, cadmium, and – to a lesser extent – copper, nickel, lead and chromium. Soil contamination by polycyclic aromatic hydrocarbons, petroleum products and polychlorinated biphenyls are typical near energy, chemical and petrochemical industrial plants. In general, the chemical contamination of soils in Belarus is local and has no significant impact on the ecological state of the environment at the regional level.

Solid waste. In 2013, about 40 million tonnes of industrial waste and 4 million tonnes of municipal waste were produced in Belarus. The share of halite (rock salt) waste and sludge resulting from the extraction of ore and the production of potash makes up for 50% of the total amount of solid waste. To date, near the town of Salihorsk, about 1 billion tonnes of salt waste have been accumulated. The other type of waste is phosphogypsum, which arises at the Homieł Chemical Plant (657.5 thousand tonnes in 2013).



Almost half of the waste generated in 2013 was recycled; this is the highest value in recent years. The recovery of secondary materials from municipal waste amounted to 8.8%. The accumulation of waste in Belarus is uneven. More than half of the waste is generated in the Minsk region. Unused waste is disposed at more than 200 landfills. Most of these sites have natural or artificial barriers preventing the spread of contamination. However, high concentrations of pollutants exceeding the limit values are observed in the groundwater of many landfills.

Technogenic loads. The extent of the anthropogenic impact on the environment of Belarus (based on the volumes of industrial and municipal waste, the discharge of waste water and emissions into the atmosphere) is shown in *Figure 3.15*. The anthropogenic impact on the environment is most severe in the administrative districts of the major cities and near industrial enterprises: Minsk, Viciebsk, Brest, Homieĺ, Mahilioŭ, Hrodna, Babrujsk, Mazyr, Polack and Salihorsk.

Nature conservation areas

To preserve the landscapes and biological diversity of Belarus, a system of protected areas has been established, including 1 reserve, 4 national

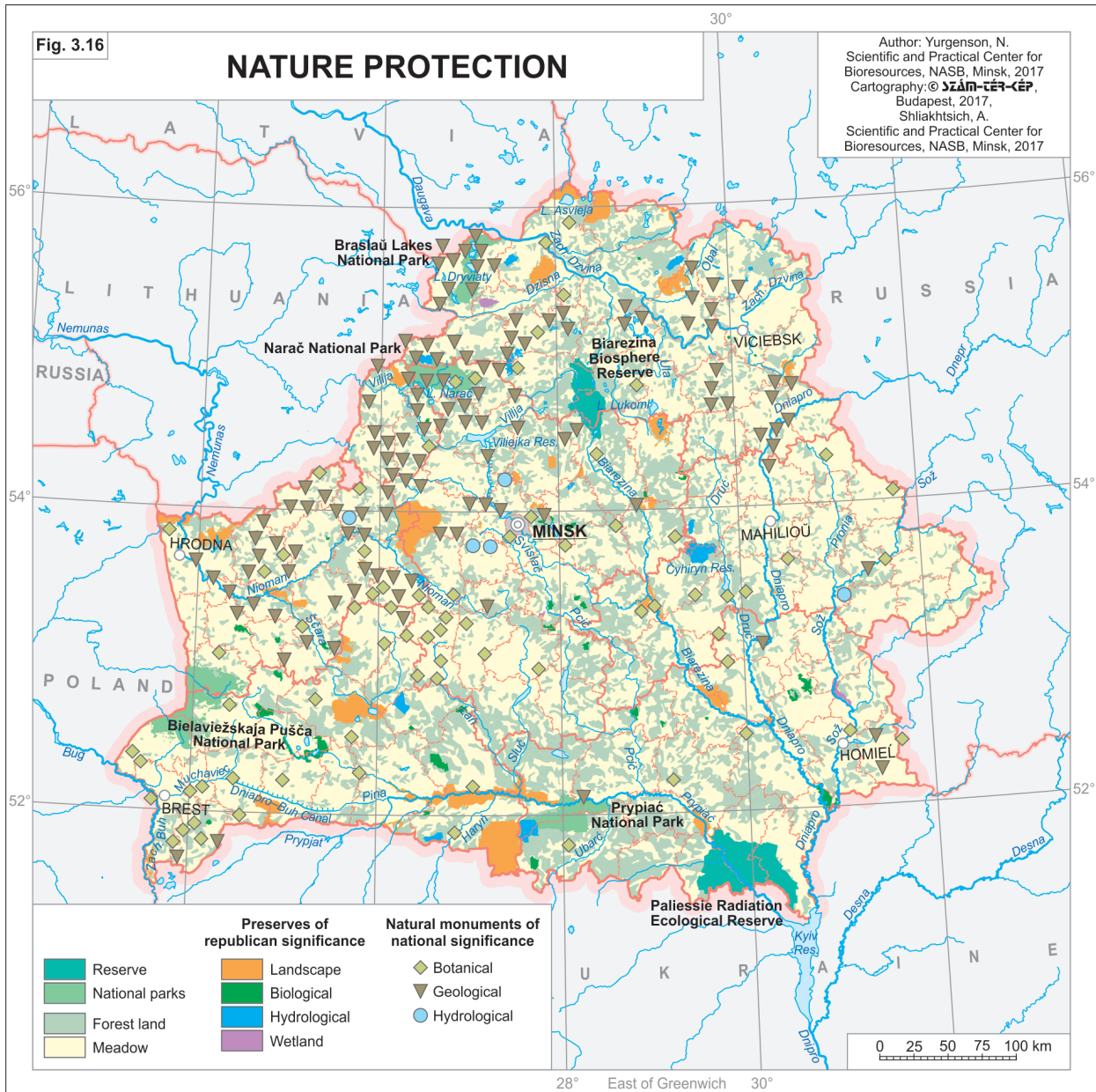
parcs, 85 nature reserves of national significance, 267 local reserves and 874 nature monuments (*Figure 3.16*). The protected natural areas in Belarus constitute a part of the pan-European ecological network, thereby facilitating the diversity of fauna and flora. In total, the protected areas cover 1,723 thousand hectares, or 8.2% of the national territory. Forests (about 58%), wetlands (about 20%), meadows (about 17%), river valleys and lakes (about 5%) are comprised by the protected natural areas.

The Biarezina Biosphere Reserve, the Bielaviežskaja Pušča (Bielavieža Forest) National Park and the Prybuhskaje Paliessie (literally Paliessie along the River Buh) reserve have been recognized by UNESCO as Biosphere Reserves. The Western Paliessie biosphere reserve, which straddles three countries (Belarus, Poland and Ukraine), arose out of the Prybuhskaje Paliessie biosphere reserve. The Bielaviežskaja Pušča National Park features on the UNESCO World Heritage List. Some of the reserves are used by birds during migration and are included on the list of Wetlands of International Importance (Ramsar sites).

The Biarezina Biosphere Reserve was created to preserve large-scale forest-marshes in their natural condition. Such areas used to be common in the zone of mixed forests in Eastern Europe. The Bielaviežskaja Pušča National Park is the oldest



"Mountains" (mine dumps) emerged by human activity on the flat Pre-Paliessie near Salihorsk, one of the largest potash deposits in the world. (Photo: Karácsonyi, D. 2011)



reserve in Europe; it was first mentioned in the early 15th century and declared as a royal hunting reserve in 1543. Bielaviežskaja Pušča extends westward also across the border to the territory of Poland and consists of preserved primeval forest areas where many of the trees are 200–300 years old and some oaks are up to 600 years old. The forest is famous for the world’s largest wild-ranging herd of the European bison. This species was hunted to complete extinction by the early 20th century, but it survived in some zoos and thus could be reintroduced in the wilderness. Wolves, deer, elk and wild boar appear also in the national park’s fauna.

The Braslaŭ Lakes (*Braslaŭskija aziory*) National Park is situated in the north of Belarus. The largest health resort and tourist centre in Belarus arose at the site of the Narač National Park.

The Paliessie Radiation Ecological Reserve lies in the south-east of the country, near the border with Ukraine. The area was exposed to radioactive contamination at the time of the Chernobyl disaster. In a legal sense, it is not one of Belarus’s protected areas. Even so, it is a large nature reserve and a unique scientific testing ground for the study of the dynamics of the post-anthropogenic restoration of natural ecosystems.



Chernobyl monument in Brahin. (Photo: Karácsonyi, D. 2010)

4. EFFECT OF THE CHERNOBYL DISASTER

The accident and its consequences

The explosion that occurred at the Chernobyl nuclear power plant in the early hours of April 26, 1986 resulted in the world's largest nuclear disaster of the 20th century. The core of reactor 4, an RBMK-type reactor with a graphite moderator, exploded. The impact on Belarus, which at the time formed a part of the Soviet Union, was greater than on any other Soviet republic. The disaster had ecological, demographic, social and economic consequences for Belarus, as the site of the disaster – the nuclear power plant near the town of Prypjat', Ukraine (Pripyat', Rus.) – lay barely a few kilometres from the Belarusian border. Moreover, owing to the weather conditions in the immediate aftermath of the accident, much of the pollution occurred in Belarus. Indeed, 48.8 thousand square kilometres of land in Belarus – 23.5 per cent of its total area (207.6 thousand km²) – was exposed to radioactive pollution. The Chernobyl disaster affected a larger geographical area than any previous industrial accident, and the effects of the accident have been felt in the long term. Addressing the problems has been a costly task requiring international cooperation. Overcoming the consequences remains a goal of public importance for Belarus.

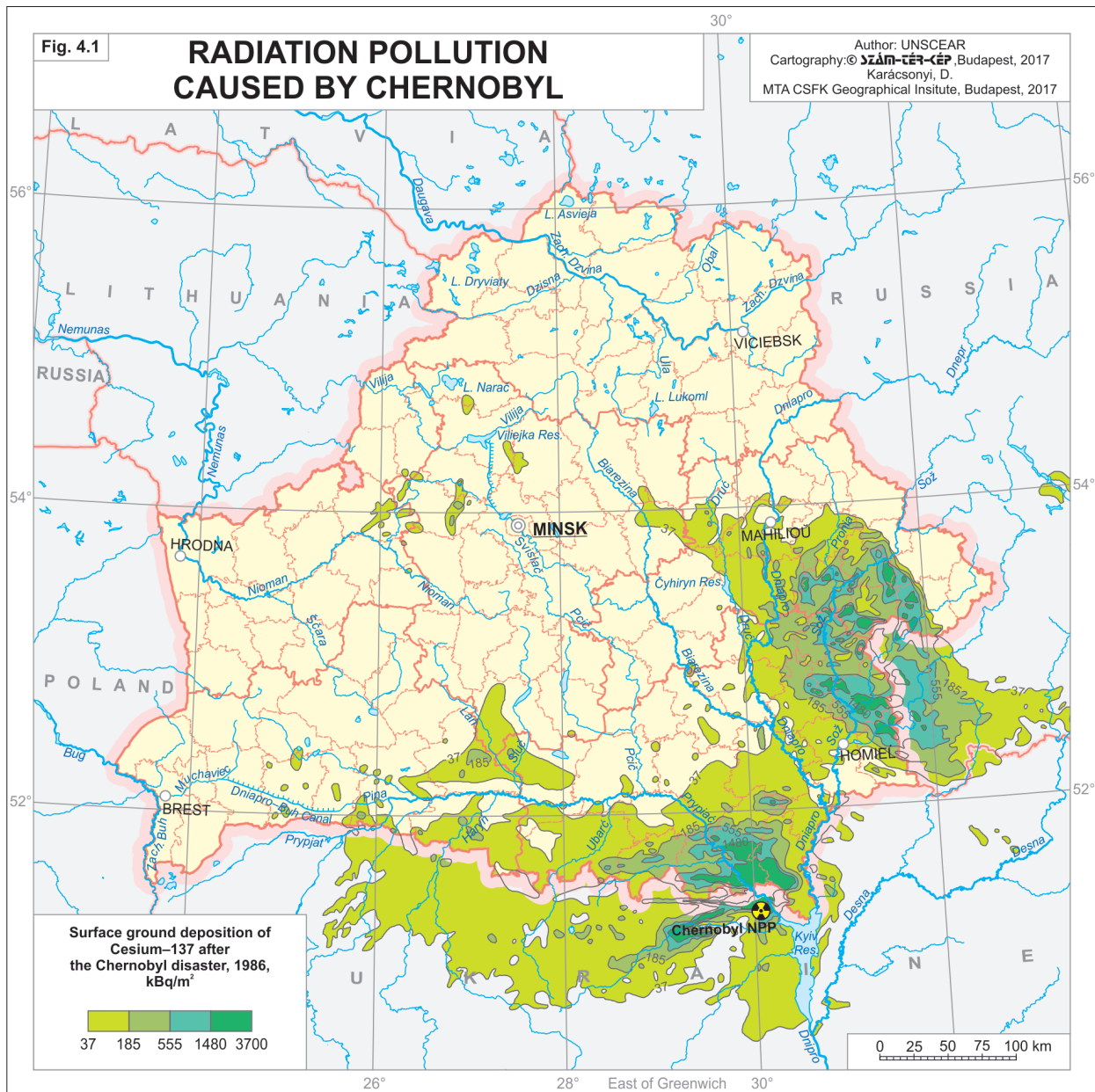
In the course of the accident, the largest area was polluted by the isotope Cs-137 (Caesium-137) (*Figure 4.1*), which had been released from the reactor. Rainfall washed most of this out of the atmosphere in the following nine days, by which time the graphite fire had been extinguished and work could begin on the construction of a sarcophagus that would encase the ruined reactor. The health problems that arose in people after the accident and which are still prevalent, were caused mainly by the short (~8 days) half-life isotope I-131 (Iodine-131).

After the extinction of the reactor fire, the isotopes with a short half-life, which were extremely harmful to human health, rapidly decayed. A year after the accident, the radiation level was just 2%

of what it had been at the time of the accident, and after two years it had fallen to 1% (IAEA 2006). The impact of Cs-137 pollution was felt for a much longer period. Meanwhile, a smaller area – a zone of roughly 30 kilometres around the reactor – was polluted by Sr-90 (Strontium-90), Pu-239 (Plutonium-239) and Pu-240. The Plutonium isotopes have an extremely long half-life. Unlike the aforementioned isotopes, the isotope Pu-241, a significant quantity of which was spilled around the reactor, has a relatively short half-life (14 years), but its decay product, Am-241 (Americium-241) (with a half-life of 400 years), is much more radiotoxic than its parent. This is unique among the emitted isotopes. Moreover, it will reach its maximum concentration a hundred years after the accident (IAEA 2006).

After the disaster it was recognized that Cs-137 would pose the greatest danger for many decades. Accordingly, in the late 1980s, zones were established based on the level of Cs-137 contamination. In Europe, there are 190,000 square kilometres of land where the Cs-137 contamination level exceeds 37 kBq/m². These contaminated areas are roughly divided into four equal parts between Belarus, Ukraine, Russia and the other affected European countries (principally, Sweden, Finland, Austria and Norway). Meanwhile, areas where the Cs-137 contamination level exceeds 185 kBq/m² are to be found only in Belarus (16,000 km²), Russia (8,000 km²) and Ukraine (5,000 km²) (IAEA 2006).

The **physiological effects** on the human body of the increased radiation that stemmed from the disaster continue to be the subject of scientific and political debate, and there is a wide spectrum of opinions concerning the extent of the effects. An increase in thyroid cancer incidence – caused by the isotope I-131, which has a short half-life – is the only instance where a connection with the disaster has been mathematically proven (IAEA 2006). There is no doubt, however, that the stochastic effect of radiation lies be-



hind some of the cancer and other illnesses that have affected the population since the disaster. Evidently, the role of radiation is very difficult to prove when people fall ill years later and when there are multiple other factors – alcoholism, smoking and stress. Moreover, amid the chaos that followed the collapse of communism, it was almost impossible to distinguish between the effects of the socio-economic crisis and the effects of the crisis situation caused by the nuclear disaster itself (Rumyantseva, G. *et al.*, Lochard, J. 1996, Brenot, J. *et al.* 2000). According to Jaworowski (Jaworowski, Z. 2010), the consequences of the

disaster were exclusively psychological, and most of the deaths are attributable to the shock caused by evacuation/resettlement and the accompanying social deviance (e.g. increased crime and alcoholism) rather than to radiation. Greenpeace represents views at the other end of the spectrum. So-called radiophobia is, nevertheless, a subject that has been widely researched (Lochard, J. 1996).

After the disaster, in the final years of the Soviet era, two solutions – or their combination – were employed to mitigate the effects on the local population: radiological decontamination and the resettlement of people in non-contam-

inated areas. A radiation contamination survey served as the basis for both endeavours. It was only in the end of 1980s that the results of this survey were made public and accessible to all. Many calculations were made for the costs – per person and per household – of decontamination and of evacuation/resettlement. Resettlement, the establishment of new homes, seemed clearly to be more expensive, but it was also the much safer solution (Tykhyi, V. 1998).

The **status of areas affected by the Chernobyl disaster** is regulated by laws, some of which were adopted prior to the collapse of the Soviet Union. Most of the legal regulation, however, was left to the successor states, among them Belarus (Matsko, V.P. 1998). The first (uniform) regulation related to the evacuation area (the 30-km zone). Subsequently, in late 1988, the so-called 350 mSv (milli-Sievert) concept was adopted, whereby decontamination efforts were suspended in those areas where calculations had shown that the local population would receive a 70-year (“lifetime”) dosage of at least 350 mSv. Residents of such areas were resettled in non-contaminated areas (Malko, M.V. 1998). The 350 mSv concept immediately became the subject of sharp criticism in Belarus (Malko, M.V. 1998), however in Japan after the Fukushima disaster the temporary evacuation is planned to be lifted where the doses are below 20 mSv per year (!) (Team in Charge... 2013). Given the impossibility of determining the dosage for each person, the calculation was made for the resident population as a whole. This inevitably caused mistrust among people. The general position was that in the mainly rural areas where healthy foodstuffs could no longer be produced, it was futile to compel the local population to stay. Thus, over and above the original concept, the decision was taken in Belarus to evacuate and resettle an additional 100,000 people. This decision was implemented in large part at the very beginning of the 1990s.

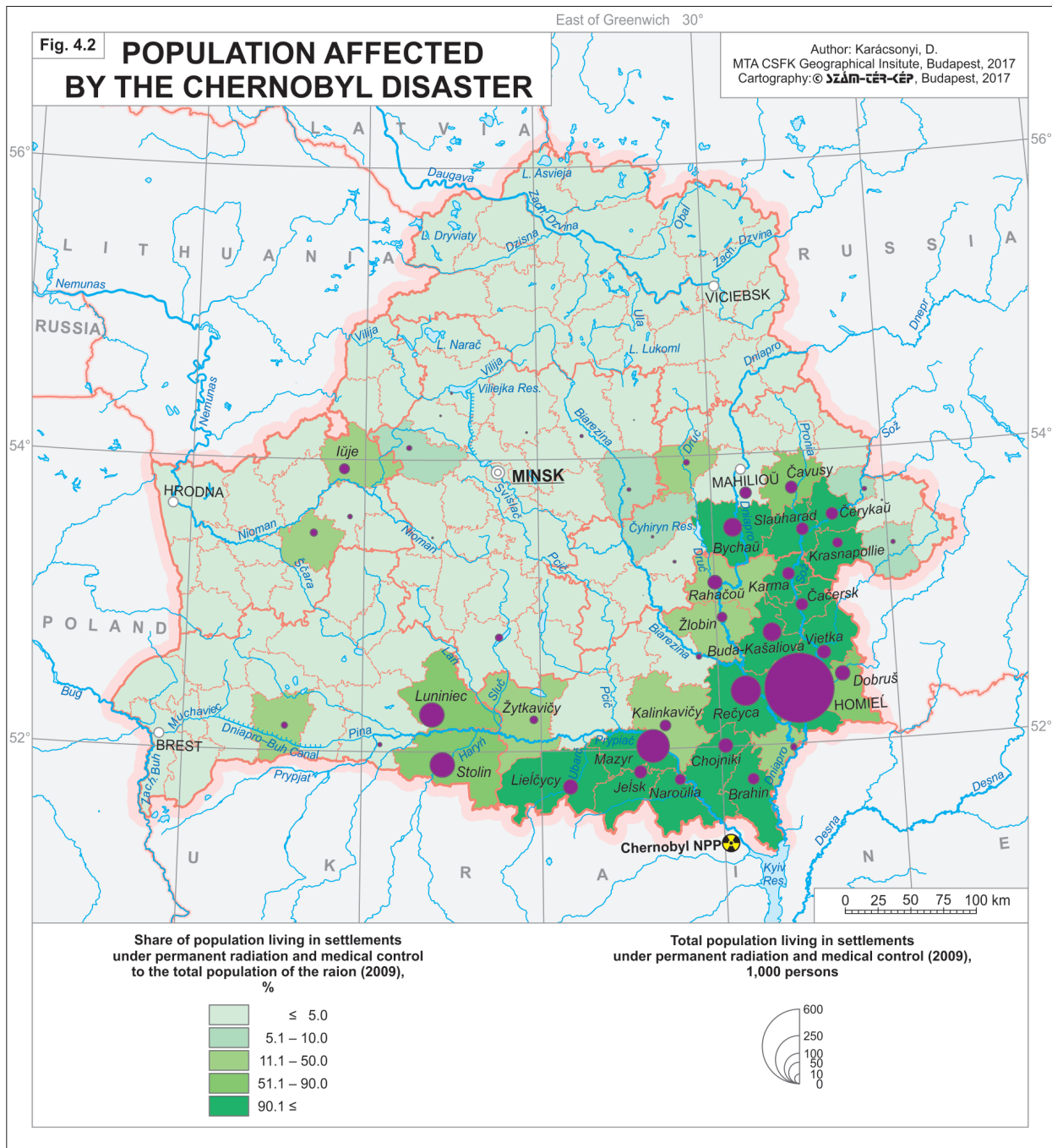
The half-life of Cs-137 is around 30 years, which means that 30 years after the disaster the quantity of isotope released in 1986 decreased by roughly a half, and so the radiation levels will also decline significantly over time. As a result of the natural degradation and purification processes, the categorization of the zones will change as time passes. Economic restrictions will be lifted, and the area of the various zones will be reduced. In Belarus, a government-run campaign (“State Program on

Overcoming the Consequences of Chernobyl, 2011–2015 and the period to 2020”) was launched to rehabilitate the contaminated areas (Jaworowski Z. 2010). The state program aims to create a system for providing state administration bodies and the public with information on the problems arising from the consequences of the nuclear disaster.

The impact on society

The **contaminated areas** are home to 13% of Belarus’s population. Almost a half of the people affected live in the city of Homiel (*Figure 4.2, Table 4.1*). On January 1, 2008, in the contaminated areas, there were 2,614 settlements with a population of 1.3 million. The Homiel and Mahilioŭ regions, which were among the worst affected, had a population of 1.13 million people, or 86% of the total number of the inhabitants of the contaminated areas. Under the urban resettlement scheme, the residents of five towns in the contaminated areas were entitled to resettlement. Twelve additional towns are situated in the zone of periodic radiation control. Only one in three residents in the contaminated areas are rural dwellers; many of these people live in rural areas to the north of Homiel.

Even in the absence of the Chernobyl disaster, the Paliessie region would be a peripheral and depressed region with substantial out-migration (*Box 4.1*). Life has always been hard in the swampy forests of Paliessie. Major towns were established only on the flood-free sandy ridges along the River Prypiać, which forms an east-west axis. Away from the rivers, which constitute the main transport corridors, the marshland forest has always been unsuitable for human settlement. Accordingly, the population density is necessarily low. In the forested areas, people’s diets have tended, historically, to be based on milk, dairy products, forest fruits and mushrooms. After the nuclear disaster, however, such food products had some of the highest levels of harmful isotopes (Tykhyi, V. 1996). Yet, in the aftermath of the accident, people often made only temporary changes to their diets. They slowly became accustomed to the invisible danger and soon began to consume the products once again, doing so not least because of the economic difficulties.



In the Soviet era, the industrialization of what had been a peripheral area was a priority goal. This resulted in the construction of the Mazyr oil refinery in the first half of 1970s. Further, Paliessie became a focus area for the Soviet nuclear power station construction programme, with the site of Chernobyl NPP at Prypjat' during the 1970s, and of Rivne NPP at Kuznetsov's'k (since 2016 renamed to Varash) in the 1980s in Soviet-Ukraine.

The **post-disaster evacuation and resettlement** process affected altogether 350,000 people (in the period until the 1990s) (Diercke Weltatlas 2008 96. p). However, the various sources give widely different numbers of people affected (492,000 – UN 2002; 326,000 – IAEA 2006). In Belarus, the population increased in the 1980s by 30,000 people each year, while in consequence of the Chernobyl disaster, 125,000 people were resettled in a country with a population of barely 10 million. In other

Table 4.1 Distribution of number of settlements and their population by contamination zoning (2010)

Name of radioactive pollution zone	Number of inhabited settlements/Number of inhabited urban settlements	Population/urban population (thousand people)
Immediate resettlement zone	18/0	3.1/ 0
Resettlement zone	480/5 (Vietka, Naroŭlia, Chojniki, Čačersk, Slaŭharad)	185.1/ 45.5
Inhabited zone of periodic radiation control	904/12 (Luniniec, Mikaševičy, Buda-Kašaliova, Homiel, Dobruš, Jełsk, Rečyca, Vasilievičy, Iŭje, Bychaŭ, Čavusy, Čerykaŭ)	1,120.4/ 690.4
Total	2,402/17	1,308.6/ 735.9

Source: Decree of the Council of Ministers of the Republic of Belarus of February 1, 2010 № 132 "On Approval of list of inhabited localities and places in the radio-active pollution zones and the admission the state of some decrees of the Council of Ministers of the Republic of Belarus".

words, the evacuation affected around 1.3% of the country's total population. The corresponding figure was 0.4% in Ukraine and 0.04% in Russia. In view of the large number of people who were resettled in the 1990s, the recipient regions – in particular the major towns and their environs – saw a relatively more favourable demographic trend. The consequences of the Chernobyl disaster are particularly apparent in the regional demographic processes of the 1990s, but even the evacuations of the 1980s left their mark on the evacuated territories (*Figures 5.1, 6.8*).

By the 2000s, the demographic shifts had subsided. Indeed, a degree of return migration is also detectable. The population of several small towns that lay in the contaminated areas but had been cleaned-up [Naroŭlia, Brahin and Chojniki (*Box 4.2*)] began to grow once more. In marginal areas that have undergone complex rehabilitation, people receive significant state assistance as well as apartments. In such small towns, the presence of young families with small children is striking. New houses and apartments are built with state funding. For this reason, in the contaminated areas, the population is becoming urbanized more rapidly than elsewhere. Indeed, these areas have become Belarus's "most rapidly urbanizing" regions.

Chernobyl did not rewrite the regional demographic structures or the population dynamics. The decline in population would be significant even without Chernobyl, which, however, did accelerate the process (Karácsonyi, D. 2012). Population density was low even before the disaster, and the evacuations merely accentuated this state of affairs. The disaster did, however, fundamentally alter the urbanisation processes and the network of villages. Smaller agrarian villages in remote areas disappeared in significant numbers, whereas small towns and minor urban centres became relatively more important.

In Belarus, state-run companies work the arable land in the contaminated areas, using modern mechanized technology. They are careful to carry out land assessments and avoid micro-depressions and furrows where there is a risk of the isotopes undergoing enrichment (hot spots). Rapeseed, fodder and cereal crops are grown. According to a report issued by the IAEA (2006), in the 15-year period after the disaster, large number of investments were made in Belarus in regions that bore the full brunt of the accident (such investments included schools, hospitals and social facilities).

Box 4.1 Lielčycy district – Potential tourist region eclipsed by Chernobyl?

Lielčycy district is located in the heart of Paliessie, just south of the River Prypiać and near the border between Belarus and Ukraine (*Figure 4.3*). The site of the Chernobyl disaster lies 70–80 km to the south-east. In the north-west section, the Prypiać National Park is to be found, with its

centre at Liaskavičy (Pietrykaŭ district), a popular resort. Due to this specific geographic setting the district has a negative outward image. Still, it possesses favourable natural features that might be instrumental in fighting the “Chernobyl syndrome”.

There is just one urban settlement, the district seat of Lielčy, with around 8,900 inhabitants. Otherwise, there are small villages and scattered settlements. The urbanization rate (34%) is well below the country’s average. Based on population density, Lielčy district ranks the fourth sparsest in the country, after Brahin and Naroŭlia, two districts that were partially evacuated after the disaster, and the traditionally scarcely inhabited Rasony, which lies close to the border with Russia in the north. The population density in the area was very low even prior to the Chernobyl disaster; it was second only to Rasony district in the census of 1979 in Soviet Belarus. The population of the centre Lielčy grew until 1999 and then began to fall, whereas other settlements have long exhibited dramatic population declines.

No major evacuation took place from the district after the Chernobyl disaster, as most of it lay in the zone of voluntary resettlement. Only two smaller villages, Kalinina and Baranava, disappeared. Owing to high radiation levels in these villages, the inhabitants had to be resettled. Subsequently, the buildings were demolished, the ruins buried, and the terrain afforested. Nevertheless, in 61 of the district’s 73 villages, radiation levels are significantly higher; 95% of the district’s inhabitants live in this area, where they are exposed to increased health risks. Most of the district has radiation values varying between 37 and 185 kBq/m² due to contamination with Cs-137. In other words, it lies for the most part in the permanent control zone. Over large tracts of the district, radiation values do not exceed those in Dachstein, Austria or in some Scandinavian localities that are visited by thousands of tourists annually. In the south-eastern part of the district – nearer Chernobyl – the radiation values vary significantly. (For instance, the values are as high as 555–1480 kBq/m² at the sites of the two evacuated villages mentioned above.) On the other hand, the accident did not affect the north-eastern portion of the district.

Lielčy district is an extremely peripheral area; it is crossed by neither a major road nor a railroad. The nearest urban centre is Mazyr, which lies 80 km away. To the west, there are the Almansk marshes, which occupy an extensive area within the Prypiač valley. Consequently, there is no direct traffic connection to the Brest region. Access to other districts in the Homiel region is by way of two bridges over the River Prypiač, in Turaŭ and in Mazyr. The national border with Ukraine lies in the south; the only crossing at Hluškavicy leads to the Ukrainian Polissia, an even more deprived area.

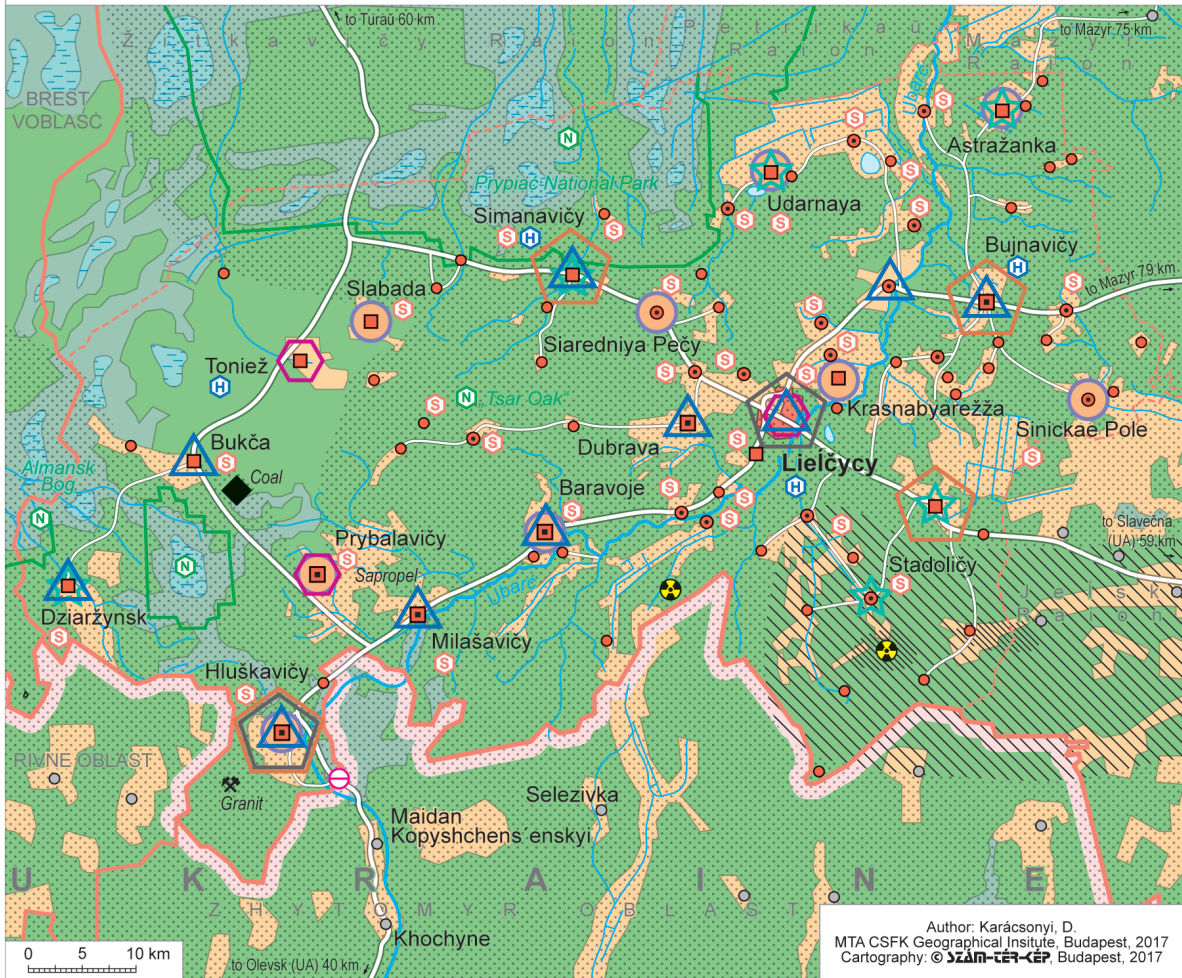
The resources of the district’s economy are also rather poor. Mineral resources include granite (Hluškavičy), sapropel (Prybalavičy), brown coal (Bukča) and peat. The most important raw material is wood and granite, however, in the lack of a rail connection they must be transported by road, which is more expensive.

Forests cover two-thirds of the territory, while the cultivated area extends over barely a tenth of the district. The share of arable land, mainly on sandy skeletal soils, is 6%. The higher radiation burden has exacerbated these unfavourable agroecological conditions. Agricultural produce is subject to radiation controls, where the strict threshold values are somewhat higher than the EU standards. However, food processing is also a major aspect of the economy. Forest produce that is very sensitive to radiation, such as mushrooms and berries (raspberry, blueberry, and cranberry), have considerable economic importance. A forest management company has a newly (2006) established cranberry plantation on 10 hectares near Lielčy; the annual yield is 20 tonnes of fruit.

Arable land is used to produce rye, rape, buckwheat and fodder crops. Special types of buckwheat are planted to reduce soil radioactivity. Radioactive isotopes are mainly stored in the green parts of the plant and to a lesser extent in the seeds from which biodiesel is made. Accordingly, the green parts need to be separated and stored – a costly operation. Potatoes and vegetables are chiefly grown in household gardens, even though the soil has not been replaced

Fig. 4.3

LIELČYCY RAION



Author: Karácsonyi, D.
 MTA CSFK Geographical Institute, Budapest, 2017
 Cartography: © SZAN-CÉP, Budapest, 2017

Available services:

- Shop
- Medical centre, hospital
- Church
- Nature scenic area or point
- Cultural heritage

Inhabited villages:

- below 100
- 100-500
- 500-1000
- over 1000

Road connections:

- Paved highway with regular bus connection
- Mainly unpaved road

Administrative centres:

- Agro-enterprise headquarter
- Village council (selsoviet)

Settlements:

- Evacuated settlements
- Other villages outside Lielčycy raion
- Town

Bondaries:

- State border with border crossing point
- Boundary of region (voblasć)
- Boundary of district (raion)
- National park, reserve

Agriculture, industry

- Agrogorodok (Agro-town)

Other signs:

- Granite mine
- Coal

Land use

- Forest
- Agricultural land meadow
- Bog, wetland

Radiation level (Ground surface Cs-137 pollution, 1986)

(kBq/m ²)		(μSv/h)	
	37 - 185		0.25 - 1
	185 - 555		1 - 4
	555 - 1480		4 - 8

since the Chernobyl accident. Animal products have considerable importance for the economy, especially milk and butter production. The Kalinkavičy dairy plant maintains a subsidiary at Lieľčycy, and the sector enjoyed generous state subsidies in 2007–2008. Altogether there are ten farming cooperatives in the district, and the largest agricultural machine and service station adds to the meagre industry of the district centre.

The service sector has been given a fresh impetus especially in the district seat, where bank branches, a post office, a hotel and several schools operate alongside a number of retail stores. In addition to business services, there are – similarly to elsewhere in the country – relatively well-developed social, cultural and health services. The town also hosts several libraries and cultural centres. Cultural and sport events – folk dance, vintage, harvest and patronal festivals – are held regularly, and performances by groups are organized at the house of culture. Rather than attract foreign tourists, such events meet the cultural and sport requirements of local people. In this sense, they differ from similar events in Western Europe.

The development of rural tourism has recently come to the fore; it is viewed as a possible remedy for the problems facing rural areas in Belarus. Several private ventures have been launched. At Svidnoe village, a large tourist centre was established using private capital. Foreign investors have not contributed, and to date few foreign tourists have come to the centre. Conditions are favourable for angling and hunting. Still, the area's negative image hinders progress in the tourism sector, and the training of experts in tourism has not even started yet.

Housing construction, mainly undertaken by the state, is concentrated in the district centre and four designated *agrorodoks* (former villages developed into agrarian townships, see Box 6.2): for instance, in Stadoličy, Milašavicy. High-rise buildings for young people are under construction in the former, whereas in the latter, uniform detached houses (with small gardens) are typically being constructed. They are being targeted at younger people who have decided to move to a rural area. Even though employment opportunities are abundant, there are many vacant apartments and small houses. This calls into question the wisdom of central government funding for these projects.

In spite of the considerable distances, the public transport connections of the district and the frequency of services along the main routes are adequate and far better than the norm in Ukraine or Russia. Road surfaces are satisfactory; many minor streets are paved even in tiny villages. This protects against radiation, as such roads are not so dusty.

As a major part of the district lies in the permanent control zone, there is a relatively developed system of health services. Lieľčycy has its own hospital. The inhabitants of the settlements affected by radiation receive a thorough medical examination every year. The residents of the relatively contaminated settlements receive medicines at subsidized prices or free of charge. Regional programmes are supported by the state and by the United Nations. Special medical-ecological courses are held in schools, educating young people about how to deal with the consequences of the accident and how to avoid health risks.

Camps for Chernobyl children are organized each year in ecologically clean areas, frequently at foreign invitation (in Germany, Great Britain, Ireland, Italy, Spain, and even in Canada). Children participating in such initiatives often live with local families, and many friendships have been established over the years. This has contributed to raising the children in a healthier environment and mitigating the negative image of the region in the media.

Despite the problems, the local population looks to the future with optimism. People feel a sense of social security in view of generous state support. On the other hand, they have become resigned to the consequences of the accident; they are either indifferent to or sceptical about the “invisible” radioactive contamination. This is clearly a psychological reaction: people are eager to learn what the future holds. They wish to put their troubles behind them, having grown tired of the problems of the last quarter of a century. (The text based on several interviews with the local authorities and people between 2007 and 2011.)



Painting in a bus stop near Chojniki town. The Chernobyl disaster radically changed the traditional Paliessian region, erasing dozens of small villages from the map. (Photo: Karácsonyi, D. 2010)



Traditional wooden blockhouse in a Polessian village – Lieńčycy district. (Photo: Karácsonyi, D. 2015)

Box 4.2 Chojniki district – Evacuation waves and changing settlement patterns after Chernobyl

Chojniki district, which lies near the Chernobyl NPP on the Belarusian side of the border, is one of the most affected administrative districts in Belarus, both in terms of the extent of the contaminated areas and in terms of the share of the population affected (Table 4.2). At least half of the district lies in the evacuation zone, from which around 20,000 people were resettled in the first six to seven years after the disaster. Between 1979 and 1999, the district lost almost 60% of its population, and so, together with the neighbouring Brahin district, the effect of the accident in terms of population decline was greater here than anywhere else in Belarus. More than two-thirds of the rural population disappeared, and the network of villages – with the exception of villages in the environs of Chojniki and to the north of the town – was almost completely abandoned (Figure 4.4).

The Chernobyl Tragedy Museum in Chojniki has preserved, thanks to the efforts of local historians, a list of the names of evacuees as well as the exact population data for the various settlements in the district. The data, which cover the two decades after the disaster, were collected by a team of Japanese and Hungarian researchers in the summer of 2015. Subsequently, the entire database was digitalised. To our knowledge, no other district in Belarus disposes of such detailed population data and post-Chernobyl evacuation records.

The yearly changes in the rural population figures reflect the various waves of evacuation and resettlement. First, 8,000 people were required to leave their homes in 1986, being evacuated from the part of the district that lay in the evacuation zone. After independence, in the course of 1991–1992, they were followed by a further 8–10,000 evacuees from outside the evacuation zone. This resettlement wave coincided with the resettlement of people from highly contaminated settlements that lay near Vietka, Čačersk and Slaŭharad, at a greater distance from the evacuation zone designated in 1986.

Chojniki district's situation reflects the altered settlement patterns seen in similar districts after the evacuations. Whereas the smaller peripheral villages, which were inhabited mostly by older people, could be evacuated quickly and relatively cheaply, the evacuation of the larger villages and towns never took place. As a result, a substantial spatial concentration occurred, mainly to the benefit of urban settlements. This “caused” a rapid increase in the urbanization rate in these districts. Moreover, some of the people designated for resettlement did not leave the district but settled in the district centres, which were not subsequently evacuated. These district centres have been the exclusive target areas for recent population inflows, which are promoted in part by state subsidies.

Table 4.2 Change of population of raions most affected by the Chernobyl disaster (1979–2000)

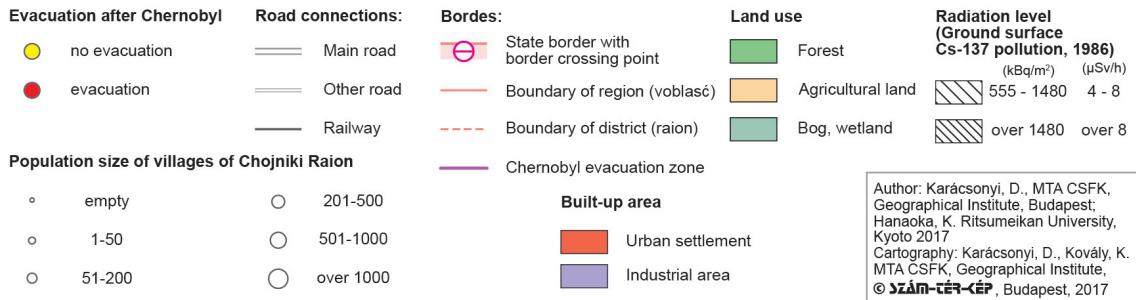
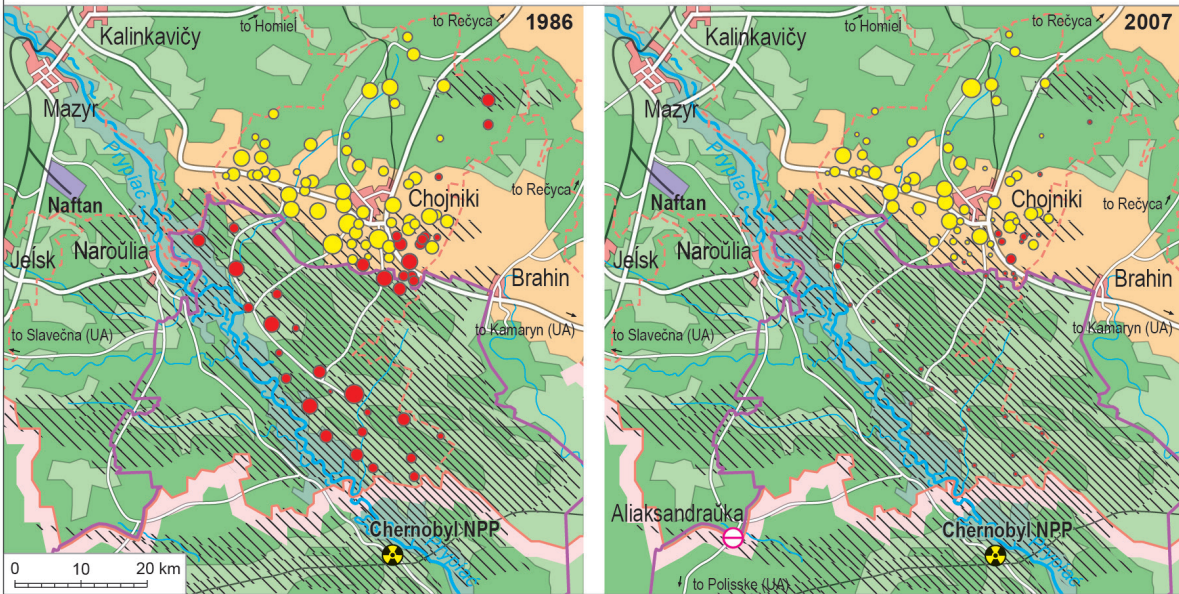
Raion	Country	Total population loss %	Total population loss persons	Urban population loss %	Rural population loss %	Ratio of contaminated area by Cs-137 % over 0.25, 1 and 4 μ Sv/h (1986)
Polisske	Ukraine	-80	-29,748	-100	-69	70, 51, 27
Narodichi	Ukraine	-64	-20,554	-58	-66	96, 28, 23
Brahin	Belarus	-61	-27,365	-26	-69	100, 56, 30
Chojniki	Belarus	-57	-24,476	-1	-68	100, 79, 57*
Vetka	Belarus	-52	-22,812	-11	-62	100, 97, 63
Naroŭlja	Belarus	-48	-16,449	-13	-75	100, 94, 47
Ivankiv	Ukraine	-46	-50,251	-17	-63	100, 28, 19
Novozubkov	Russia	-32	-26,327	-16	-56	100, 100, 76

*31% of the total area of Chojniki raion was over 8 μ Sv/h in 1986.

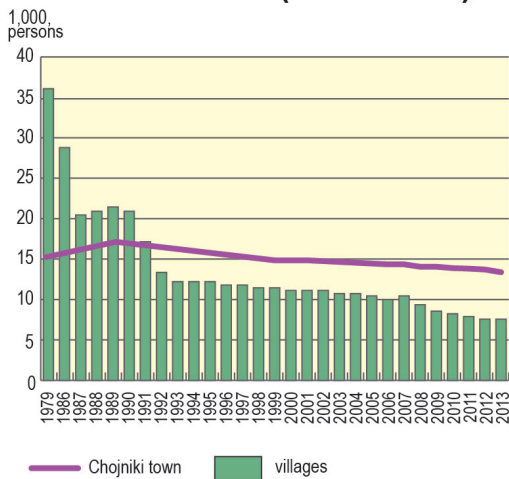
Source: Regional statistical yearbooks of Belarus, Ukraine and Russia and author's own calculation.

Fig. 4.4

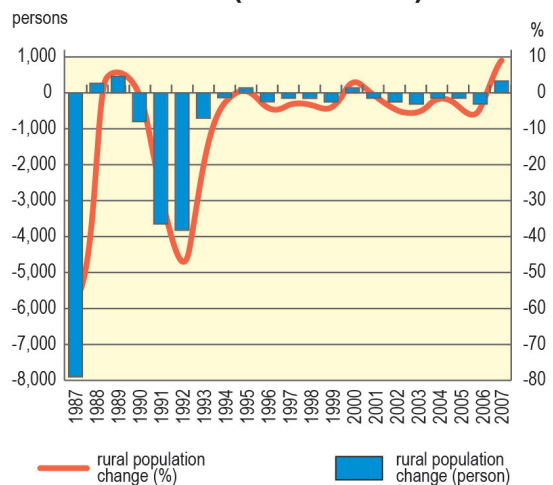
CHOJNIKI RAION



URBAN AND RURAL POPULATION (1979–2013)



RURAL POPULATION CHANGE (1986–2007)





The Courage Monument of Second World War memorial complex in the Brest Fortress – Brest is a Hero City (Horad Heroi, Bel.), awarded for the outstanding heroism of the defenders of Brest Fortress in 1941. One quarter of total population of Belarus became victim of the Second World War. (Photo: Karácsonyi, D. 2011)

5. POPULATION

General population trends

Belarus entered the 21st century with demographic characteristics that resemble those seen in most European countries and which reflect international demographic trends. Periods of growth and decline have characterized the **historical dynamics of population** in what is now Belarus. Various external factors have influenced the population of the country (*Table 5.1*), causing unpredictable disruptions and changes in its demographic development. During the Soviet era, there was a 1.5-fold increase in the total population of today territory of Belarus (the increase in Europe was 1.8-fold and in Poland – within its contemporary borders – 2.1-fold). The disruption of two world wars, political repression and foreign occupation resulted, more than once, in a drastic decrease in the country's population. The population in 1920 was 88% of what it had been in 1914; in 1946 it was 72% of what it had been in 1942 (Pirozchnik, I.I. 2000). In Belarus almost half of the Soviet era was characterized either by significant demographic loss or by compensation and the restoration of the demographic potential (1915–1925, 1941–1972, 1986–2000). In the 20th century, the longest period of peace in Belarus occurred after 1945 (Manak, B., Antipova, E.A. 1999).

The collapse of the Soviet Union led to changes in the livelihoods of people. Radiophobia caused by Chernobyl, as well as insecurity, unemployment and poverty, led to a sharp decline in fertility. Declines in health and living standards contributed to an increase in mortality. The transition to independence was accompanied by economic restructuring and social reforms. These factors caused a breach in the dynamics and spatial distribution of the population and the nature of demographic reproduction.

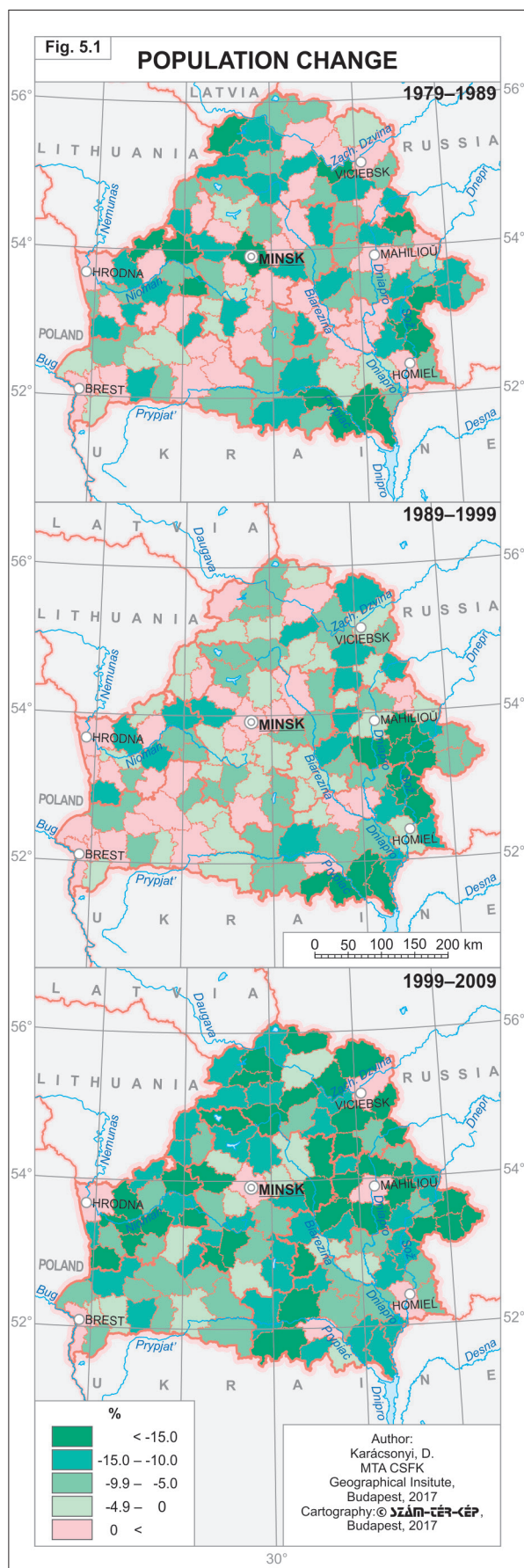
Belarus's population peaked in 1994 at 10.3 million. By early 2005, the population had fallen to less than 10 million, which meant it had returned to the level of 1986. According to the 2015 data, the population of the country was 9,481,000 (including 7,325,000 urban and 2,156,000 rural residents). Annual population declines – around 0.3% per year – characterize the dynamics of population in Belarus. The same phenomenon is seen in most Eastern European countries.

The **regional dynamics of population** are characterized by heterogeneity (*Figure 5.1*). In the 1990s, regional demographic processes were still fundamentally influenced by the Chernobyl disaster. Owing to the evacuation and resettlement of people, the recipient areas – above all towns, cities and their environs – exhibited favourable demographic changes temporary. Until the 2000s,

Table 5.1 Change of total population in the present-day territory of Belarus (1897–2015)

Year	1897	1914	1926	1939	1950	1959	1970	1979	1989	1999	2009	2015
Population (thousand persons)	6,673	6,899	4,986	8,912	7,709	8,056	8,992	9,533	10,152	10,045	9,504	9,481
Urban population (thousand persons)	899	990	848	1,855	1,620	2,481	3,891	5,234	6,641	6,962	7,065	7,325
Rural population (thousand persons)	5,774	5,909	4,138	7,057	6,090	5,575	5,102	4,298	3,510	3,084	2,439	2,156

Source: http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/metodologiya-otvetstvennye-za-informatsionnoe-s_2/index_704/



changes in the population of the various regions reflected such resettlement rather than local natural increase or (spontaneous) migration. By that time, however, the major resettlement initiatives had been concluded, and significant population declines were recorded everywhere except the capital city and county seats.

The capital city, Minsk, differs from all other areas in that it has tended to exhibit a positive demographic trend, with an annual increase of up to +1%. The increase has two components, natural growth and immigration. In the period 1999–2014, Minsk’s population grew by more than 14%. Meanwhile, a population decline was recorded in each of the other six regions. The largest demographic losses were seen in the Viciebsk and Mahilioŭ regions (12.7% and 11.6%). Here, the most potent factors were population ageing and increased migration outflows from the northern and eastern regions. Such areas are regarded as the “socio-economic periphery” in Belarus.

Urban-rural population gap. Urban and rural areas are characterized by even greater heterogeneity in terms of population dynamics. In the 1980s and 1990s, the effects of the Chernobyl disaster were most dramatically felt in rural areas (Figure 6.8). Since 1999, the urban population has increased on average by 0.2% per year, while the rural population has decreased by 1.4% (Antipova, E.A., Korotaev, V. 2014). In rural areas, the demographics are homogeneous, with population declines being recorded in every region. In the period 1999–2014, the rural population declined by 29%. The highest rates of decline were recorded in the Viciebsk, Hrodna and Mahilioŭ regions and the lowest rates in the Minsk and Brest regions. In urban areas, the demographic trends are heterogeneous, with population increases being recorded in some areas (the Brest, Homiel, Hrodna regions and Minsk city) and population decreases in others (the Viciebsk, Minsk, Mahilioŭ regions).

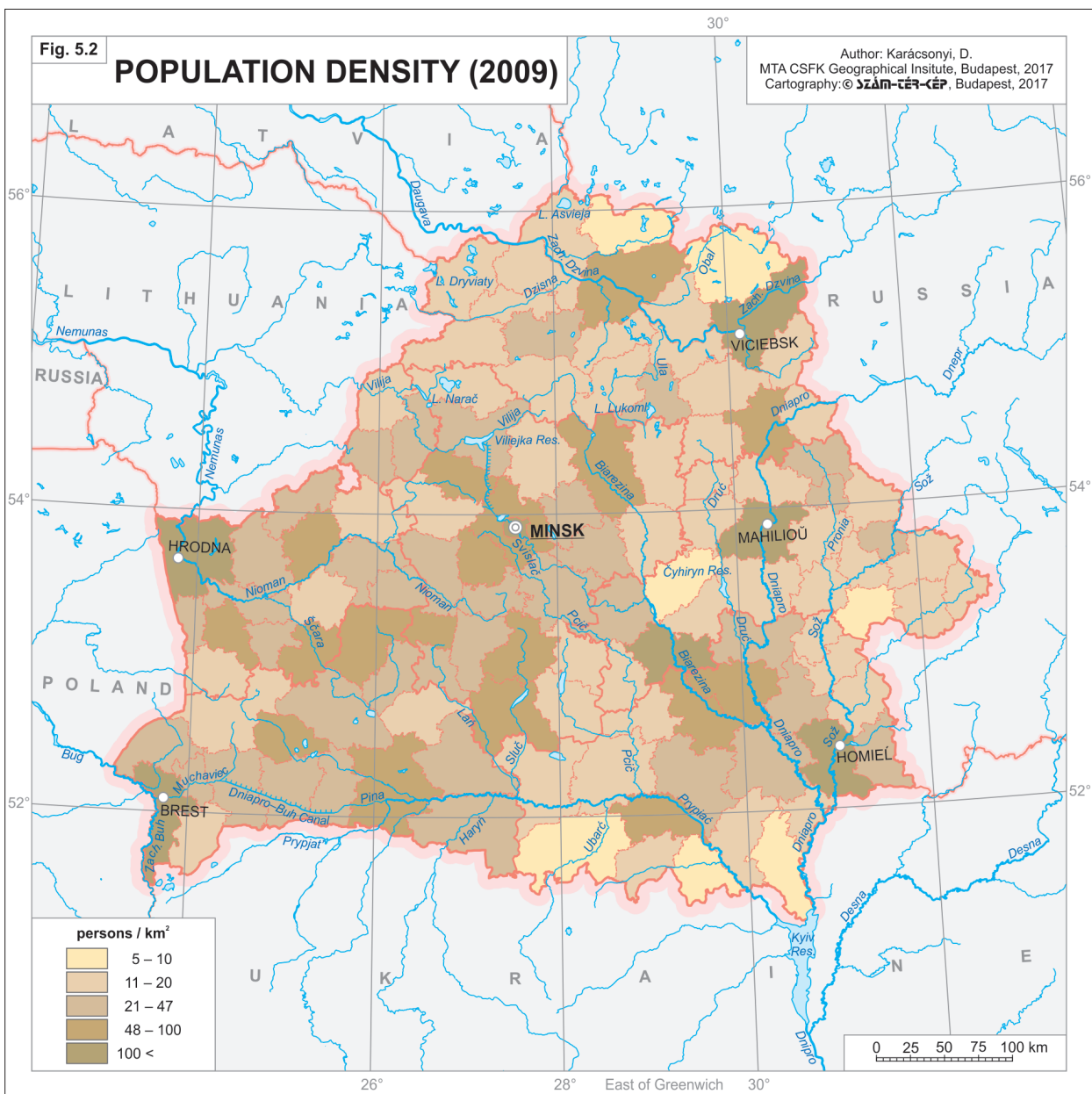
In the period 1999–2014, the differences between demographic development in urban and rural areas strengthened (Antipova, E.A., Korotaev, V. 2014). These differences reflect the socio-economic disparity between urban and rural areas. This factor is the root cause of the outflow of the working-age population from rural areas, which in turn leads to population ageing and increased mortality rates in those areas.

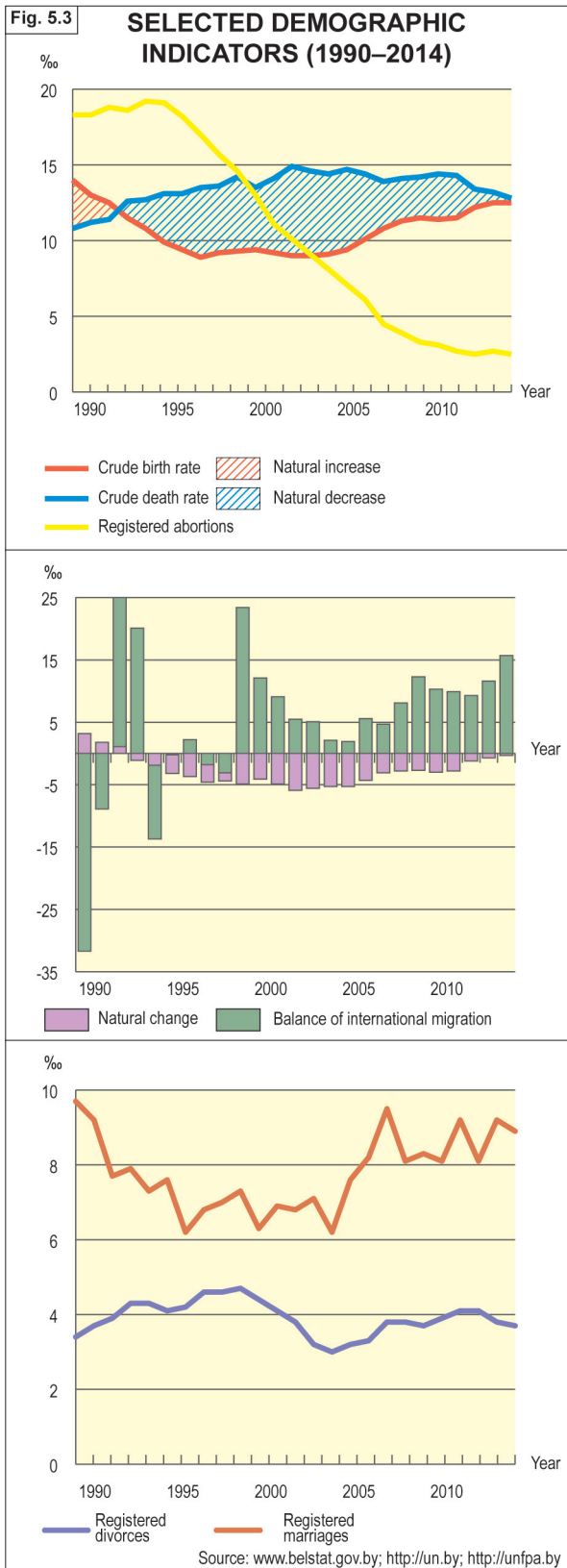
Population density. Belarus is less densely populated than its western neighbours, but more densely populated than Russia's Smolensk Oblast, which lies to the east. Whereas in 1979 the least densely populated areas lay in the Belarusian Lakeland and in the eastern part of Paliessie, by 2009 enormous holes had been left in areas affected by the Chernobyl disaster. Population density in such areas is lower than it was in earlier decades, owing to evacuation/resettlement and outward migration (Figure 5.2). The change is particularly striking in the rural population density (Figure 6.11).

Natural population change

The general and contemporary population trends in Belarus are characterized by a reduced birth rate and higher mortality, owing to demographic ageing (Figures 5.3, 5.5, 5.7, 5.9, Table 5.2). The same phenomena are seen in most European countries.

The **natural population change** is characterized by population decline. Since 2002, however, the rate of decrease has fallen from 5.9 to 0.3‰. Among the rural population, natural decrease appeared 20 years earlier (in 1975) than among the urban population (in 1995). This difference





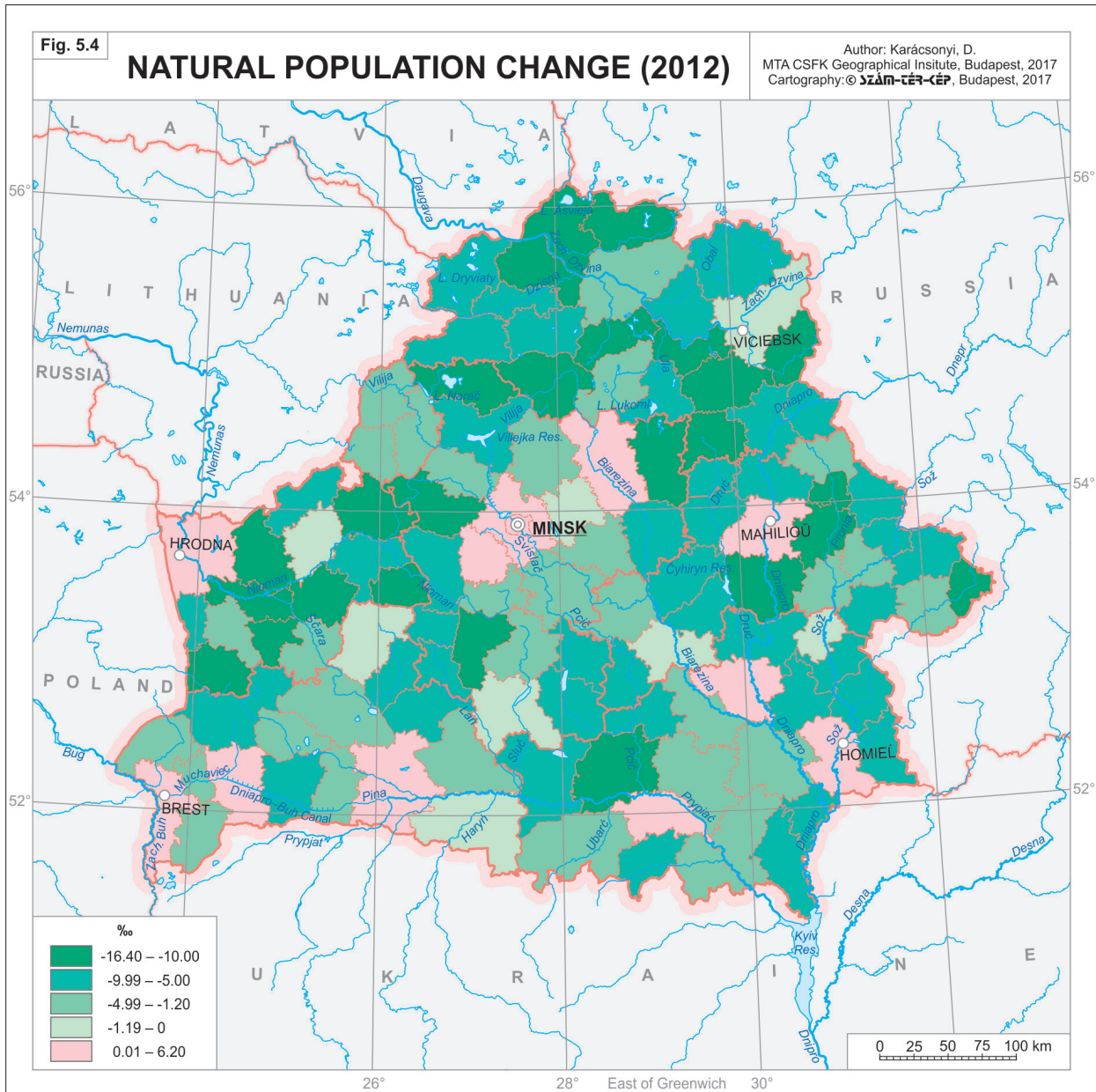
can be explained by high levels of rural-urban migration in the post-1950 period, caused by in-

dustrialization and urbanization. A distinctive feature of Belarusian demographics is the polarization between urban and rural areas, with a natural population increase (2.1‰) in the former and a natural population decline (−10.2‰) in the latter. The tenfold gap between the respective rates is noteworthy. This trend is indicative of the relative demographic revitalization of towns (since 2007 the birth rate in the urban population has exceeded the death rate) and of the demographic stagnation of rural areas (which started in the late 1970s) (Antipova, E.A., Fakeyeva, L. 2013).

Most areas in Belarus are characterized by natural population decline. The exceptions are the Brest region and the city of Minsk, which both show natural growth. At the level of the raions, natural population increase is only observed in the highly urbanized raions and in the Minsk agglomeration (Figure 5.4). The urban population in all areas, except for the Viciebsk region, shows natural growth, with the highest values (more than 5‰) in the Brest and Hrodna regions and in the city of Minsk. The rural population everywhere shows natural decline, with the highest values (over 10‰) in the Viciebsk and Hrodna regions and the lowest (less than 5‰) in the Brest and Minsk regions. Since 1999, 31 towns (27%) have made the transition from natural population decline to natural population increase.

In the early 2000s, the **crude birth rate** in Belarus was comparable with that seen in the Central European countries (Figure 5.5). In recent years, however, the birth rate has risen on account of two factors: first, a relatively large number of children were born in the early 1980s (before Chernobyl) and they have now reached reproductive age; second, government measures in support of young families have been introduced. The birth rate is 12.5‰ (2013–2014). This is similar to the rate in Eastern and Northern Europe but higher than the rates in Western Europe (10‰) and Southern Europe (9‰).

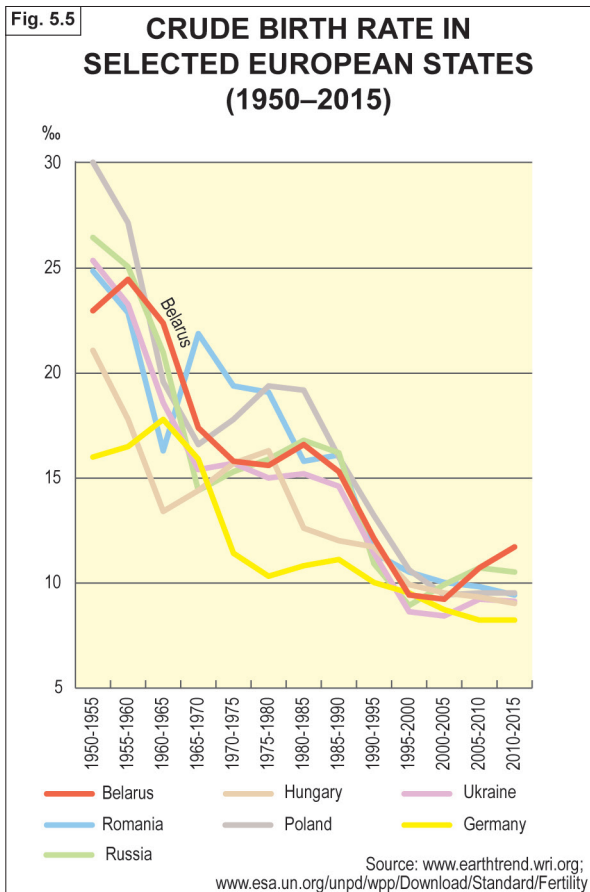
The birth rate in Belarus in 1950 was estimated at 25.5‰. The birth rate fell to its lowest level of 9‰ in 2002. Since then, it has steadily increased. The period 1970–1985 was the most favourable in terms of stable and relatively high birth rates. The highest crude birth rate in the demographic history of Belarus in the 20th century was recorded in 1983 (17.6‰). Thereafter the country experienced a rapid reduction in



the crude birth rate. Between 1986 and 1997 the birth rate declined by more than 8‰. The urban and rural birth rates differ just slightly. The absence of a significant difference between the urban birth rate (12.5‰) and the rural birth rate (12.4‰) indicates similar reproductive behaviour among both urban and rural women. This has been the trend since 2002 (Antipova, E.A. 2014). There are, however, two geographical areas with relatively high birth rates – the Brest and Minsk regions, where this indicator exceeds 15‰ (Antipova, E.A. 2012; Antipova, E.A., Fakeyeva, L. 2012). The Viciebsk region, with the

highest level of demographic ageing, and the city of Minsk, which has achieved a relatively high level of socio-economic development, exhibit the lowest birth rates in the country (Figure 5.6).

The **crude death rate** in Belarus exceeds the Central European one and is closer to the average for the Eastern European countries (Figure 5.7). Accordingly, the death rate is noticeably higher than in other parts of Europe (Northern Europe – 9‰, Southern and Western Europe – 10‰). Since the Second World War the death rate in Belarus has varied by around 8–9‰. In the late 1980s, when the country began to be affect-



ed by population ageing, the death rate started to increase rapidly. In the period 1987–2002, the death rate increased by 5‰ and reached its maximum in 2002. Thereafter it declined, and it is estimated to be 12.8‰ (2014). Such a death rate is regarded as relatively high in an international comparison. The main groups of population that account for increased mortality are the elderly and males of working age. The principal factors influencing the death rate are demographic ageing, alcoholism (mainly in the countryside), and the general lack of emphasis on healthy lifestyles. The common causes of death are problems of the circulatory system and cancer.

Unlike the birth rate, the death rate exhibits differences between the rural population (death rate: 22.6‰) and the urban population (death rate: 10.4‰). The gap in mortality can be attributed to the ageing of the rural population. Due to its higher level of socio-economic development and relatively advanced healthcare system, the city of Minsk has the lowest mortality rate in the country. Among the country's regions, the

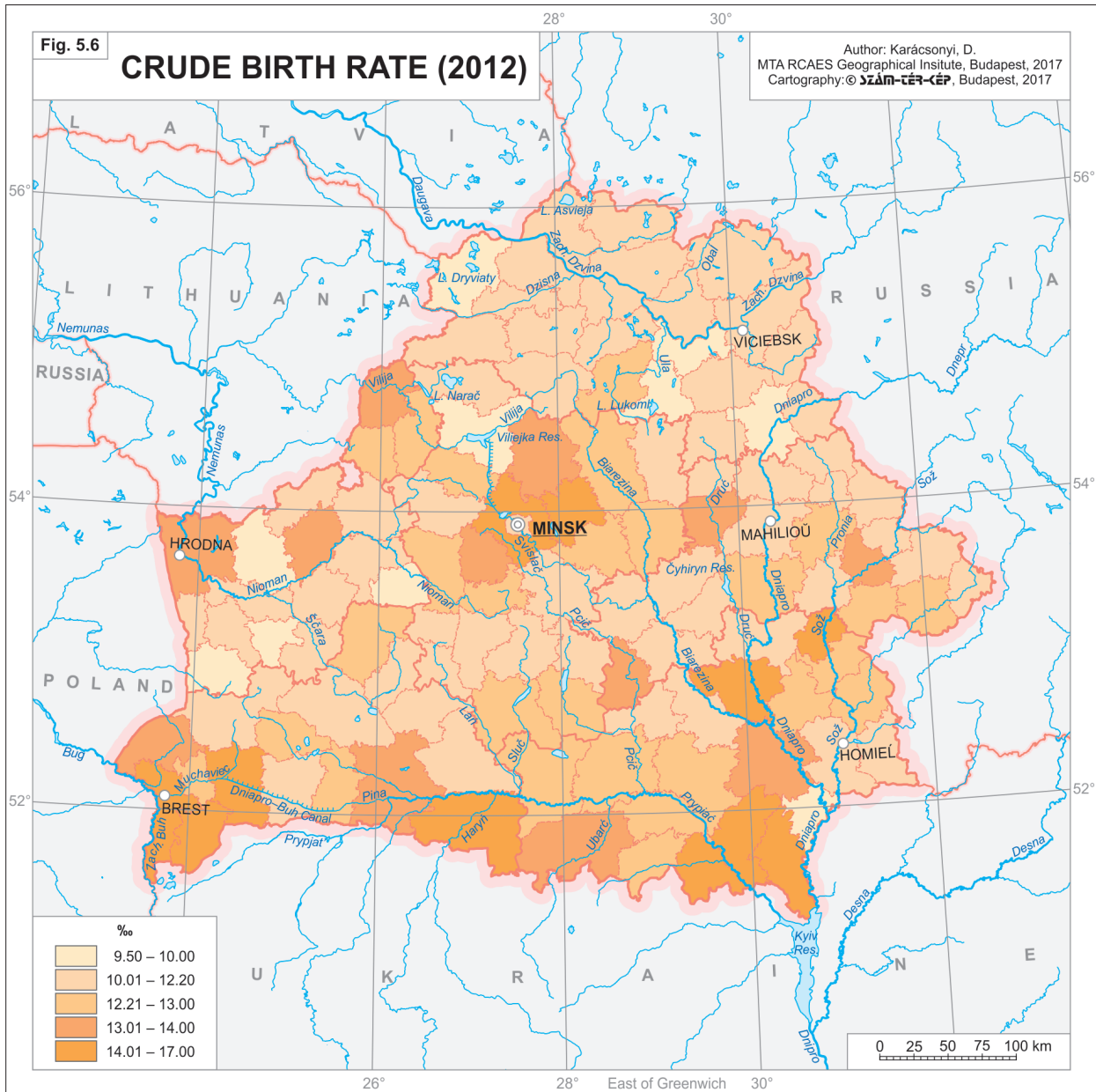
Viciebsk region has the highest mortality rate; it is also the most demographically aged one (Figure 5.8).

Life expectancy at birth has tended, historically, to be high and reached 70 years in the 1950s. A difference between life expectancy in Belarus and that observed in other European countries is the consistent broad gap between male and female life expectancy (Table 5.2). The difference was 10 years in the 1970s and reached almost 13 years in the late 1990s. In the 1990s, female life expectancy increased whereas male life expectancy fell. For a period lasting two decades (1992–2002), the average male Belarusian died before reaching retirement age (65 years). Average life expectancy is 73.2 years (2014), and the difference between males and females has narrowed slightly. Life expectancy is 67.8 for males and 78.4 for females (2014).

The low fertility rates pose a demographic threat to the country. For this reason, a top priority for government policy is creating the necessary conditions for sustainable demographic development. Currently, the government of Belarus is actively implementing several programs aimed at solving this demographic problem: the “National strategy for sustainable development for the period until 2020” (adopted in 2004), the “National demographic security program for 2011–2015”, and the “State program for sustainable development of rural areas for 2011–2015”.

The **structure of population by sex** indicates female dominance in Belarus. Indeed, there are 1,151 females per thousand males. The various age groups exhibit differences in terms of the gender ratio. Among people aged less than 34 years, males prevail, with a thousand men per 993 women. In the other age groups, however, females outnumber males. Owing to the gap in life expectancy, the number of males drops sharply among older age groups. In this way, the structure of population by sex becomes ever more distorted. Among people aged more than 70 years, there are 2.4 females per male. Moreover, there is no noticeable difference in the structure of population by sex between the urban and rural populations.

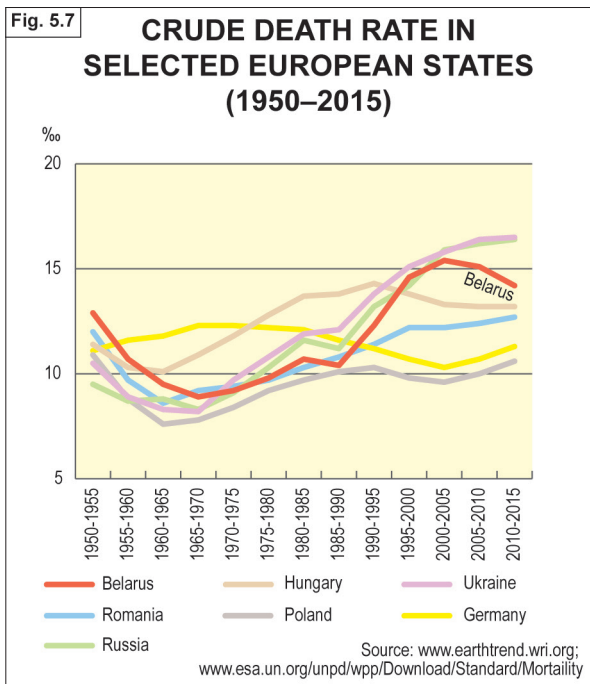
As in most European countries, the **structure of population by age** is characterized by demographic ageing. As early as the 1950s the proportion of the elderly was already more than 13%. Still, at that time, the proportion of



children (31%) was also high. Over the years, age structure has changed by decrease young population and increase of people of retirement age. After the Second World War, Belarus had a relatively high proportion of people of working age, with the figure exceeding 60% in the 2000s. Currently, the proportion of people of working age in the total population is 58.6% and falling. The structure of population by age among the urban and rural populations differs only slightly in the share of children (16.7% in urban areas and 16.6% in rural areas). On the other hand, there is a very noticeable difference between urban and

rural areas in terms of the elderly (21.7% in urban areas and 31.2% in rural areas).

Population ageing has been a trend ever since the 1950s. Belarus, along with many other European countries, has seen a sustained increase in the proportion of elderly people in recent decades. The share of the population aged over 60 is 18%, which is comparable with the figure for Eastern Europe (19%) but less than the figure for Europe as a whole (22%). According to this indicator, Russia is in the same group as Belarus. The share of people aged over 65 years is 16%, which is equal to the average for Eastern Europe.



The urban population exhibits a high level (19.7%) and the rural population an extremely high level (30.7%) of population ageing. The proportion of elderly people is highest in the northern and north-western areas of the country (Figure 5.9).

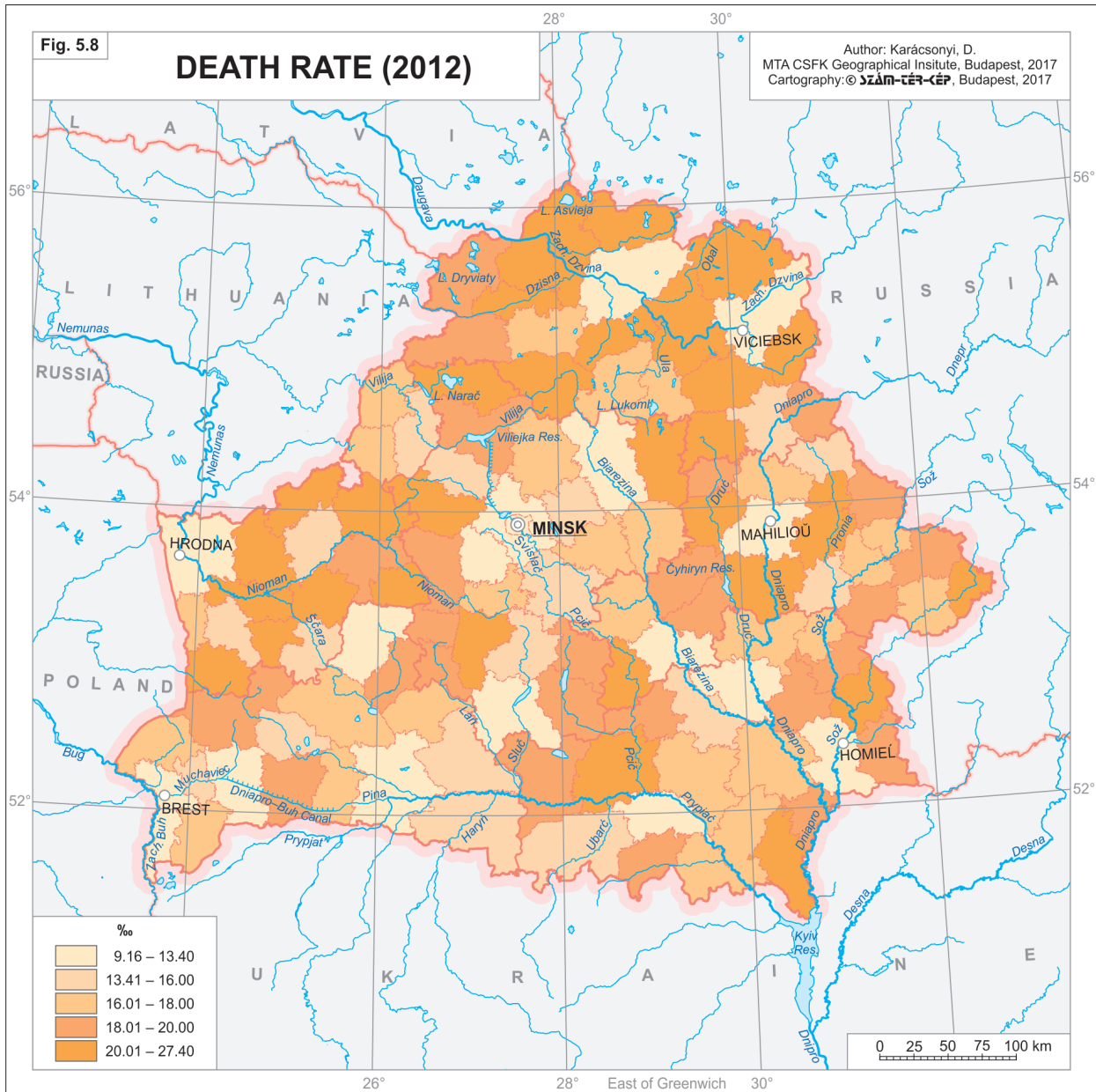
Migration

The **internal migration** of the population is less intensive than in many developed countries, where internal migration is the main factor in levelling socio-economic disparities. Annually, more than 200 thousand people change their place of residence within the country. The share of internal migration from total accounts for about 91.4% of all movements. It is dominated by intra-regional migration (inter-district): 52.8%. Meanwhile, inter-regional migration accounts for 47.2% of total internal migration (these figures are for 2013). In 2000, the respective figures were 41.8% and 58.2%. Thus, since 2000, the relative significance of inter-regional migration has increased. All intra-flows have exhibited positive net migration for the urban areas and negative for the rural areas (Figure 5.10). The main magnet for internal migration is Minsk. Each year, Minsk receives about 15 thousand migrants, mostly young people of working age.

The most intensive population exchanges occur between neighbouring areas. For example, most of the population of the Brest region enters and leaves from the nearby Minsk and Hrodna regions, and the lowest exchange occurs with the Viciebsk region. In the case of the Minsk region, the main exchange of population occurs with the Viciebsk, Brest and Hrodna regions. For the Viciebsk region, it is with Mahilioŭ, and for the city of Minsk with the Minsk region.

International migration (Table 5.3). In terms of international migration, Belarus has long been a donor country. Political and socio-economic factors have led people in Belarus to emigrate to the other republics of the former Soviet Union or to countries in Europe, North America and Asia. As a result, the balance of international migration has tended to be negative. In terms of transit, the country lies in a favourable economic and geographical situation. As such, it has become a corridor for international migration, both legal and illegal. Meanwhile, in view of its relative social and economic stability in comparison with the other post-Soviet countries, Belarus has become recently an attractive destination for citizens of the CIS and other foreign countries who seek temporary or permanent employment.

The migration peaked in 1990, thereafter there was a steady decline both in immigration and emigration. In 1990, Belarus had a negative migration balance. The main explanatory factor for these processes was the collapse of the Soviet Union. During the initial years of independence, the net external migration balance was – for the first time in the history of Belarus – positive. In Belarus, migration to and from the CIS countries is particularly significant. The total number of new arrivals from CIS countries was 623.9 thousand people between 1991 and 2013. The number of new arrivals from non-CIS countries was almost 5 times less: 124.6 thousand people. The main exchange occurs with the following CIS countries: Russia, Ukraine and Kazakhstan. Together, those three countries accounted for 72.3% of the total external migration. Russia is in the first place. Since 2010, Belarus has witnessed an influx of specialists mainly in the sphere of construction and trade. There has also been an increase in the number of foreign students (from Turkmenistan and Azerbaijan in particular) studying at universities in Belarus (Antipova, E.A., Fakeyeva, L. 2014).



In terms of new arrivals from non-CIS countries, Lithuania was in first place, both in 2000 and in 2010. In the intervening period, the Lithuanian share increased from 1.5 to 4.6%. These figures reflect the migration of ethnic Belarusians to Belarus. The number of legal immigrants from China fell over the 10-year period by approximately a third. This may indicate the growth of illegal migration from China, mainly construction workers.

Latvia moved up from third to second place, with an almost twofold increase in the proportion of migrants. In 2010 it accounted for 2.1%

of new arrivals, compared with 1.1% ten years earlier. The reasons for this growth are identical to those affecting migration from Lithuania – the return of Belarusians to their homeland. Other important countries in terms of immigration to Belarus are Poland, Lebanon and Israel. Here, the most significant factor is so-called return migration from countries that were the destination for mass emigration in the early 1990s. Migrants are now returning to Belarus as repatriates.

The main recipient countries of Belarusian guest workers are Russia, the United States, Poland and Germany. The combined share of

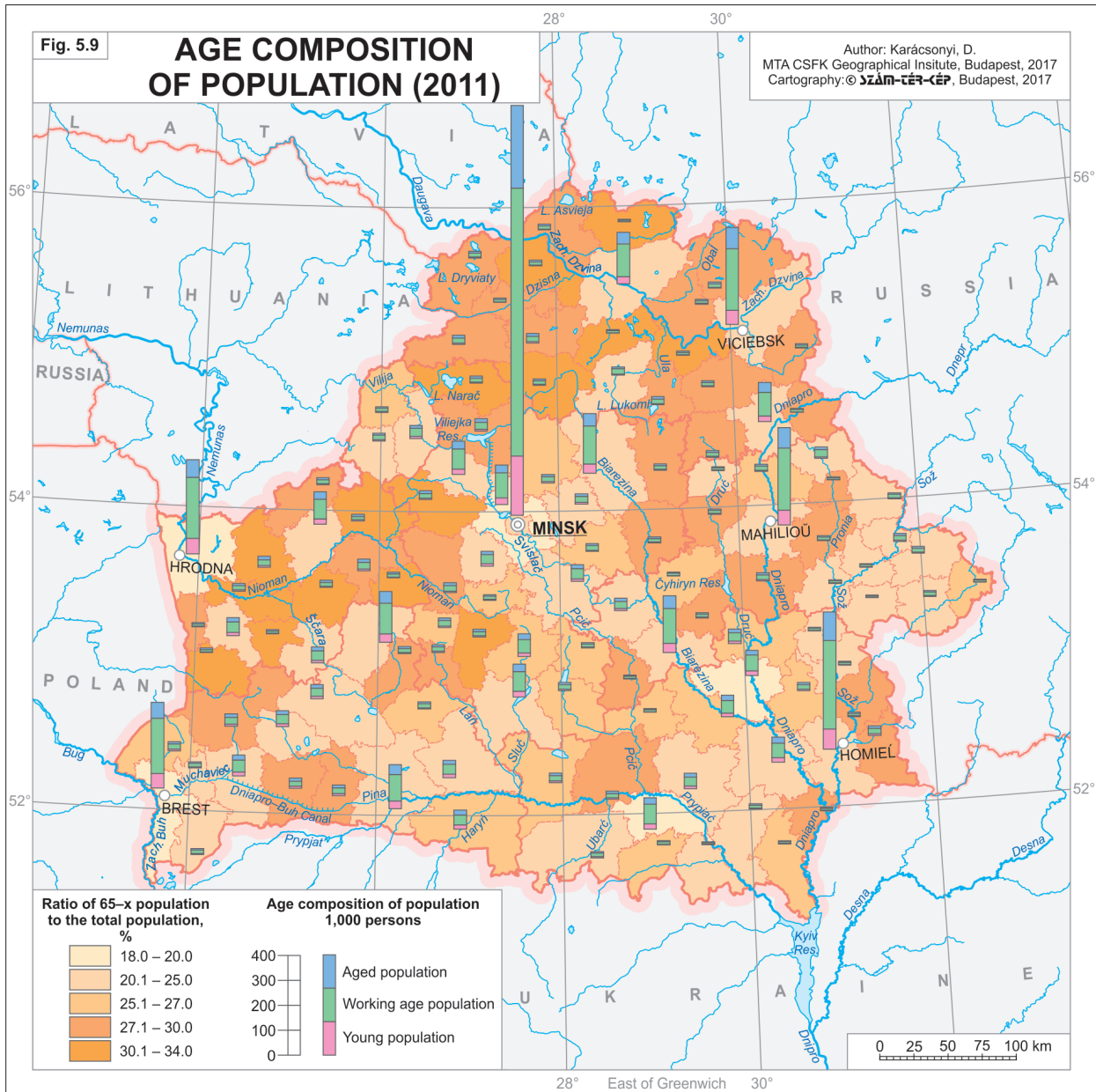
Table 5.2 Selected demographic indicators (1990–2015)

Years	Crude birth rate	Crude death rate	Natural increase/ decrease	Balance of international migration	Registered			Ratio of population		Ageing index	Life expectancy at birth		
					Marriages	Divorces	Abortions	aged under working (0–15)	aged over working (m:60 and over; f: 55 and over)		Both sexes combined	Male	Female
1990	14.0	10.8	3.2	-3.1	9.7	3.4	183	24.5	19.6	80.0	71.3	66.5	76.0
1991	13.0	11.2	1.8	-0.9	9.2	3.7	183	24.5	19.9	81.3	70.5	65.5	75.5
1992	12.5	11.4	1.1	2.4	7.7	3.9	188	24.4	20.2	83.0	70.2	64.9	75.4
1993	11.5	12.6	-1.1	2.0	7.9	4.3	186	24.2	20.5	84.9	69.1	63.8	74.4
1994	10.8	12.7	-1.9	-1.3	7.3	4.3	192	23.9	20.7	86.7	68.9	63.5	74.3
1995	9.9	13.1	-3.2	0.0	7.6	4.1	191	23.5	21.0	89.1	68.6	62.9	74.3
1996	9.4	13.1	-3.7	0.2	6.2	4.2	182	23.1	21.2	91.7	68.7	63.0	74.3
1997	8.9	13.5	-4.6	-0.2	6.8	4.6	170	22.6	21.4	94.7	68.6	62.9	74.3
1998	9.2	13.6	-4.4	-0.3	7.0	4.6	157	22.0	21.5	97.4	68.6	62.7	74.4
1999	9.3	14.2	-4.9	2.3	7.3	4.7	146	21.2	21.5	101.8	68.0	62.2	73.9
2000	9.4	13.5	-4.1	1.2	6.3	4.4	130	20.6	21.5	103.8	69.0	63.4	74.7
2001	9.2	14.1	-4.9	0.9	6.9	4.1	111	20.0	21.3	106.8	68.5	62.8	74.5
2002	9.0	14.9	-5.9	0.6	6.8	3.8	101	19.3	21.4	110.3	68.0	62.3	74.1
2003	9.0	14.6	-5.6	0.5	7.1	3.2	91	18.6	21.3	114.7	68.5	62.7	74.7
2004	9.1	14.4	-5.3	0.2	6.2	3.0	81	18.0	21.3	118.6	69.0	63.2	75.0
2005	9.4	14.7	-5.3	0.2	7.6	3.2	71	17.3	21.5	123.7	68.8	62.9	75.1
2006	10.1	14.4	-4.3	0.6	8.2	3.3	61	16.8	21.5	128.1	69.4	63.6	75.5
2007	10.8	13.9	-3.1	0.5	9.5	3.8	45	16.4	21.7	132.1	70.3	64.5	76.2
2008	11.3	14.1	-2.8	0.9	8.1	3.8	39	16.2	21.9	135.8	70.5	64.7	76.5
2009	11.5	14.2	-2.7	1.3	8.3	3.7	33	16.0	22.2	138.7	70.5	64.7	76.4
2010	11.4	14.4	-3.0	1.1	8.1	3.9	31	15.9	22.5	141.3	70.4	64.6	76.5
2011	11.5	14.3	-2.8	1.0	9.2	4.1	27	16.0	22.8	143.0	70.6	64.7	76.7
2012	12.2	13.4	-1.2	1.0	8.1	4.1	25	16.1	23.2	144.1	72.2	66.6	77.6
2013	12.5	13.2	-0.7	1.2	9.2	3.8	27	16.4	23.5	143.8	72.6	67.3	77.9
2014	12.5	12.8	-0.3	1.7	8.9	3.7	25	16.7	23.9	143.3	73.2	67.8	78.4
2015	12.4	12.6	-0.2	-	-	-	-	17.0	24.4	143.5	-	-	-

Source: http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/g/obschie-itogi-migratsii-naseleniya-respubliki-belarus/
http://un.by/pdf/3_2.pdf
<http://unfpa.by/ru/resources/reproduktivnoe-zdorove/statistika/>
http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/g/ozhidaemaya-prodolzhitelnost-zhizni-pri-rozhdenii/

these countries in terms of migrants from Belarus was 97% in 2008–2013. In contrast to the temporary migrants, 90% of those whose departure from the country involves a change of permanent residence had a higher education.

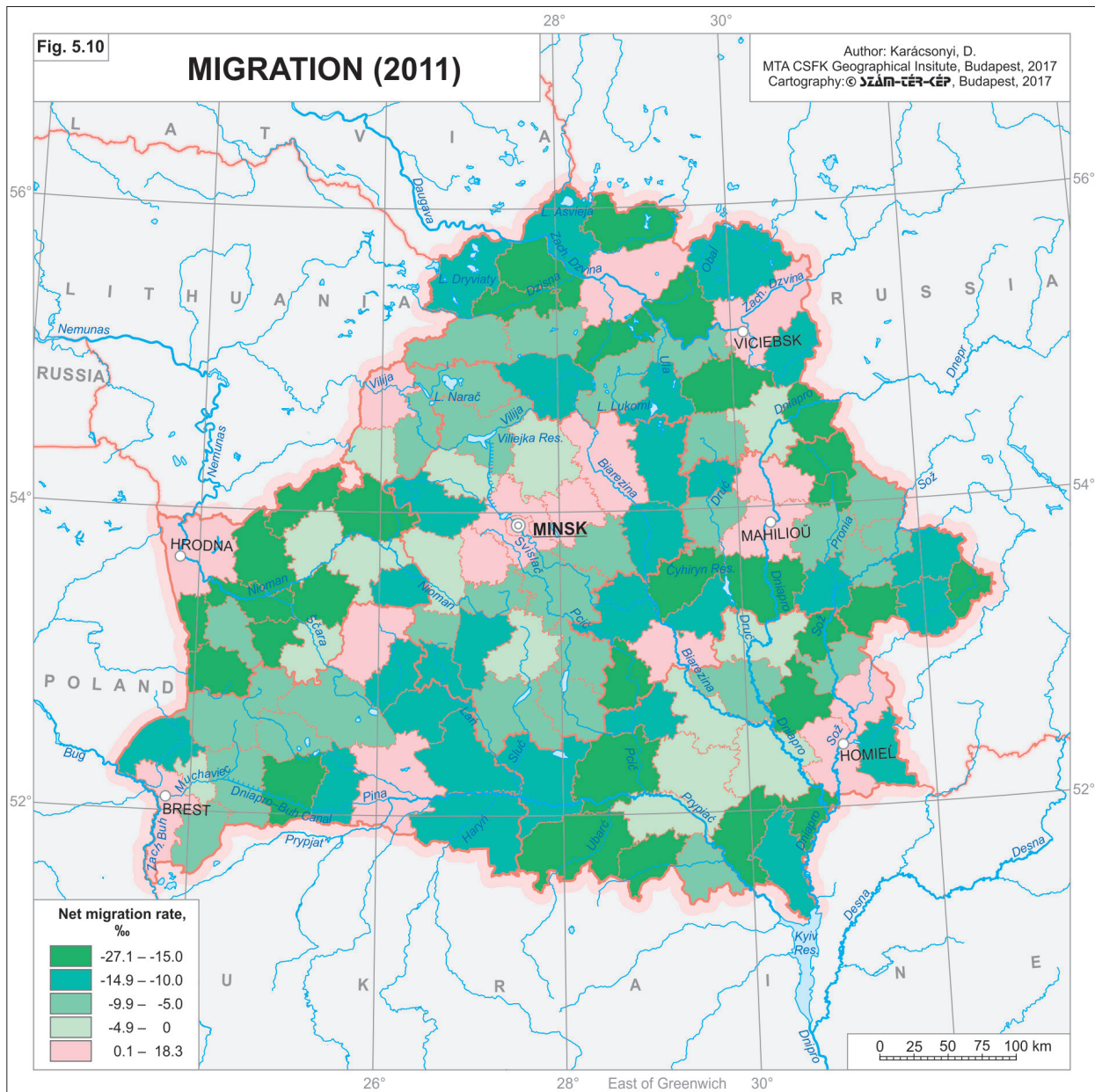
The most attractive destination for Belarusian emigrants is Russia; more than 90% of labour migrants go to Russia. Currently, many workers in the construction, agricultural, and oil production sectors are temporarily working in Russia.



The Ukrainian labour market is less popular among Belarusian emigrants. However, in recent years, for both economic and political reasons, some professionals (journalists, businessmen, mass media and cultural staff, etc.) have moved to Ukraine.

The labour markets of Europe can be divided into several categories in terms of the spheres of employment that are attractive to Belarusian migrants. In Poland, for example, there are two groups. The first group comprises highly educated professionals (professors, PhD holders, university lecturers, physicians). These people are greatly needed in Poland, as they may replace

the Polish professionals who have moved to other EU countries. The second group comprises skilled workers (e.g. truck drivers). Belarusian migrants either permanently live in Poland for the whole length of the contract term or they regularly return to Belarus (e.g. for 1–2 weeks each month). In the Lithuanian labour market, Belarusian migrants make up four categories: university professors, young well-educated scientists, students, and journalists and opposition politicians. The labour markets of other EU countries have fewer separate categories of Belarusian workers. They are mostly scientific researchers



and IT professionals. Almost all EU countries benefit from the Belarusian labour migrants, since most of them have a vocational or higher education degree (or its academic equivalent) and comply with the laws of the host country and there are no any movement restrictions except the visa regime of the Schengen zone (EU).

Marriages and divorces

Majority of Belarusian people have traditional views on **marriage and family**. At the same time,

the political and socio-economic transition of the 1990s, collapse of the Soviet Union, and spread of European family norms (families with a small number of children, an increase in the age of first marriage, loose family bonds and the emergence of various forms of cohabitation), have led to changes in the rates of marriage and divorce. In the 1990s there was a significant reduction both in the number of marriages and in the general marriage rate. The decrease can be explained by several socio-economic factors, principally changes in the structure of population by age and sex. During the 1990s, the marriage rate decreased from 10%

Table 5.3 Dynamics of international migration (1990–2014)

Years	Immigration	Emigration	Migration balance	Arrivals from CIS	Emigration to CIS	Balance with CIS	Arrivals from non-CIS	Emigration to non-CIS	Balance with non-CIS
	thousand people								
1990	116.1	147.8	-31.7	-	-	-	-	-	-
1991	95.8	104.7	-8.9	-	-	-	-	-	-
1992	117.7	92.7	25.0	-	-	-	-	-	-
1993	86.0	65.9	20.1	-	-	-	-	-	-
1994	53.1	66.8	-13.7	-	-	-	-	-	-
1995	34.9	35.1	-0.2	31.2	25.6	5.6	3.7	9.5	-5.8
1996	31.9	29.7	2.2	-	-	-	-	-	-
1997	31.4	33.2	-1.8	-	-	-	-	-	-
1998	33.2	36.3	-3.1	-	-	-	-	-	-
1999	30.8	7.4	23.4	-	-	-	-	-	-
2000	25.9	13.8	12.1	23.5	7.3	16.2	2.4	6.5	-4.1
2001	23.4	14.3	9.1	21.0	8.2	12.8	2.4	6.1	-3.7
2002	18.9	13.4	5.5	16.8	8.5	8.3	2.1	4.9	-2.8
2003	18.1	13.0	5.1	15.9	8.2	7.7	2.2	4.8	-2.6
2004	14.6	12.5	2.1	12.5	8.2	4.3	2.1	4.3	-2.2
2005	13.0	11.1	1.9	11.4	7.5	3.9	1.6	3.6	-2.0
2006	14.1	8.5	5.6	12.4	6.2	6.2	1.7	2.3	-0.6
2007	14.2	9.5	4.7	12.0	7.2	4.8	2.2	2.3	-0.1
2008	17.4	9.3	8.1	14.2	6.9	7.3	3.2	2.4	0.8
2009	19.9	7.6	12.3	15.6	5.3	10.3	4.3	2.3	2.0
2010	17.2	6.9	10.3	14.3	5.1	9.2	2.9	1.8	1.1
2011	17.5	7.6	9.9	14.7	5.8	8.9	2.8	1.8	1.0
2012	18.0	8.7	9.3	13.4	6.5	6.9	4.6	2.2	2.4
2013	19.4	7.8	11.6	14.7	5.4	9.3	4.7	2.4	2.3
2014	24.9	9.2	15.7	19.8	5.9	13.9	3.1	3.3	1.8

Source: http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/g/obschie-itogi-migratsii-naseleniya-respubliki-belarus/
http://www.pac.by/dfiles/001178_204439_5.pdf

to 6‰. However, when the large generation of young people that had been born in the late 1980s (before the collapse of the Soviet Union) reached reproductive age, the marriages rate started to increase. In 2013 the estimated rate was 9.2 marriages per 1,000 people. This is significantly higher than the rate in the Western European countries of Great Britain, Germany and France.

The **marriage** rate is higher among the urban population (9.9‰) than among the rural population (7.0‰). This is due to population ageing in rural areas. The number of remarriages and their share as a percentage of total marriages has increased throughout the post-war era (Shakhotko, L.P. 2013). Unlike in other European countries, most marriages are between people in the younger age groups (the 20–24 and 25–29 age

groups). In Belarus, the age of first marriage is relatively low: 25 years for women and 27.1 years for men. In recent years, however, it has steadily increased. Public opinion has become more tolerant towards alternative forms of marriage. This is reflected in the high number of cohabitations, the so-called “consensual marriages”. The 2009 population census showed that 5.1% of men and 4.2% of women live in cohabitation. [Same-sex marriage is not accepted in Belarus, even same-sex unions are not legally recognized as well as in other Central and Eastern European countries such as Poland or Ukraine by 2017 (D. Karácsonyi, ed.).] The 2009 population census also revealed an increase in the number of single people: 5.9% of men and 3.9% of women aged 50 years have never been married.

A key indicator of the strength of the family as an institution is the **divorce** rate. The relatively high rate (3.7, 2014) represents a demographic threat to the sustainable socio-economic development of the country. In the period 1970–2013, the number of divorces increased substantially first of all among urban residents with a growth of 32% in the period 1970–2010. The highest number of divorces are among the 25–29 and 30–34 age groups. Nowadays, on average, one in two marriages ends in divorce. In the 1990s there was one divorce for every 3 marriages on average. In other words, marriage has grown more unstable in recent decades. The average duration of the first marriage is 10 years and that of the second one is 8 years (Antipova, E.A., Gubareva, Y. 2013).

Labour market and education

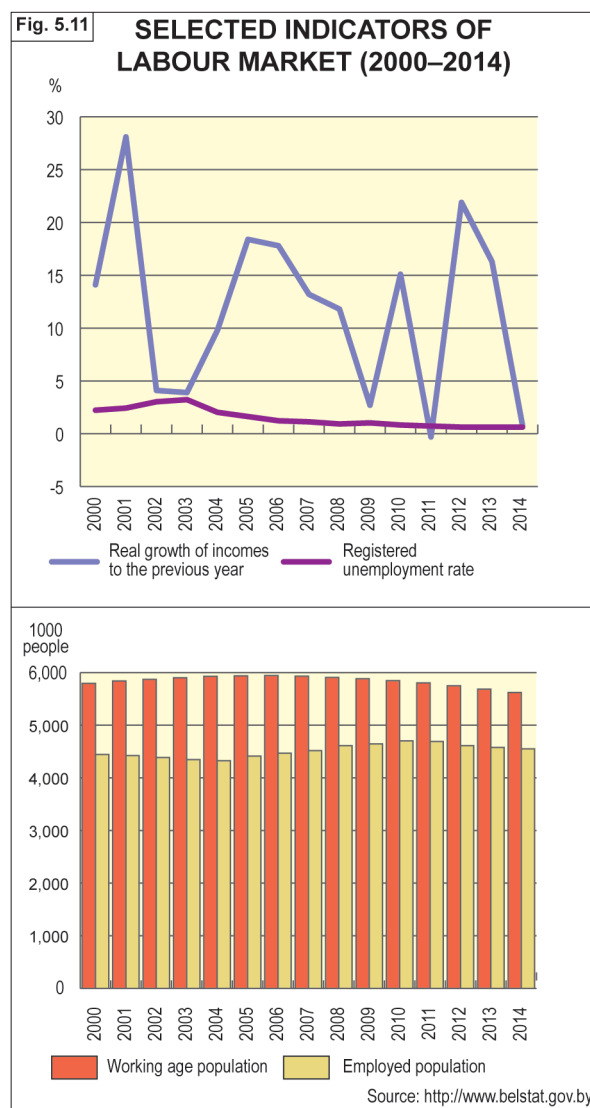
The Belarusian population has traditionally had a high **level of education**. All censuses conducted since the Second World War have testified to a continuing improvement. The literacy rate in Belarus is one of the highest in the world: 99.7% of the adult population and 99.8% among young people. As the most recent census revealed, only 0.1% of the urban population and 1.0% of the rural population have no education. On average, a person receives 11.5 years of school education. With this figure Belarus is ranking on the 10th place among the countries of the world.

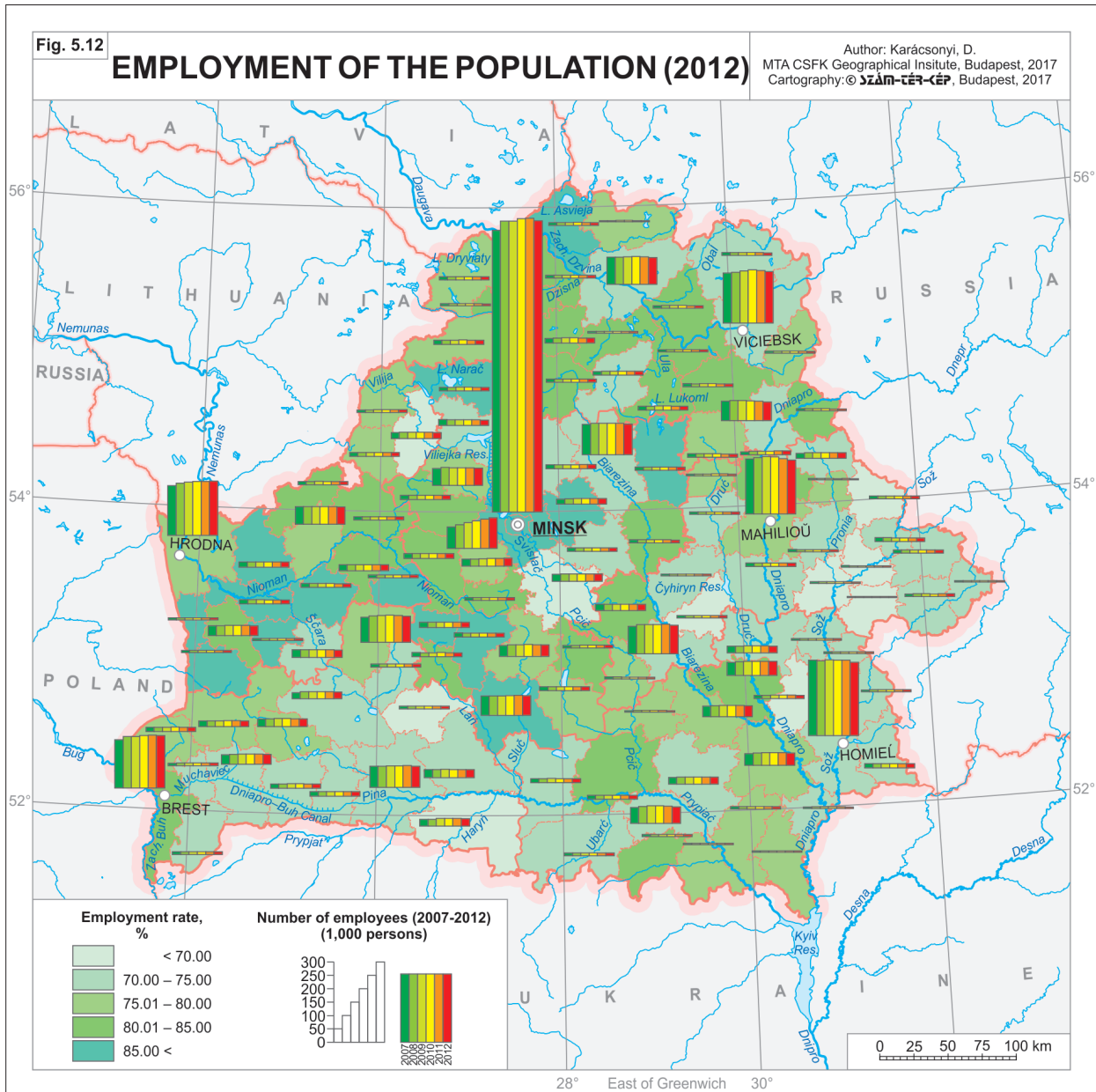
At the time of the last census in 2009, 90% of the population aged 15 years or over had been educated at higher, secondary specialized, vocational technical, general secondary and general basic schools. A more revealing indicator for Belarus is the share of people with higher education. The share of the working-age population with higher education is 20.5%. In the 25–29 age group, however, this indicator is much higher: 31.1%. Interestingly, Belarus’s educational statistics show that women are educated to a higher level than men.

Belarus has a relatively large **labour force**, as a percentage of its total population. The working-age population in the period 1990–2013 was around 6 million. In 1990 the labour force had made up 58.3% of the population, but by 2014 the share had increased to 62.9%. The increase is due to the entry into the workforce of the large

generation of young people who were born in the late 1980s. The highest number of people in the labour force is observed in the capital city of Minsk: 1,406,700 people.

The **economically active population** is 4.5 million people, and the figure fluctuated only marginally between 1990 and 2014 (Figure 5.11). External labour migration during the 1990s did not have a significant effect on the size of the economically active population. However, after 2005, the impact of this factor grew influencing the decrease of labour force. Until 2012, the ratio of the economically active population by sex was characterized by a slight dominance of females over males. In 2014, however, males (2,305,000) outnumbered females (2,267,000 people). The changing proportion of men and women in the





economically active population reflects these figures. In 1995, men accounted for 47.5% and women for 52.5% of the economically active population, but by 2014 the male share had increased to 50.4%, while the proportion of women had fallen to 49.6%. This shift was due to the influx of male foreign workers. In 2010, the country had 6,337 male migrant workers but only 479 female ones. In 2014, there were 27,503 male migrant workers and 4,785 female ones.

The **employment** rate remains high – 75.9% – despite a steady decline in the number of employees. The number of employed working-age

people in 2013 was 1,443,500 (25.8% of the working-age population).

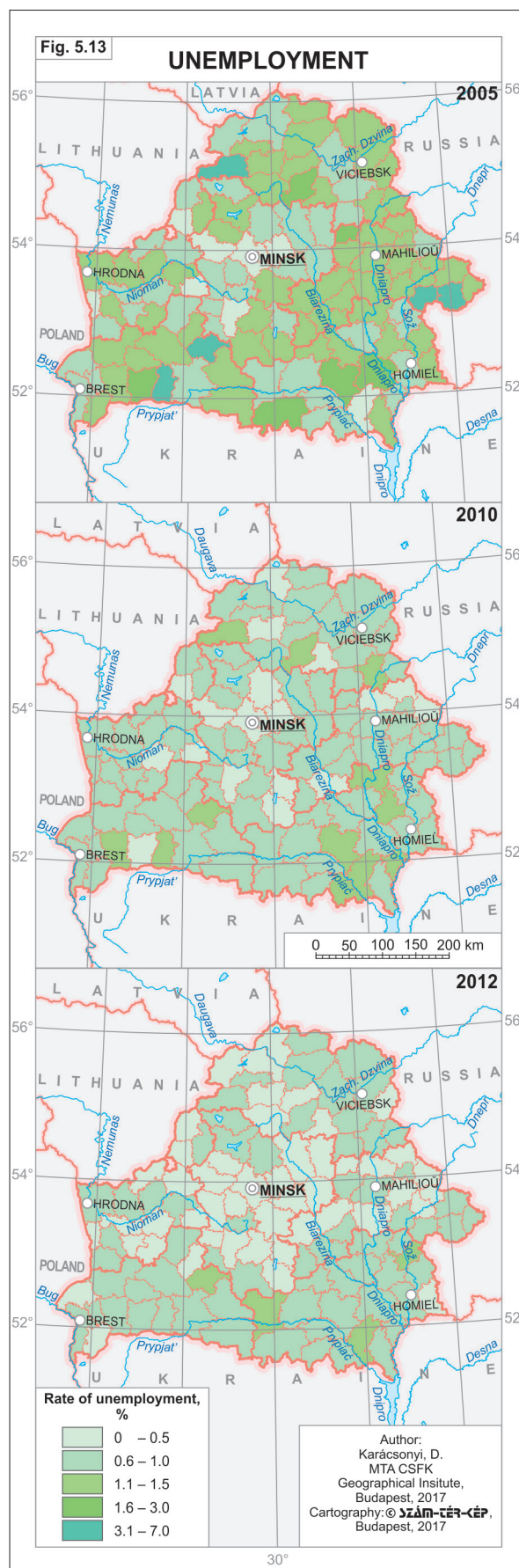
Low mobility and an uneven distribution of labour resources are the main explanations for a labour surplus in some regions and skills shortages in others. There is also an imbalance in the professional structure of local labour markets (Figure 5.12). More than 37% of the labour force is concentrated in the central part of the country – the city of Minsk and the Minsk region, while the lowest shares are seen in the Hrodna (10.6%) and Mahilioŭ (11%) regions. Significantly, more than four-fifths of the labour force (82.6%) are concentrated in urban areas.

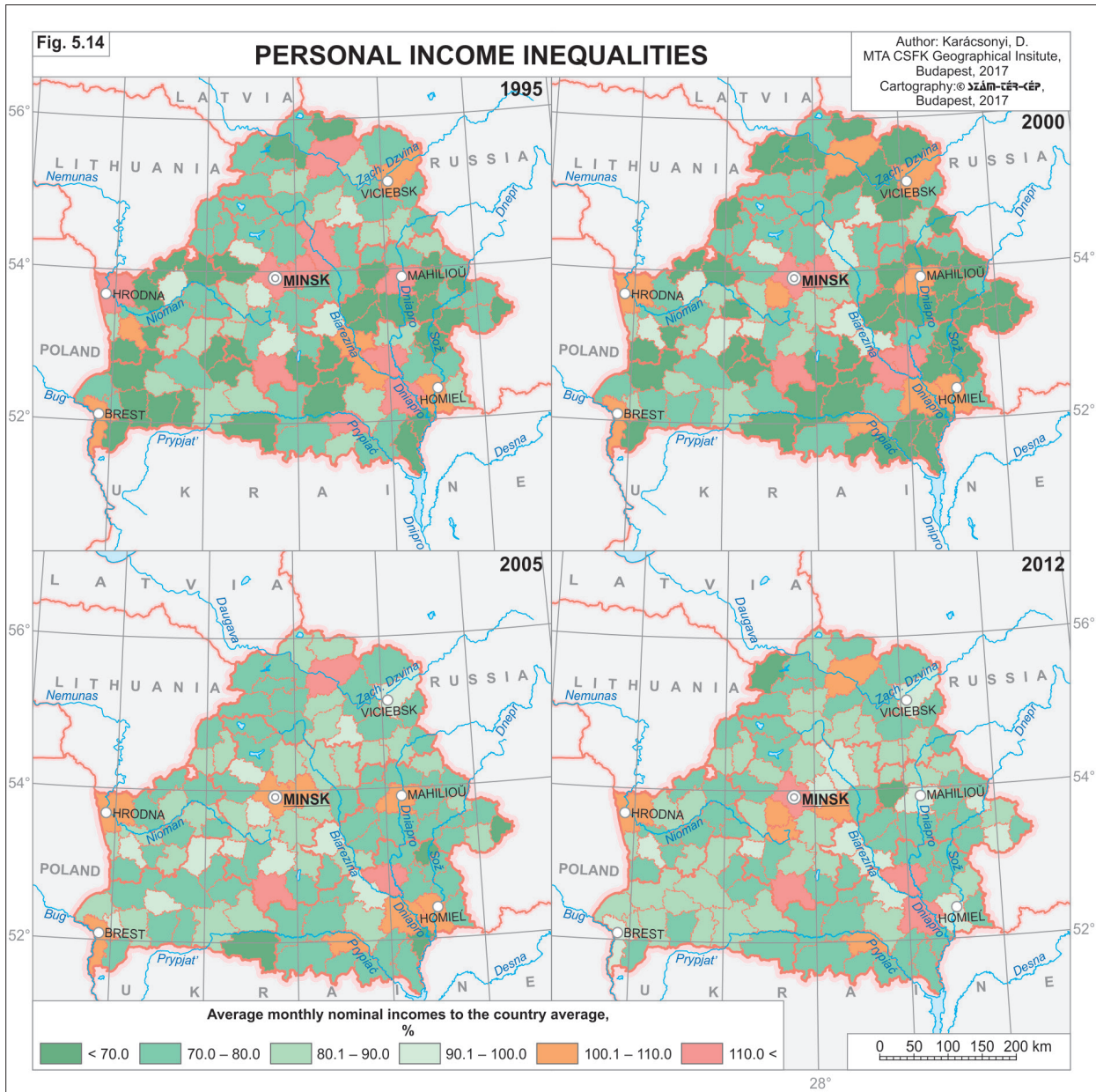
The **unemployment** rate was 0.5% in 2014, and there were no significant variations between regions (it varied from 0.2 in Minsk to 0.7% in the Hrodna, Mahilioŭ and Viciebsk regions). According to the official statistics, unemployment decreased radically in Belarus in the 2000s (*Figure 5.13*). In 2005, the unemployment rate exceeded 3% in only a few peripheral districts.

In 2014, the total **personal income** in the country was estimated at 526,275.8 billion Belarusian rubles (BYR). On average, personal incomes in the city of Minsk were 2.5 times higher than incomes in other areas of the country. Other regions by income in descending order were: Minsk, Homiel, Brest, Viciebsk,



Chat with a family in an agrogorodok (rural township). The head of the family studied medicine in Hrodna, than his job as village doctor was organised by the state. He have to work and live here for couple of years in return for his studies financed by the state. He rents the house for free which was built by and owned by the state. (Photo: Karácsonyi, D. 2011)





Hrodna and Mahilioŭ. Cash incomes per capita in 2014 were estimated at BYR 4,629 thousand per month, which is the equivalent of USD 253. The largest cash incomes were registered in the capital city of Minsk (BYR 6,719 thousand per month).

In 2014, the nominal average monthly salary of employees in Belarus reached 6,054.2 thousand BYR (around 330 USD). The capital city of Minsk has the highest level of salary (7,731.0 thousand BYR) (Figure 5.14). High salaries are also typical in the country's leading industrial centres – Salihorsk, Žlobin, Navapolatsk and

regional centres. In the 2000s, there has been a substantial levelling of incomes. Today, there are no areas with significant income shortfalls, albeit average incomes are lower in peripheral rural areas. Since 2011, cash incomes and real salaries have declined. The share of the population earning less than the subsistence wage is estimated at 4.8%.

Regarding the various categories of income, salaries and wages are in first place (62.5%), followed by social transfers (21.1%), income from entrepreneurial activity (8.5%), income from property (4.4%) and other sources (3.5%).



Typical housing estate in Minsk (Uskhod mikroraion). (Photo: Karácsonyi, D. 2011)

6. URBAN CENTRES AND THE COUNTRYSIDE

Urban system

In the early 20th century the level of **urbanization** was far lower in Belarus than in Russia or in Ukraine (Ioffe, G. 2004). In the history of Belarus, it is possible to identify different stages of socio-economic development that have influenced urbanization. The first stage – at the time of the agricultural civilization (9th–11th centuries) – saw the emergence of such towns as Polack (862), Viciebsk (947), Turaŭ (980), and Zaslauŭje (985). Those ancient towns played an important political role in Europe and were capitals of such principalities as Polack and Turaŭ. The next stage encompassed the formation of urban settlements during the Early Middle Ages (12th–13th centuries). Most of towns and villages emerged and developed at the time of the Grand Duchy of Lithuania, the Rzeczpospolita, the Polish-Lithuanian Commonwealth (1569–1795), and the Russian Empire (1795–1917). The interwar period (1918–1941) saw rather modest socialist urban development (Krasovsky, K. 2004).

During the Second World War, 209 towns, 9,200 villages, thousands of industrial plants and 80% of residential dwellings were destroyed in Belarus, and so the first post-war decade was a time of reconstruction. It was only then that urbanization began to accelerate, a process caused by industrialization and the movement of people to the towns. The fastest rates of population growth were recorded in Minsk, in the major regional centres (Hrodna, Homieĺ etc.) and in the major industrial centres (Žlobin, Rahačoŭ, Salihorsk etc.) (*Table 6.1*). The urban population boom in Belarus outstripped even the high rate of urbanization recorded in the entire Soviet Union. Some larger villages became towns and were integrated into the urban network. With the appearance of non-agricultural villages, a differentiation of rural settlements began to occur. Until the 1960s, urban development in Belarus was gov-

erned by the grouping together of major industrial facilities in the largest cities. For this reason, industry and population growth became concentrated almost exclusively in the major cities.

From the late 1960s, the focus switched to the establishment of new “Soviet” towns around the developing industrial and energy centres (Navapolack, Salihorsk and Svietlahorsk). Educational institutions and research and development departments were relocated to small and medium-sized towns, fostering the development of such towns as Žodzina, Dzieržynsk and Lahojsk. Beginning in the 1960s, the emphasis in Belarusian urban planning fell on the newly established compact residential areas, the so-called *mikroraions* (large housing estates), where space could be used more efficiently and where the separation of industrial and residential areas was prioritized. The plans often failed, however, to optimize solutions for the local population and economy. Moreover, their realization was unrealistic and architectural standards tended to slip.

It was only in the mid-1970s that the urbanization rate in Belarus reached 50%. By 2010, however, with an urbanization rate of 75%, Belarus had overtaken both Ukraine and Russia. In the 1960s, the urban population grew at a rate of 4–5% per year, and most of this growth took place in Minsk (*Figure 6.1*). Minsk not only acted as a motor for the urban population explosion in Belarus; it also became the fastest-growing capital city in the Soviet Union (Ioffe, G. 2004). In 1939, there were 237,500 people living in Minsk. In the initial post-war decades, the city’s population doubled. By 1972, it had reached the one million (Polskij, S.A. 1976). Between 1970 and 2009, the city’s population doubled once again. In terms of the dynamics and rate of urbanization, the level of growth was unprecedented (*Box 6.1*).

After 1989, the urbanization rate slowed until the mid-2000s when the process accelerated once more. Since 1989, the average population of most

Table 6.1 Largest urban centres of Belarus (1926, 1939, 1959, 1989, 2009)

Cities 1926	Thousand inhabitants	Cities 1939	Thousand inhabitants	Cities 1959	Thousand inhabitants	Cities 1989	Thousand inhabitants	Cities 2009	Thousand inhabitants
Minsk	124	Minsk	239	Minsk	516	Minsk	1589	Minsk	1814
Viciebsk	91	Viciebsk	167	Homieĺ	168	Homieĺ	501	Homieĺ	477
Homieĺ	83	Homieĺ	144	Viciebsk	148	Mahilioŭ	359	Mahilioŭ	357
Mahilioŭ	47	Mahilioŭ	99	Mahilioŭ	122	Viciebsk	350	Viciebsk	346
Babrujsk	39	Babrujsk	84	Babrujsk	98	Hrodna	271	Hrodna	322
Hrodna	35	Orša	54	Brest	74	Brest	258	Brest	305
Brest	30	Hrodna	50	Hrodna	73	Babrujsk	221	Babrujsk	215
Baranavičy	28	Barysaŭ	49	Orša	65	Baranavičy	159	Baranavičy	167
Barysaŭ	26	Brest	41	Barysaŭ	59	Barysaŭ	144	Barysaŭ	148
Pinsk	23	Pinsk	32	Baranavičy	58	Orša	123	Pinsk	129
Orša	21	Rečyca	30	Polack	45	Pinsk	117	Orša	118
Polack	21	Baranavičy	27	Pinsk	42	Mazyr	100	Mazyr	108
Rečyca	16	Polack	24	Rečyca	31	Salihorsk	93	Salihorsk	102
Sluck	14	Lida	19	Lida	29	Navapolack	93	Navapolack	98
Žlobin	11	Mazyr	17	Maladzečna	28	Maladzečna	92	Lida	97
Rahacaŭ	10	Slonim	16	Mazyr	26	Lida	91	Maladzečna	95
Haradok	6	Vaŭkavysk	15	Sluck	23	Polack	77	Polack	82
		Haradok	12	Žlobin	19	Svietlahorsk	70	Žlobin	76
		Kobryn	10	Kryčaŭ	19	Rečyca	69	Svietlahorsk	70
		Maladzečna	7	Vaŭkavysk	18	Sluck	58	Rečyca	65
				Slonim	18	Žlobin	57	Žodzina	62
				Asipovičy	16	Žodzina	54	Sluck	62
				Horki	15	Slonim	46	Kobryn	51
						Kobryn	45	Slonim	49
						Kalinkavičy	41	Vaŭkavysk	47

Source: <http://www.populstat.info/>

http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/metodologiya-otvetstvennye-za-informatsionnoe-s_2/

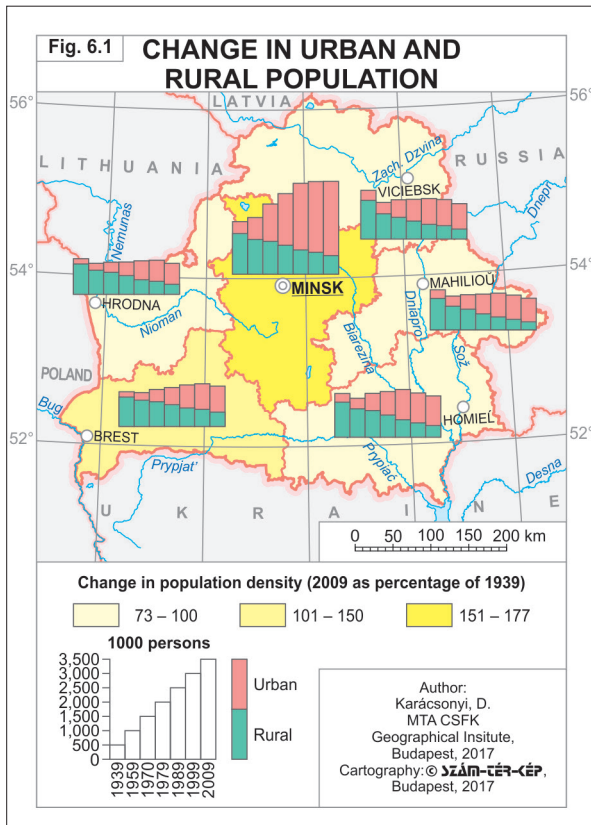
http://demoscope.ru/weekly/ssp/ussr59_reg2.php

cities has increased by between 10% and 25%. Some areas (small towns, towns in the Chernobyl zone and cities on the socio-economic periphery) have seen a fall in population. In the 1990s, there were population declines in the three major cities of eastern Belarus – Viciebsk, Mahilioŭ and Homieĺ (Figures 6.2, 6.3, 6.4). In the 2000s, however, the population of these major towns began to increase once more. Still, since 1989, the fastest growth has been recorded in Brest and Hrodna, two cities at the country's western gateway.

Despite a slowdown in population growth in the urban centres, the urbanization rate (Figures 6.5, 6.6) increased after 1989. This was because the slowdown was compensated for by an even faster decline in the rural population. Urbanization's centre of gravity shifted to a degree from the larger cities to provincial areas: in rural areas affected by depopulation, small towns were relatively

more able than villages to retain their position. In some peripheral areas, the urbanization rate increased after 1990 by as much as 20 percentage points. Meanwhile, in the Minsk agglomeration the urbanization rate declined from the 1990s onwards, owing to suburbanization.

Over the past 12 years the population of Minsk has increased by a further half million. In 2000, 1,683,200 people were living in the capital city, whereas the population is rapidly approaching 2 million people (1,893,100 in 2012), or 20% of the country's total population and 26% of its urban population. The Minsk metropolitan area accounts for 37.2% of Belarus's total urban population. This trend will continue in the future, whereby – in consequence of the primate city effect and *macropolization* (on macropolization see Pirozhnik, I.I., Antipova E.A. 2013) – Minsk will account for an even larger share of Belarus's total population.



Urban network. At the time of the most recent census in 2009, the settlement system included 112 cities, 93 urban-type settlements and 23,467 rural settlements. The urban population – in line with the Soviet definition of urbanization – comprises the cities, towns and urban-type settlements (*paselok*). Under legislation adopted in Belarus in 1998, there are three categories of urban-type settlements. In general, urban-type settlements are inhabited by more than 2,000 people and they have industrial enterprises and developed residential infrastructure. Another category covers resorts with more than 2,000 people and with advanced sanatorium and resort/tourism infrastructure. Only one settlement, Narač, is in this category. The third category covers Belarus’s six workers’ settlements, each with a population of more than 500 people.

Belarus’s complex regional organization framework identifies four hierarchical levels: a city of European importance (Minsk); 21 cities of national importance; 75 towns of regional importance; and 16 towns of local importance. The average population size of the five regional centres has increased from 316,100 to 379,300 since the 1970s. The population of medium-sized towns has stagnated, while small towns are the only

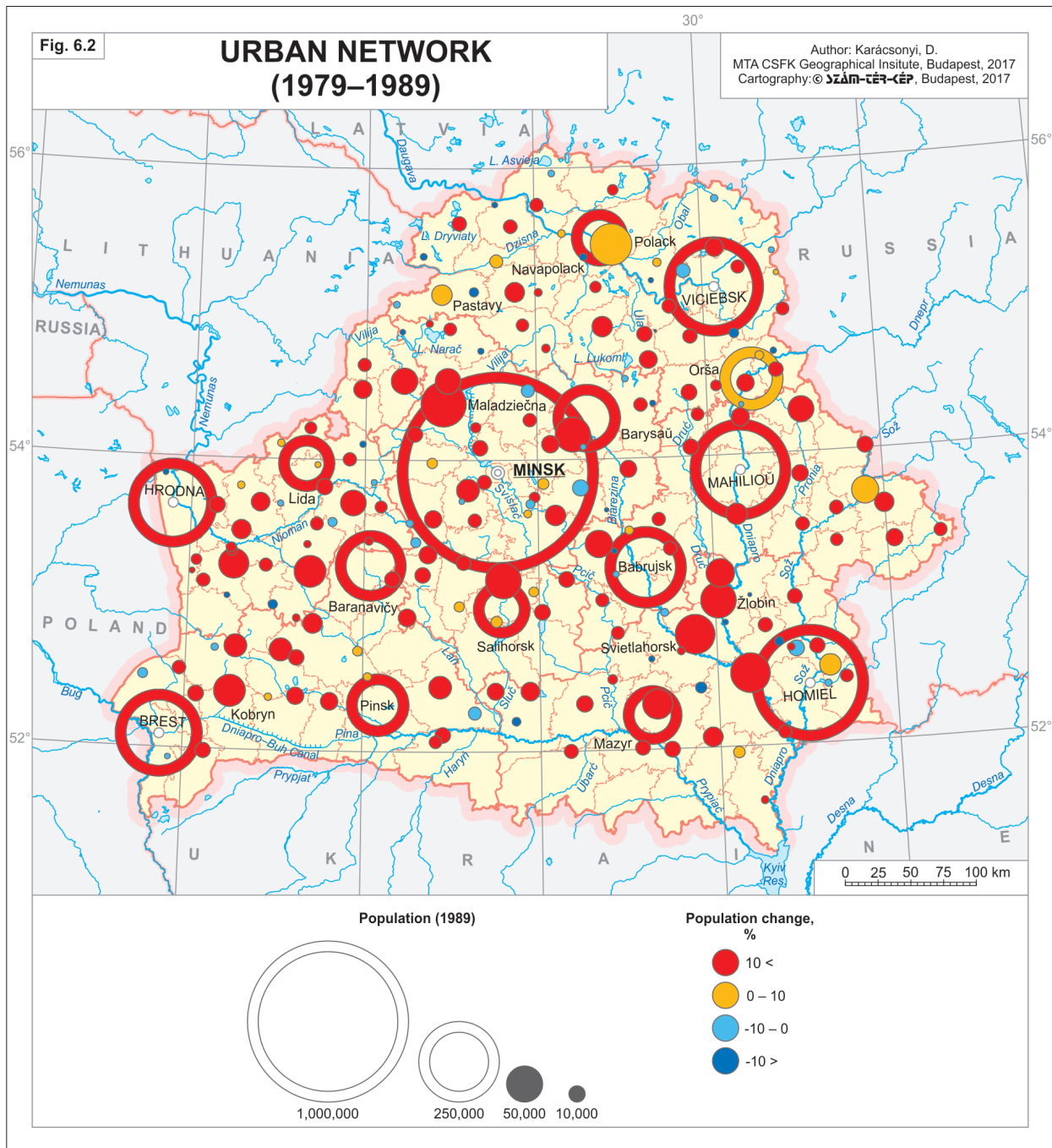
category of urban settlements that have experienced a population decline (of 24%).

Towns with less than 20,000 inhabitants are the dominant category in the structure of urban settlements (accounting for 82% of all urban settlements in the country). They comprise only 17% (2009) of the total urban population (Table 6.2). In the mid-20th century, urban settlements with fewer than 20,000 inhabitants were more common in the settlement network. Currently, several small towns are being impacted by new developments. As their functions become more diverse and their small businesses more active, a process of demographic revitalization takes place. Such revitalization was associated with the implementation of the “State Comprehensive Programme of Development of Regions, Small and Medium Towns for 2007–2010”.

Belarus’s urban network is spatially differentiated. The northern part of the country, the Viciebsk region, has the greatest density of small towns affected by population decline. At the same time, the northern areas exhibit a high level of population concentration in large industrial and multifunctional centres. Examples include Viciebsk, Navapolack and Orša, which together account for 64% of the total urban population in the region. The only medium-sized settlement in the region is Polack. The structure of urban settlements in the Mahilioŭ region is characterized by the absence of medium-sized towns and a very high population concentration in large cities. The cities of Mahilioŭ and Babrujsk account, on their own, for 70% of the urban population. In the Homiel region, the major cities (Homiel and Mazyr) comprise 58% of the region’s urban population, with the regional centre alone accounting for 47%. Meanwhile, medium-sized towns account for 26% of the region’s urban population.

In the western and south-western parts of Belarus, medium size and large urban settlements are more prevalent than in other areas, and these types are also more stable. In the Brest region, there are three large cities (Brest, Baranavičy and Pinsk).

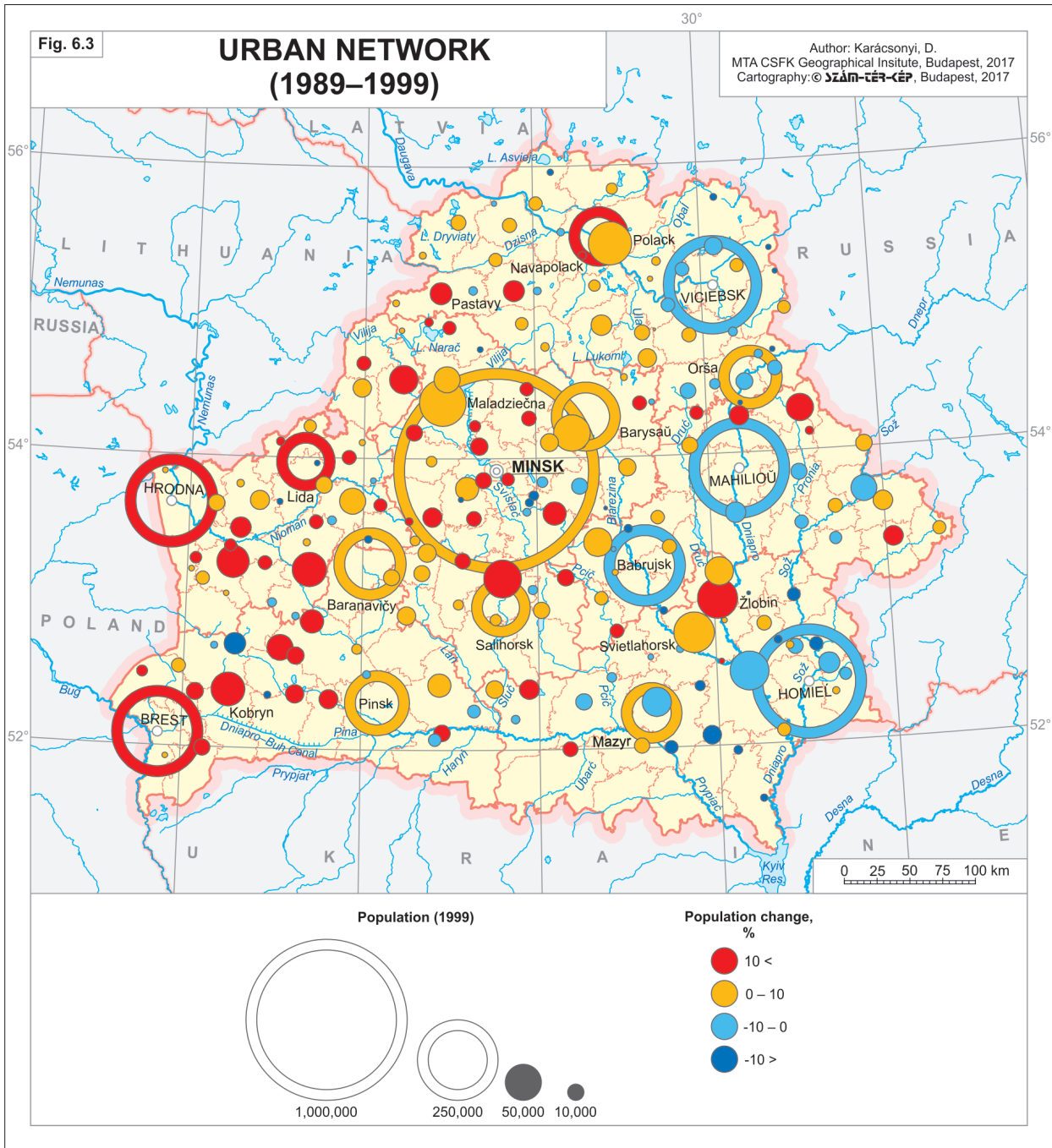
The larger cities account for 66%, and towns for 14%, of the urban population. On average, urban settlements in this region have 31,700 inhabitants. In the Hrodna region, large cities and towns make up almost equal shares in the settlement structure. The only large city in the region (Hrodna) accounts for 45% of the urban population, while



medium-sized towns (Lida, Slonim, Vaŭkavysk, Smarhoń and Navahrudak) account for 34%. Urban settlement in the central part of the country has been strongly influenced by the closeness to Minsk. Consequently, in this region small towns are the main components in the settlement structure.

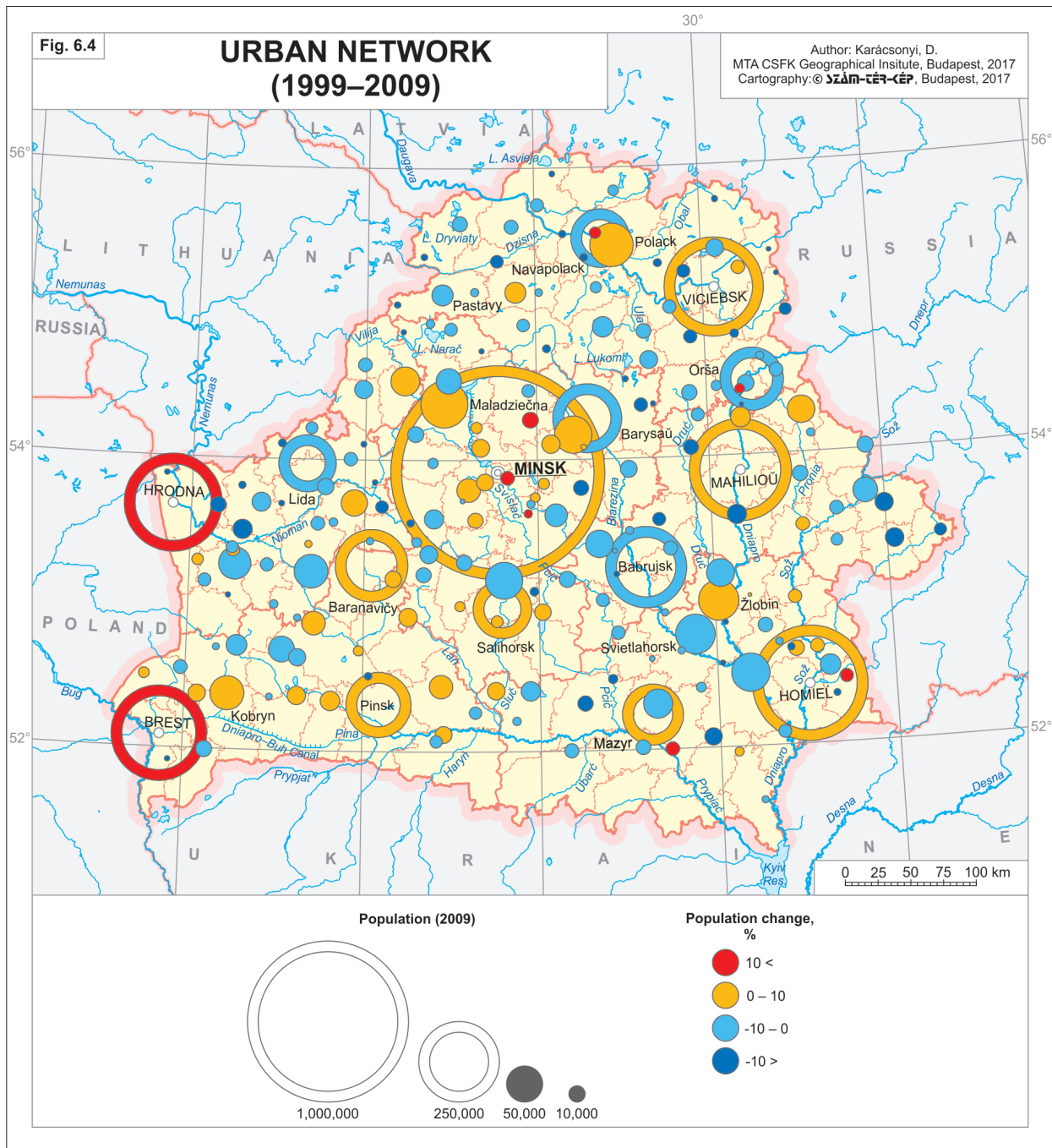
Functional types of cities. Under Belarus's complex territorial organization plan (adopted in 2007), cities are categorized into six types: multifunctional (e.g. Minsk), industrial (e.g. Pinsk,

Orša), agro-industrial (e.g. Ivanava, Dubroŭna), agricultural (e.g. Svislač), tourist-recreational and nature-oriented (e.g. Miadziel, Drahičyn), and scientific (e.g. Horki). Minsk and the regional centres are multifunctional cities. Industrial cities account for 40% of cities, as do also agro-industrial cities. Finally, every tenth city is in the tourist-recreational and nature-oriented category. Such cities have rich cultural and historical heritages as well as recreational resources.



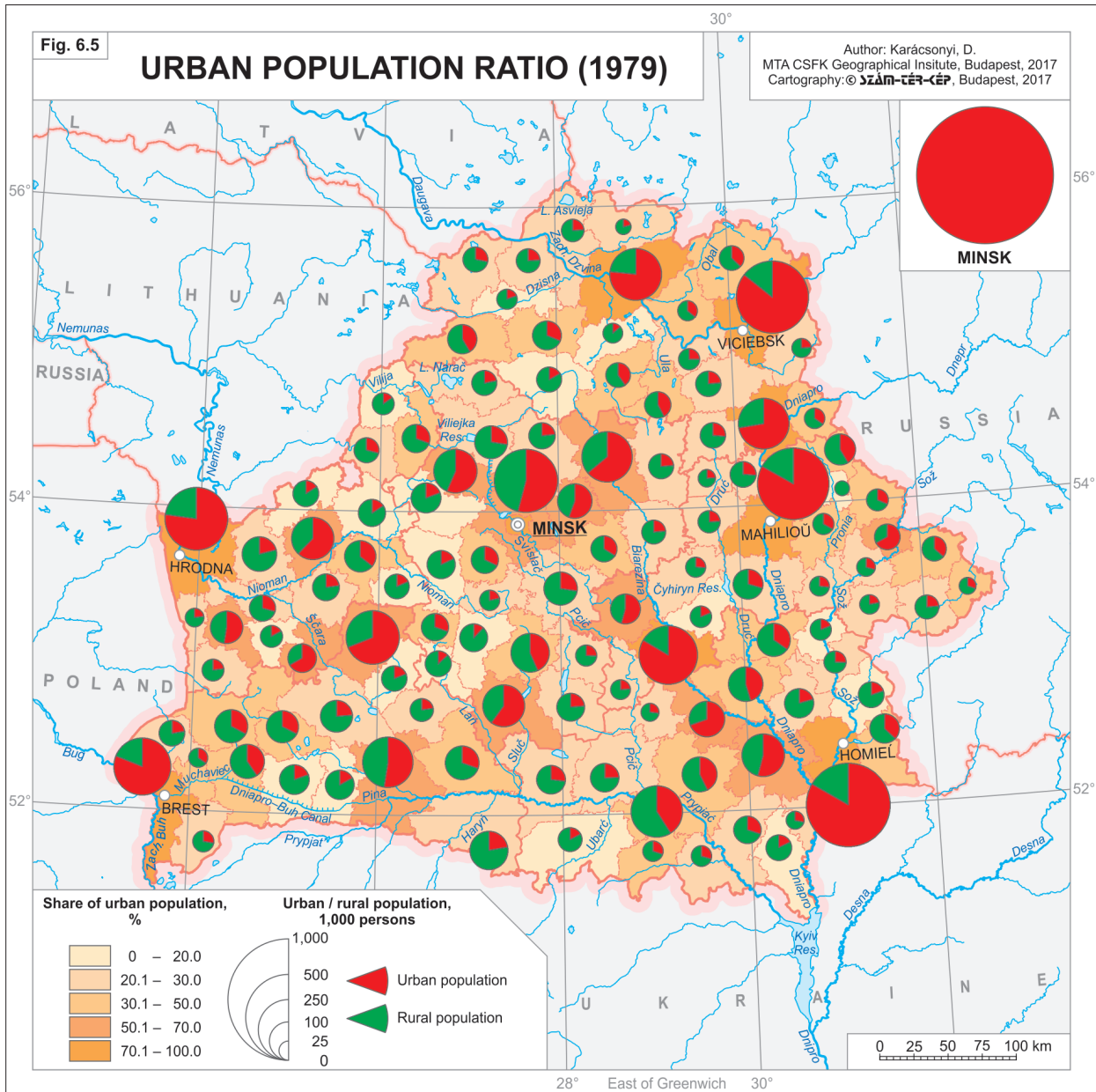
Box 6.1 Development of Minsk and the influence of Soviet urban planning

In terms of its development and structure, Minsk is a classic example of Soviet urban planning. As Ioffe stated, Minsk is a symbol of Soviet-style success (Ioffe, G. 2004). Minsk became the seat of a governorate only in 1793, and until the 1880s it did not stand out from the other Belarusian



cities. In terms of population size, Minsk lagged well behind other Eastern European cities that are now similar in size, such as Odesa, Kyiv or even Kharkiv. Minsk began to develop at the very end of the 19th century, owing in large part to the construction of the Moscow-Warsaw railway in 1871. At the time, industrialization was limited to small-scale factories or workshops, craft industries, and light industry (Bohn, T.M. 2008). During the ensuing thirty-year period, Minsk's population more than doubled. At the time of the 1897 census, Minsk (90,000 inhabitants) was already the largest city in the area of today's Belarus.

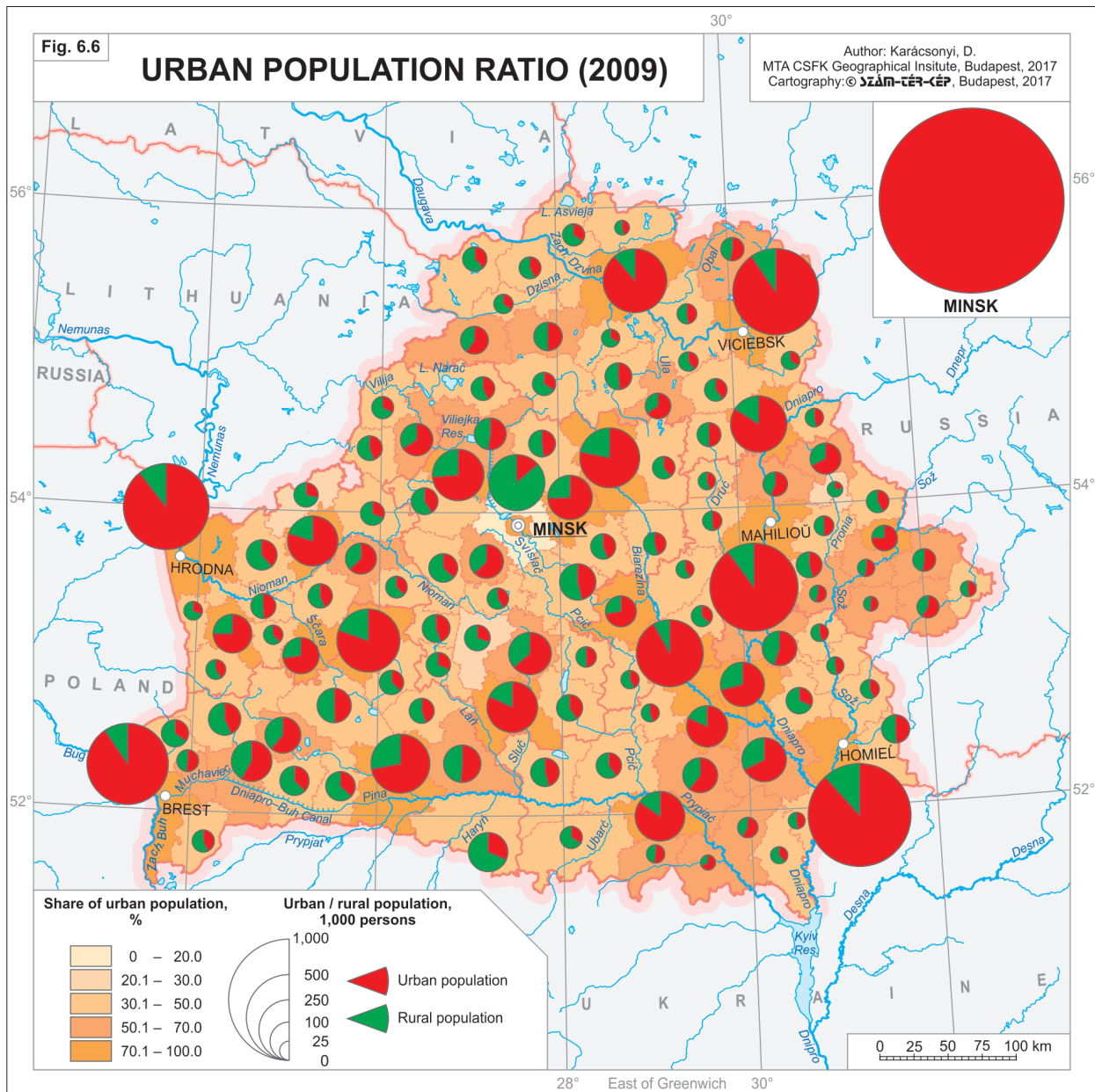
Between 1926, shortly before the era of Stalinist industrialization, and 1939 the city's population doubled once more (to 238,000). Such dramatic growth still lagged somewhat behind population growth in the Soviet worker metropolises (Harkiv, Stalino – now Donetsk and several



cities on the River Volga). Not until the latter half of the 20th century did Minsk become Eastern Europe's fourth largest metropolis after Moscow, Saint Petersburg and Kyiv.

During the Second World War, Minsk was almost completely destroyed. During the period of post-war reconstruction, the city received its present form, which largely reflects Moscow's General Plan of 1935 with its radio-concentric urban structure (Figure 6.7). In the absence of strong urban features (the River Svislač and the railway were the only exceptions in this regard), large-scale urban development transformed Minsk into a "classic" Soviet city. In view of the lack of private capital, land ownership rights did not prevent this process.

The destruction of the Second World War was soon eclipsed by the city's explosive post-war growth. The number of inhabitants at the time of the 1959 census (509,000) was twice the figure for 1939. In the post-war period, Minsk, which had been a largely Jewish and middle class city before the war, became a kind of "rural metropolis", in consequence of the rapid inflow of Belarusians from rural areas. Many of these new inhabitants became factory workers



(Bohn, T.M. 2008). Soviet urbanization took place so rapidly – especially in the case of Minsk – that the newcomers proved incapable of establishing an urban milieu. Instead, provincial (or rural) culture remained paramount for a long period (Ioffe, G. 2004).

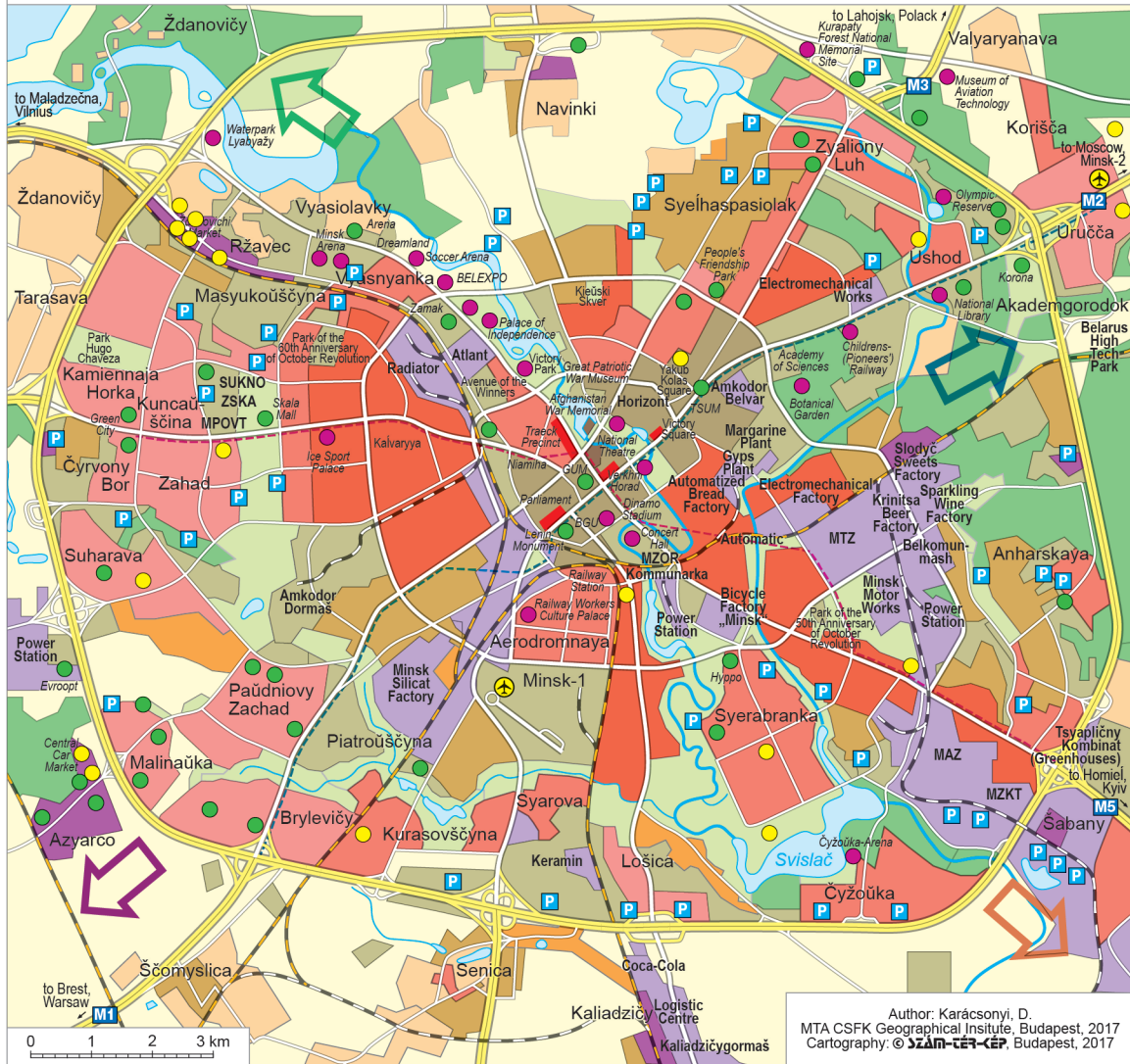
This period saw the construction of the city's north-eastern sector as the continuation of the 45-metre wide Independence Avenue (Lenin Avenue during the Soviet times). The focus of another area of construction and development was the tractor factory and its adjacent area, which became a further secondary centre in the city.

The 1960s marked the beginning of the large scale population boom. By 1970, the population of Minsk had reached 907,000, which meant an average annual increase of almost 36,000! It was, however, during the 1970s that the growth rate peaked – at an annual increase of 40,000. That decade saw the fastest rate of construction of high-rise housing estates (e.g. Syerabranka).

The main (north-south) axis in the Belarusian capital, Lenin Avenue (now called Independence Avenue), began to take on its current appearance – with many large and

Fig. 6.7

MINSK – FUNCTIONAL-MORPHOLOGICAL STRUCTURE



Author: Karácsonyi, D.
MTA CSFK Geographical Institute, Budapest, 2017
Cartography: © SZÁM-TÉR-ÉP, Budapest, 2017

FUNCTIONAL-MORPHOLOGICAL SYSTEM

City Centre

- Reconstructed historical core
- Business area, shops, admin., main universities (4-6 floors Stalin-era architecture)
- Representative places and buildings

Residential areas

- Inner residential areas with 4-5 floored houses (khrushchevka)
- High rises in city center on main roads and 8-10 floored housing estates from the Brezhnev-era in the suburbs
- Residential suburbs with 10-12 floored housing estates (mikroraions)
- Garden cities (dachas, detached houses)
- Former villages
- Detached houses, villas (kotedzhi), mostly suburban

Recent and future development axes of urban growth

- Scientific-IT-foreign investment
- Recreation-leisure-higher ranked residential
- Mass residential (housing estates)

Open areas

- Public green areas, parks
- Open fields, agriculture
- Forests
- Waters

Other functions

- Industry
- Logistics, depots
- Mixed functions built-up areas

Service sector

- Sport, cinema, exhibition
- Market (rinok)
- Shopping centres, supermarkets, hypermarkets
- Guarded parking lots

Transportation

- Circle highway (MKAD) and other highways
- Other circle roads (kolco) and avenues (prospekt)
- Main railway lines with commuter train (elektrichka) service to the suburbs
- Other railway
- Metro line 1 (Maskoŭskaja)
- Metro line 2 (Aŭtazavodskaja)

- Industrial-investment

spacious squares – after the war. The start of the boulevard is the location of Independence Square and the site of The House of Government (building of the National Assembly of the Republic of Belarus), which was built in the 1930s in the Soviet Constructivist style. Beneath the square, an enormous underground shopping centre with high-standard facilities has been built, extending over two-three floors. Department stores reflecting traditional Soviet forms are also to be found in Minsk, including the Central (CUM) and State (GUM) Department Stores on Independence Avenue.

Victory Square, with its huge obelisk (the symbol of the city), as well as the Mašeraŭ Avenue (named after the popular leader of Soviet-Belarus in the 1970s and former partisan leader during the Great Patriotic War) performs representative functions. The outer part of Independence Avenue is the site of the ultramodern national library (inaugurated in 2005), which is the latest symbol of the country's modernization. In the surrounding area, a new secondary centre is being established. Various major construction projects are underway in this as well as in the north-western area of the city (around Minsk Arena), and many of the projects (shopping centres, office buildings, residential areas) are being funded by private (foreign, e.g. Russian, Turkish) capital.

The city's former medieval core on the banks of Svislač is currently being reconstructed; it is limited to a few blocks in the Niamiha area. The main historical sites are as follows: the old city hall (the renovation of which was completed in 2003) and the 17th century Cathedral of St Peter and St Paul in the Niamiha area.

The main railway station, which was modernized in the early 2000s, lies to the south-west of the city's core at the former edge of the city. The railway lines in this area determined the direction of residential growth until as late as the mid-20th century, given that residential areas could only be established to the north-east of the urban core. A whole series of industrial areas were established along the railway lines to the south of the city. For instance, this area was the location of the Minsk Tractor Factory (MTZ), the automotive factory (MAZ), the radiator factory and many other plants. Moreover, the city's first airport (Minsk-1) was established in the south-western part of the city.

Moving outwards from the city centre, the more decorative buildings of the 1950s give way to three-five storey blocks built in the 1960s, the so-called *khrushchevkas*, named after the Communist Party general secretary (Khrushchev). As the buildings were all owned by the state, boundaries of plots lost their significance, and so the buildings tended to be constructed between streets in a loose fashion. The outer residential areas of Minsk are therefore characterized by the lack of clearly defined street fronts. Rather, the multi-storey buildings are loosely arranged in a park-like setting.

Service facilities in the outer residential areas, which are divided into various housing estates (micro districts or *mikroraions*), have improved significantly in recent decades, owing to the construction of numerous privately funded shopping malls and centres (e.g. "Hyppo"). Recently development of hypermarkets and shopping malls along the circle highway (MKAD) came to fore (e.g. "Korona", "Evroopt"). Houses with gardens are concentrated in the villages that were placed within the present city limits in earlier periods. Even today, this residential type is far less significant in Minsk than in Central Europe. Modern housing estates (interspersed with enormous garages) are being built to the west and south-west of the centre, while houses with gardens (smaller *dachas* as secondary homes during summer time or the so called *kotedzhi* – derived from English cottage –, larger luxury detached houses) are being built to the north of the centre in the wooded residential areas that line the River Svislač.

Suburbanization has begun in the area surrounding capital city, but the satellite cities (e.g. Žodzina) that were built to lessen the burden on Minsk were the results of central planning. Spontaneous suburbanization has occurred mainly along the suburban railway lines (*elektrichka*) leading to and from the city.

Table 6.2 Distribution of urban settlements according to size (2009)

Administrative status of urban settlements	All size categories of urban settlements	Population size categories of urban settlements							
		<5,000	5,000–10,000	10,000–20,000	20,000–50,000	50,000–100,000	100,000–250,000	250,000–500,000	1,000,000<
		Number of urban settlements							
Cities and towns	112	4	26	44	15	10	7	5	1
Urban type settlements	94	64	28	2	–	–	–	–	–
		Thousand persons living in urban settlements							
Cities and towns	6,708,552	10,892	210,829	604,226	472,730	757,522	989,382	1,826,163	1,836,808
Urban type settlements	355,977	145,500	189,183	21,294	–	–	–	–	–

Source: <http://census.belstat.gov.by/Reports.aspx?page=174122>

Rural settlements

Historically, the rural settlement structure in Belarus has been characterised by a spatial distribution that accords with the natural terrain. The original site and size of the villages were determined by the small patches of clearing in the huge forests which had covered most of Belarus. In the Soviet era, such factors were pushed aside by socioeconomic policy, but they continued to make an impact. At the time of the Soviet Union, major land reclamation and drainage projects were undertaken in the Paliessie area. Their significance was far greater than that of similar projects in other Soviet republics (Ioffe, G. 2004). The impact was felt on the settlement network and – in view of the declining population – on the availability of even more land (Ioffe, G. 2006).

The rural population bore the brunt of several years of foreign occupation during the Second World War and of the partisan war, but the effects were successfully overcome in the post-war period. In the Soviet era, the main aim was to concentrate the population in major village centres. Meanwhile, tiny villages were starved of state investment in development. In rural areas of the country, the two major problems are depopulation and reduction in the average size of rural settlements (Box 6.3). Both phenomena exert an ever-increasing influence on changes in the rural settlement pattern.

Compared with the situation in the Soviet era, independent Belarus has prioritized the development of rural areas (Balmaceda, M.M. 2014). The “State Rural Development Program”, which was adopted in 2003, devotes special attention to

technological improvements in agricultural production and specifies changes in the agricultural cooperative sector using private capital. A further objective of the program has been the construction of 68,000 apartments for young people (Ioffe, G. and Yarashevich, V. 2011). The year 2005 saw the launch of the *agrogorodok* program, which seeks to promote the development of villages with more than a thousand inhabitants (Box 6.2).

Rural depopulation is not only a phenomenon in regions affected by the Chernobyl disaster but also an ongoing process in the northern regions with their tiny villages. In 2009, almost a half (42%) of villages affected by depopulation were in the Viciebsk region, while 17% were in the Homiel region. Rural depopulation calls for life-sustaining environment optimisation and the rational use of rural areas.

In the 1990s and between the last two censuses, there were drastic population decreases in several raions. The rural population fell by 30–50% (Figure 6.8). All such areas were affected by the post-Chernobyl evacuations: Mazyr, Naroŭlia, Chojniki and Brahín in the Homiel region, as well as Krasnapollie in the Mahilioŭ region.

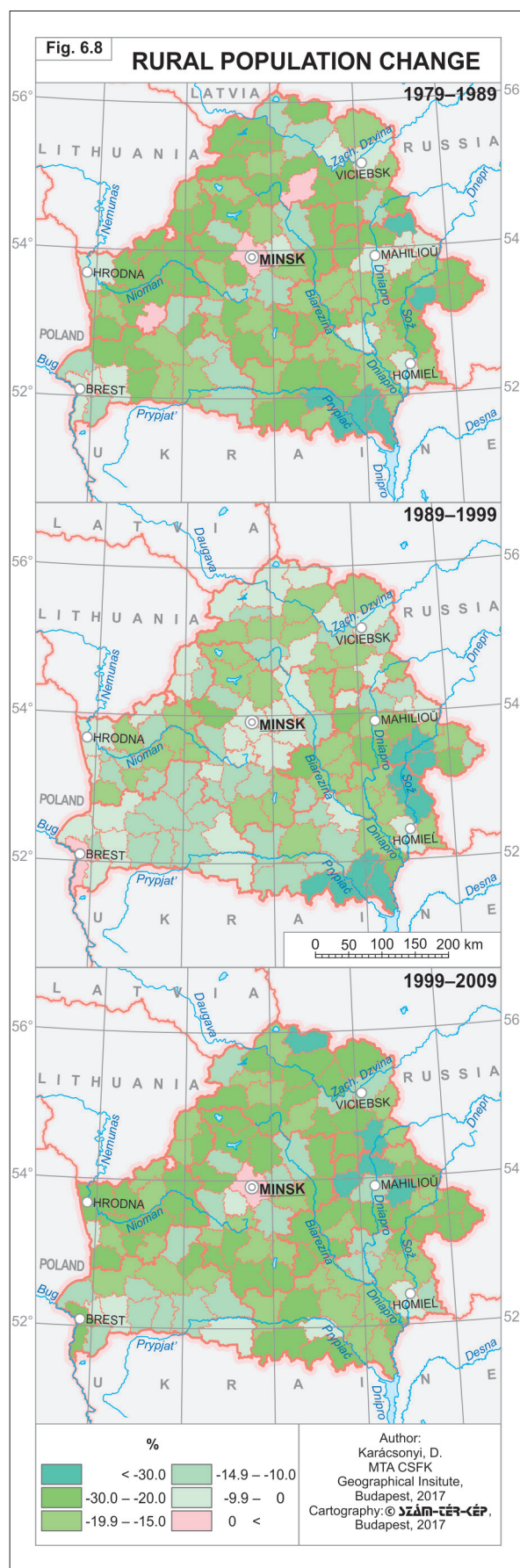
The process of depopulation began to accelerate in the 2000s when there were drastic population decreases in other regions of the country, caused by population ageing in rural areas (Figure 6.9). The sole exceptions in this regard were the western regions where post-war collectivization had not been so destructive on the well-being of rural communities as it had been in the east of the country (Ioffe, G. 2006). Moreover, in the western regions, wartime destruction had been somewhat less acute. Indeed,

in these regions, the post-war period had seen a real baby boom, a phenomenon not generally experienced in other regions (Ioffe, G. 2006). The population-retaining capacity of villages not only varies by geographical region but also depends on the distance from major towns. This is due in part to nascent suburbanization near the major cities – the county seats and Minsk.

Two demographic factors – natural decline and rural-urban migration – have resulted in a reduction in the average **size of rural settlements** (Figure 6.10, Table 6.3). In northern areas of the country, a dense network of tiny villages has arisen in the Belarusian Lakeland. Meanwhile, in Paliessie in the south of the country, there is a relatively sparse network of villages in flood-ridden areas. The Brest and Homiel regions constitute the only area with large villages (rural settlements with large populations). Overall in Belarus, the average size of villages has decreased by more than the half since 1959. Thus, in 2009, the average village had only 103 inhabitants. The decline in the number of inhabitants was significantly greater in eastern areas of the country than in the western half.

While most of the rural population is concentrated in larger villages, tiny villages are now more numerous in the settlement network, as many smaller villages have diminished in size and have been placed in the category of tiny villages. In 2009, a fifth of the rural population lived in villages with fewer than 100 inhabitants, while another fifth lived in villages with more than a thousand inhabitants. Fifty years previously, in 1959, only 12% of the rural population lived in the villages with more than a thousand inhabitants, while around 40% resided in medium-sized villages – the same percentage as in 2009, but the number of such villages has fallen significantly.

Demographic factors have also resulted in a reduction in **rural population density** (Figure 6.11). Rural areas that were densely populated in 1959 have since become sparsely populated. Moreover, a formerly contiguous demographic space now exhibits fragmentation. The rural areas affected by Chernobyl became, after 1986, the country's most sparsely populated areas. The greatest change occurred in the raions lying to the north of Homiel, which in 1979 (i.e. before the accident and the evacuations) had been relatively densely populated areas in Belarus. However, by 2009, these areas had been completely emptied of their population.



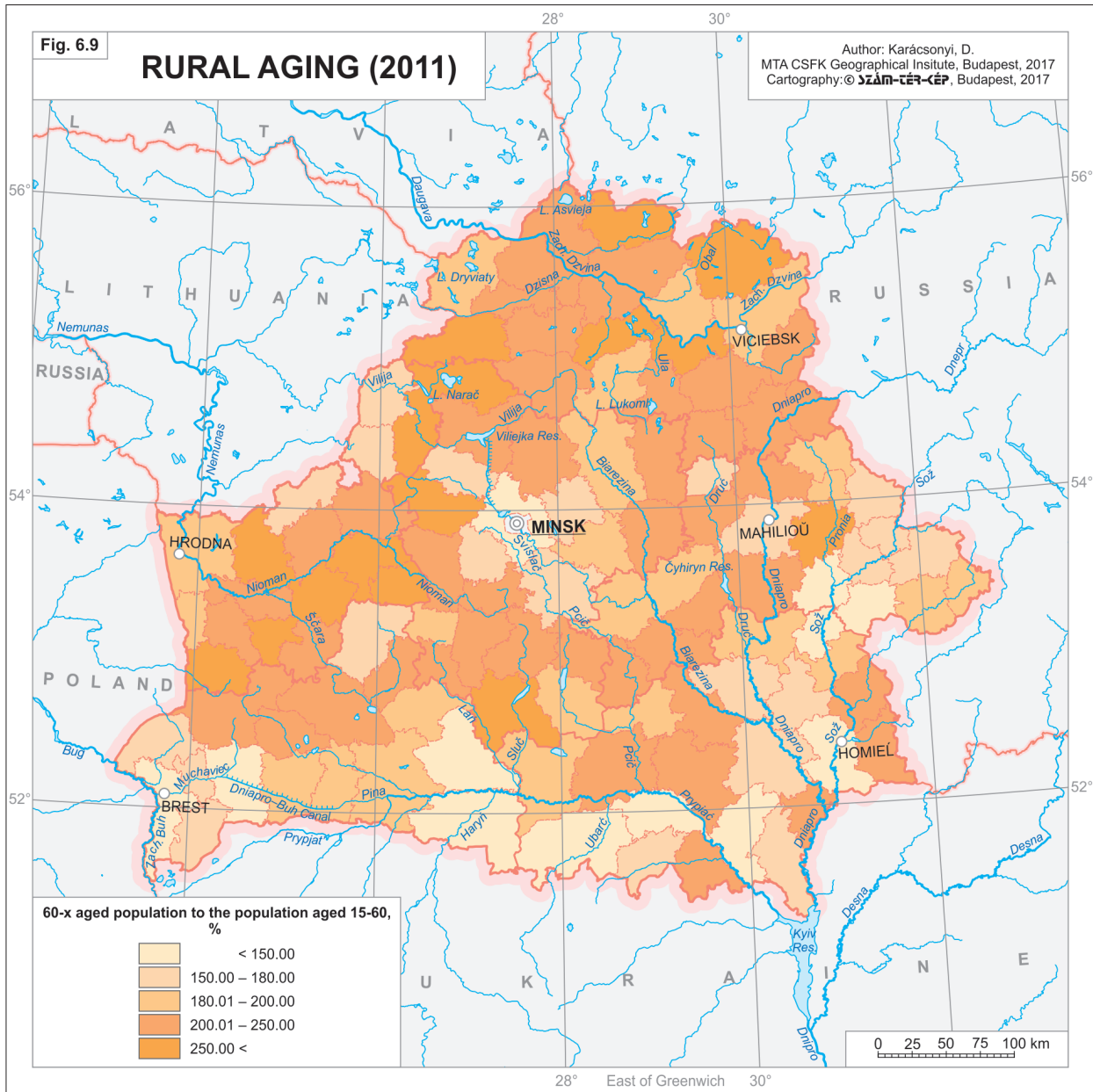
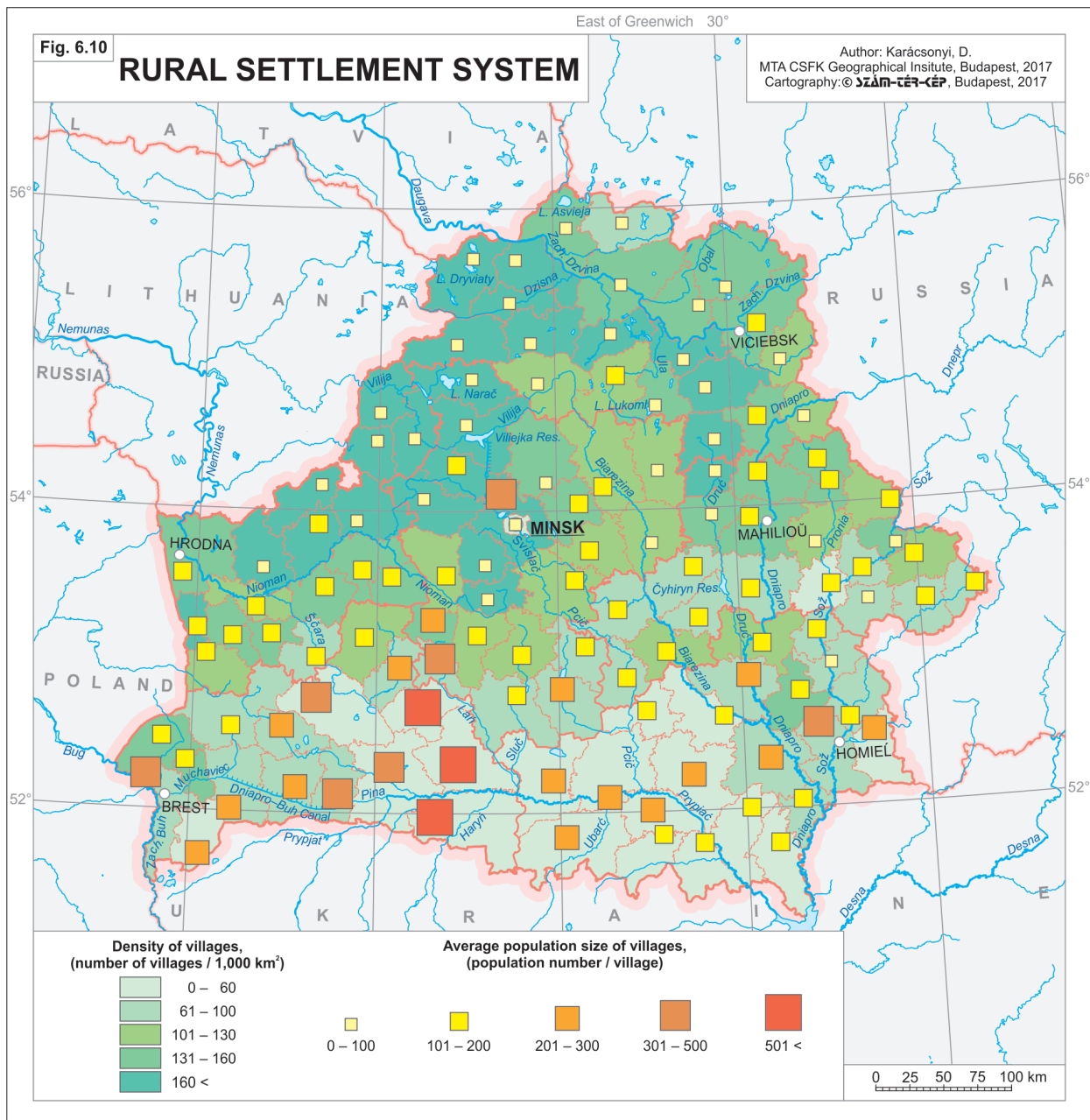


Table 6.3 Distribution of rural settlements according to size (1959, 2009)

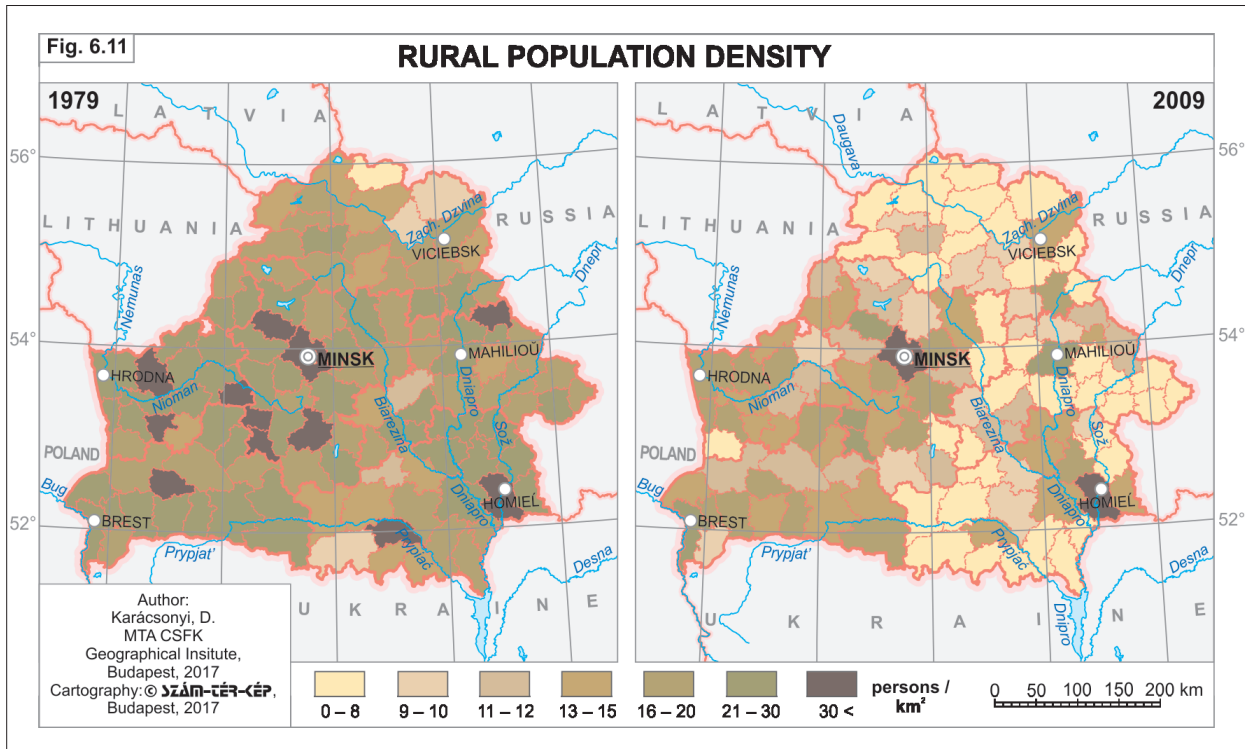
Population size categories of rural settlements					
Uninhabited	<50	51–100	101–200	201–500	501–1000
Number of rural settlements					
0	5,855	6,889	10,333	8,266	2,411
1394	14,323	2,918	1,894	1,921	797
Thousand persons living in rural settlements					
0	111,505	446,017	1,115,040	2,118,577	1,115,040
0	247,853	207,321	268,225	616,412	537,187

Source: <http://census.belstat.gov.by/Reports.aspx?page=174122>



Box 6.2 Types of agrorodoks and the national program for rural revival and development

The social and economic crisis experienced by rural areas in the early 1990s inspired the elaboration of “The National Program for the Rural Revival and Development for 2005–2010”. To promote stable development in rural areas, the program provided for the formation of a new type of settlement. The agro-settlement, or *agrorodok*, was conceived as a comfortable rural settlement with industrial and social infrastructure. It was foreseen that such infrastructure would be at the disposal of residents and the inhabitants of adjacent areas too. Indeed, the *agrorodoks*



were conceptualized as new rural centres that would provide social services and employment opportunities to the inhabitants of villages in a 15-kilometre radius and perform administrative functions as agricultural centres. Under the program, the agro-settlements were placed in two groups, based on the extent and levels of their functions as rural centres. Overall, 1,481 *agro-rodoks* were created in the Republic of Belarus. More than half million people, or 20% of the country's rural population, live in *agro-rodoks*.

The *agro-rodoks* are expected to be the locations of demographic growth in rural areas, while the population of other rural localities declines. Evidently, the agro-settlements have specific demographic development potentials.

Agro-rodoks with a favourable demographic status (1% of these settlements and 3% of the population) form part of the Minsk agglomeration; they are mostly situated in Minsk district. These settlements are growing thanks to natural population increase and inward migration.

Agro-rodoks with a relatively favourable demographic status (42% of the population) are located primarily in the southern part of Belarus and close to major cities. The main source of their demographic growth is expected to be the natural population increase.

Agro-rodoks with a conditionally favourable demographic situation (25% of the population) are those in peripheral southern areas with a large population size and in central-western areas with a medium and small population size. These agro-settlements may, subject to certain conditions, experience natural population increase. Those settlements that lie near a major city may experience population growth due to a slower natural decrease, while other agro-settlements may grow by attracting young people.

Agro-rodoks with an unfavourable demographic situation (30% of the population) are situated in the rural periphery or at isolated locations in other areas. These settlements are incapable of demographic growth based on natural population increase. Migration (if supported by the state) could enhance their potential for demographic growth.

Box 6.3 Typology of raions based on demographic characteristics of rural population

Based on demographic conditions and the nature and dynamics of the settlement network, various **types of rural raions** were identified by means of cluster analysis (Antipova, E.A. 2008) (Figure 6.12, Table 6.4). The three main types reflect demographic conditions (stable, limited growth, instable), while the nine subtypes are categorized based on regional features or attributes.

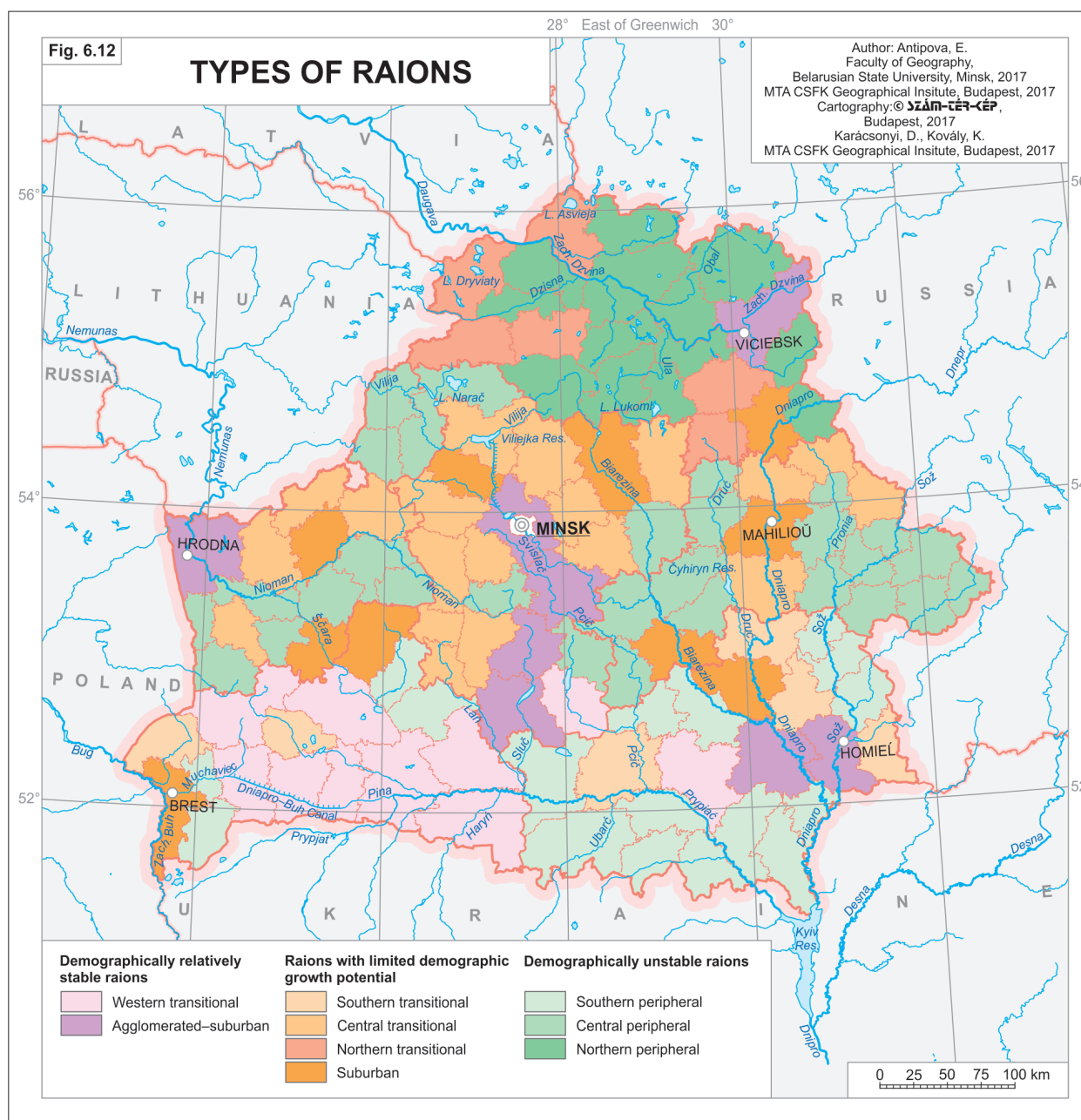


Table 6.4 Types of raions by demographic characteristics of rural population

Type, subtype	Number of raions	Total area of type, subtype		Population		Rural settlements		Average population number (persons)
		km ²	%	Persons	%	Total number	%	
Type 1 Relatively stable raions	18	44.1	21	804,564	30	3,537	15	277
Subtype 1A Western transitional. Medium and large settlements with high population density and high demographic potential, lower than average natural decrease, medium labour potential, uneven spatial population distribution with stable settlement structure.	10	22.5	51	344,345	43	1,355	38	338
Subtype 1B Agglomerated-suburban. Medium and large settlements with high population density and high demographic potential, lower than average natural decrease, favourable labour potential, and highly uneven spatial population distribution with stable settlement structure.	8	21.6	49	460,219	57	2,182	62	216
Type 2 Raions with limited demographic growth potential	40	72.4	35	1,065,092	39	10,551	43	138
Subtype 2A Southern transitional. Medium and large settlements with average population density, average or low demographic potential, average population decrease, favourable labour potential, and significantly unequal spatial population distribution with stable settlement structure.	6	11.3	16	157,938	15	1,022	10	197
Subtype 2B Central transitional. Small and medium settlements with low population density, average or low demographic potential, average and over average population decrease, unfavourable labour potential, and even spatial population distribution with relatively unstable settlement structure.	19	30.8	42	448,622	42	4,753	45	118
Subtype 2C Northern transitional. Small and medium settlements with very low population density, average or low demographic potential, average and over average population decrease, unfavourable labour potential, and relatively even spatial population distribution with relatively stable settlement structure.	6	11.8	16	114,675	11	2,465	24	60
Subtype 2D Suburban. Small and medium settlements with low population density, average or low demographic potential, average population decrease, average labour potential, and uneven spatial population distribution with relatively stable settlement structure.	10	18.5	26	343,857	32	2,311	21	175
Type 3 Demographically unstable raions	60	89.9	44	823,355	31	10,132	42	123
Subtype 3A Southern peripheral. Medium and large settlements with very low population density, low demographic potential, over average population decrease, unfavourable labour potential, and relatively even spatial population distribution with relatively stable settlement structure.	17	27.6	30	235,668	29	1,629	16	186
Subtype 3B Central peripheral. Small settlements with very low population density, low demographic potential, over average population decrease, unfavourable labour potential, and relatively even spatial population distribution with relatively stable settlement structure.	29	38.6	43	394,359	48	5,004	50	112
Subtype 3C Northern peripheral. Small settlements with the lowest population density, low demographic potential, over average population decrease, unfavourable labour potential, and relatively even spatial population distribution with relatively unstable settlement structure.	13	23.7	26	193,328	23	3,499	34	70

Source: Antipova, E.A. 2008



Workers of the BELAZ factory (Žodzina) – BELAZ is the manufacturer of the largest, heaviest dumpers in the world. (Photo: Karácsonyi, D. 2011)

7. ECONOMY

General characteristics of the economy

Since independence, Belarus's economic development has differed from that of the other European countries in the post-Soviet region (Box 7.1). The country has not experienced the social polarization and dramatic fall in living standards that were consequences of the economic transition elsewhere. There was no shock therapy in Belarus (Marples, D.R. 2008). Rather, the state has maintained social stability and a kind of welfare system that is available to all and includes free education and healthcare provision (Ioffe, G. 2006). Ioffe, G., Yarashevich, V. (2011 772. p) summarized the Belarusian system as follows: "The social contract established and maintained between the regime and society was explicitly based on surrendering some personal liberties in exchange for a high degree of social safety and equity." In their view, civil liberties are less important values for Belarusians than a desire for order. On seeing the corruption, crime and growing social inequality in Russia and Ukraine, Belarusians attributed even greater importance to domestic order and social stability (Ioffe, G., Yarashevich, V. 2011). According to Frye, T. (2011), however, where there is internal social support and economic development, restrictions on civil liberties are unnecessary. In line with the classical Western liberal view, Frye holds that economic development and Western democracy go hand in hand. Here it should be noted that while the Belarusian model counts as unique in Europe, several communist countries in Asia – for instance, China – have followed a path of development that is similar in many regards.

Alongside the issues of nationhood and domestic politics, Belarus's economic course has been a source of significant controversy. Despite the contradictions, living standards are better and pensions are higher in Belarus than in the neighbouring countries of Ukraine and Russia

(Ioffe, G. 2004, 2006). Income inequality is also far lower; indeed, it is closer to the levels seen in the Scandinavian countries (Ioffe, G., Yarashevich, V. 2011) (Table 1.2). In the course of the transition, work productivity has increased without a significant decline in the employment level.

Belarus spends a substantially larger percentage of its GDP on health care and education

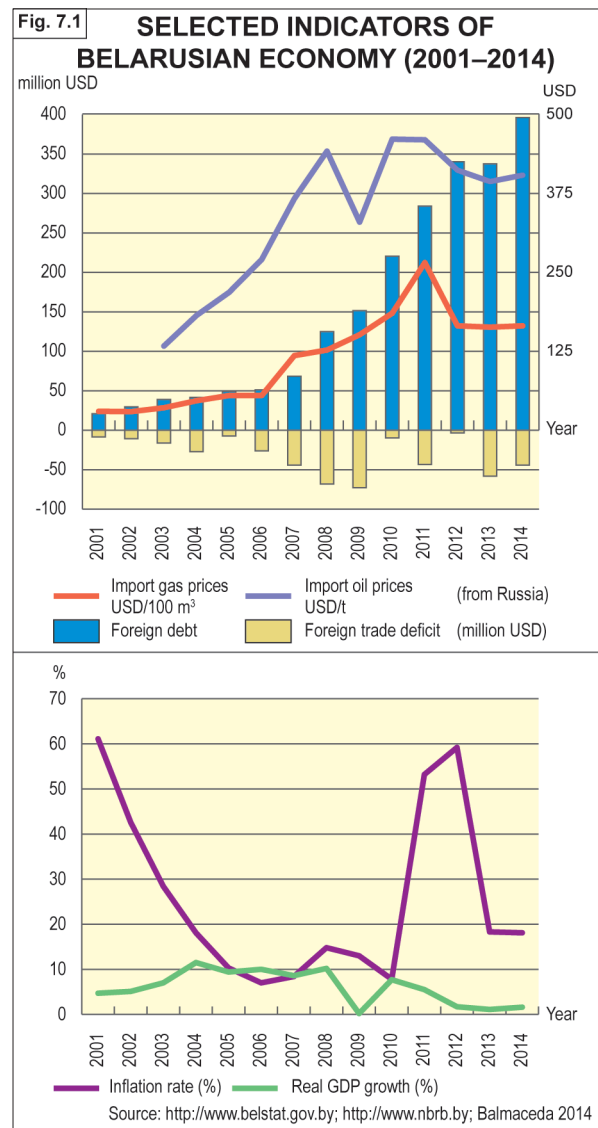


Table 7.1 Dynamics of macroeconomic indicators (2001–2014)

Indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Real growth rate of GDP (%)	4.7	5.1	7.0	11.5	9.4	10.0	8.6	10.2	0.2	7.7	5.5	1.7	1.1	1.6
Change in industrial output to the previous year (%)	5.9	4.0	6.7	15.3	10.0	11.2	8.6	11.3	-3.1	11.7	9.1	5.8	-4.9	2.0
Change in agricultural output to the previous year (%)	1.7	0.4	6.8	12.6	1.7	5.9	4.1	8.9	1.0	2.5	6.6	6.6	-4.4	2.9
Growth rate of capital investment	-3.5	6.0	20.8	20.9	20.0	32.2	16.2	23.5	4.7	15.8	17.9	-11.7	9.3	-5.8
Change in retail trade turnover (%)	29.1	11.9	10.4	11.4	20.4	17.5	15.0	19.7	3.5	15.7	9.0	14.1	18.0	6.0
Real income of population	28.1	4.1	3.9	9.8	18.4	17.8	13.2	11.8	2.7	15.1	-0.3	21.9	16.3	0.8
Income of population (% to the previous year)	-	48.5	33.4	29.7	30.6	26.0	20.5	28.3	16.0	24.1	52.7	94.0	37.5	19.0
Foreign trade balance (% of the of GDP)	-4.1	-3.3	-3.7	-6.5	1.1	-4.0	-6.2	-7.6	-11.4	-13.6	-2.0	4.6	0.7	-
Export of goods (% to the previous year)	1.7	7.6	24.0	38.5	16.0	23.5	23.0	34.0	-34.6	18.7	63.8	11.2	-19.2	3.0
Import of goods (% to the previous year)	-4.2	9.7	27.1	42.7	1.3	33.7	28.4	37.3	-27.5	22.1	31.2	1.4	-7.3	-5.9
Foreign indebtedness (% of GDP)	-	-	-	-	-	17.0	18.5	27.6	24.9	44.8	51.6	63.2	55.1	55.3
Inflation rate (consumer prices)	61.1	42.6	28.4	18.1	10.3	7.0	8.4	14.8	13.0	7.8	53.2	59.2	18.3	18.1
USD exchange in Belarusian rubles*	-	-	-	2,160.24	2,153.81	2,144.56	2,146.07	2,136.29	2,79,254	2,978.10	4,623.47	8,335.86	8,875.83	10,215.53
Registered unemployment rate (%)	2.3	2.9	3.1	1.9	1.5	1.1	1.0	0.8	0.9	0.7	0.6	0.5	0.5	0.5

Remark: * Mean value of the given year

Sources: http://data.trendeconomy.ru/indicators/Real_GDP_growth/Belarus

<http://www.belstat.gov.by>

<http://www.economy.gov.by>

<http://www.nbrb.by/statistics/Rates/AvgRate/?yr=2014>

than do Russia and Ukraine. Life expectancy is significantly higher, while the preponderance of HIV, hepatitis and tuberculosis is lower. The HDI in Belarus is one of the highest in the post-Soviet region (Ioffe, G., Yarashevich, V. 2011).

When compared to the Baltic countries or to Poland, however, Belarus is relatively backward (Table 1.2). Moreover, some authors have noted Belarus's dependence on Russian energy imports, claiming that the country is in an economic cul-de-sac (see Frye, T. 2011) (Figure 7.1). Others (see Ioffe, G. 2004) have sought to explain Belarus's favourable position in relation to Ukraine or Russia – or, indeed, its backwardness relative to the Baltic countries and Poland – as the consequence of differences in development that stem from the communist era or that reflect the east-west development gradient.



Interior design of Minsk GUM (department store). (Photo: Karácsonyi, D. 2013)

Box 7.1 The Belarusian economic model

The backdrop to the Belarusian model in the 1990s and 2000s comprises various economic, political, social and cultural factors, which have been given different emphasis by the analysts:

a) The country **rejected the economic liberalization and privatization models** that were employed in other post-communist countries. The transformation of the economy was a gradual process and the state retained a major role. As late as 2004, 80% of the economy was under state control (Buhrova, I. 2004), whereas in Russia the process of privatization was more or less complete by 1996 (Ioffe, G., Yarashevich, V. 2011). Many factories, banks and services remain in state ownership, and a kind of transformed *kolkhoz-sovkhoz* (collective and state-owned farms) system prevails in agriculture. Nevertheless, the Belarusian model contains many of the features that are present in most of the post-communist market economies: Belarus has a parliament, political parties of various persuasions, and a stock exchange – albeit all of these play a merely formal role (Eke, S.M., Kuzio, T. 2000). The country has opted for so-called third-way market socialism (Scharff, R. 1999) or the social market economy (Yarashevich, V. 2014), which in reality means “state capitalism”, based on the state’s monopolistic position. This has not meant, however, a return to a Soviet-type planned economy. Nor, though, has there been a clear declaration of support for the market economy. The system is more of an odd hybrid of the two (Yarashevich, V. 2014).

The foundations of the Belarusian social market economy differ from those of the Western welfare states. The model is not based on a capitalist market economy, higher taxes in the private sector, and broad social provisions. Rather, it is rooted in the Soviet planned economy, where the state not only shapes economic policy but also acts as an owner. In this way, a close connection is established between economic development and social welfare (Yarashevich, V. 2014). All of this is reflected in wage policy. The 1990s were characterised by stringent price and wage regulations – which have since been significantly relaxed. This policy kept production costs low, thereby assisting exports (Weiner, Cs. 2007).

Although Belarus’s economic policy ran contrary to the mainstream neoliberalism of the 1990s (e.g. Belarus rejected shock therapy and wide-ranging privatization), it nevertheless adheres to many principles of capitalism, such as market competition, bankruptcy procedures, and an acceptance of the role of the private sector. The model is founded on the adjustment and reform of the Soviet economic system and the gradual creation of market conditions (Yarashevich, V. 2014) rather than on a radical break with the past.

Yarashevich, V. (2014) underlines how several Western sources have questioned whether the country’s economic policy can even be classified as a model grounded on independent principles. Several authors (e.g. Urban, M. 2008, Frye, T. 2011) have interpreted it as manoeuvring for the purpose of exercising or retaining power. The main principles – the objective of full employment, the definitive economic role of the state, the maintenance of a strong social net (Yarashevich, V. 2014), the gradual reform of the old Soviet economic structures, and (in stark contrast to the Soviet system) a focus on the development of rural areas (Balmaceda, M.M. 2014) – are, however, cornerstones of an economic policy that diverges from the mainstream. The five-year socio-economic plans (which were introduced in 1996) and the long-term strategies have reflected these economic policy principles (Yarashevich, V. 2014).

Several authors acknowledge that the model followed by the country lies at the root of its path towards domestic social and political development (Ioffe, G. 2007), but they attribute far greater importance to the favourable external economic factors, to balance-of-power factors or to the legacy of earlier periods. Without a doubt, in the absence of such external conditions, the model would not be functional. Even so, the country’s economic policy is the result of some kind of domestic political consensus or “social contract”, as Balmaceda (2014) has underlined.

b) Belarus has the **closest ties to Russia** in both cultural and economic terms of any country in the post-Soviet region. The old contacts and cooperation between enterprises have not been abandoned. Indeed, Belarus has been in a union with Russia since 1996 (Pankov, V. 1996). On the one hand, this has meant relinquishing the sovereignty and independence that the country won from the Soviet Union. On the other, it has paradoxically resulted in the retention of this independence and its enhancement within the new confederative framework (Eke, S.M., Kuzio, T. 2000). All of this is symbolized in Belarus's Independence Day, which – unlike in other post-Soviet countries – is not celebrated on the date of independence from the Soviet Union (August 25, 1991), but is tied instead to the liberation of Minsk from German occupation (July 4, 1944) (Marples, D.R. 2005).

Marples, D.R. (2008) has expressed the view that Belarus's economic success is closely linked with the Russian-Belarusian political partnership that arose out of the Act of Union of 1996. In the early 1990s, there were major protests in response to mass dismissals and price increases, but by 1996 the industrial giants had restarted production, owing to the reestablishment of the production chains and the reopening of the Russian market. After 1996, economic growth resumed, and by 2004 the GDP was 40% larger than it had been in 1990 (Ioffe, G. 2006), a unique achievement in the post-Soviet region. In Russia, Belarusian goods found an almost unlimited market. Indeed, the huge Russian market accepted most products, often without regard to quality (Rácz, A. 2013). The Belarusian transition was successful, according to Ioffe, G. (2006), in the sense that enterprises that had long been shut down in Russia or in Ukraine managed to survive in Belarus. Contrary to Ioffe's argument, it should also be noted that the survival of certain plants amid artificial (or manipulated) market conditions also resulted in the continued presence of the structural problems that had been inherited from the Soviet economy. On the other hand, however, Ioffe's argument is understandable, as one can obviously question the extent to which the economic structures that arose out of Russia's wild privatization, for instance, can be considered the result of pure market processes.

c) The Belarusian economy is strongly dependent on **Russian natural gas and oil imports**, which counterbalance its own lack of energy resources (Marples, D.R. 2008) (*Figure 7.1*). In consequence of the economic union with Russia, Belarus continues to have access to energy resources at lower-than-world prices, albeit there have been some price increases especially since 2007. In the 1990s, Russian natural gas was not only a cheap energy resource for Belarus but also a source of budgetary revenue coming from re-export and transit fees. In view of such Russian assistance, the country was in a much better situation than were the other post-Soviet republics. Indeed, Marples, D.R. (2005, 2008) views the success of the Belarusian economic course as the result of cheap energy, which, in his view, functioned as an economic subsidy. This was, in turn, the most important means of retaining political power (Marples, D.R. 2005). Frye, T. (2011) has put forward an even more radical view: The sole explanation for Belarus's economic miracle was the profit drawn from Russian resources. Thus, it is useless to compare Russian and Belarusian economic performance, because the two factors are interdependent.

The import of hydrocarbons at below market prices resulted in stable GDP growth from the mid-1990s, which meant that the economy could avoid shock therapy and the state could retain control over a significant part of industry. According to Balmaceda, M.M. (2014), Belarus itself can be regarded as an oil state, in view of its close economic ties with Russia and because it has many of the attributes that characterize the oil-producing states: oil profits, as beneficial externalities, have a positive impact on the economy, with oil revenues constituting 35–38% of exports in the 2000s. Moreover, the extra revenues – unlike in Ukraine or Russia – did not line the pockets of the local oligarchs but served to secure the social basis for the existing political regime (Balmaceda, M.M. 2014).

Ioffe, G. and Yarashevich, V. (2011) argue that the hydrocarbon subsidy is, in fact, the opportunity cost for Russia: it is the price it pays for Belarus's loyalty as an ally, whether this is manifested in military cooperation, the operation of Russian military bases (e.g. a radar station

in Hancavičy is part of the Russian nuclear missile defence early warning system), or a customs union. In other parts of the world too, there exist unequal economic relations where one of the actors receives some other kind of benefit in the non-economic sphere (Balmaceda, M.M. 2014) (This is also true for the EU regional policy subsidies). Russia seeks even now to maintain this arrangement, though the Russian leadership has attempted to set far tougher conditions for Minsk since the early 2000s (Marples, D.R. 2008).

d) Belarus – together with the Baltic states – was **at the forefront of development** among the various member republics **of the Soviet Union**. The country inherited advanced manufacturing industrial capacities from the Soviet Union in the mechanical engineering, automotive, electrical engineering, and petrochemical sectors. Since the 2000s, attempts have been made to modernize these relatively competitive sectors.

Ioffe (2004, 2006) attributed Belarus's success in the early 2000s almost exclusively to the advanced economy Belarus inherited from the Soviet era and to its favourable economic structure. In his view (Ioffe, G. 2004 88. p), the area of today's Belarus was, at the beginning of the 20th century, one of European Russia's poorest and least developed regions, with a wood and food processing industry that was very small and underdeveloped and with a strong rural overpopulation: "A country of dismal workshops and unproductive wetlands at the beginning of the twentieth century, Belarus 70 years later was dominated by large-scale industry and vastly modernised agriculture." It is unquestionable that Belarus profited more from Soviet industrialization than did any other Soviet republic (Ioffe, G. 2006): by the 1980s "it had become the Soviet Union's great mechanical engineering workshop".

Owing to the relative advantages that were gained from Soviet-type communism, Belarus had become the Soviet Union's showroom by the 1970s and 1980s (Eke, S.M., Kuzio, T. 2000). Housing construction per capita was the highest in Belarus, albeit until the 1970s this trend only affected Minsk, whereby the Belarusian capital became a symbol of Soviet economic success (Ioffe, G. 2004).

Not only was there rapid industrial development, but also the structure of industry was favourable. Development was concentrated in manufacturing industry and high technology rather than the raw material sectors. Nor can one speak of an excess role for the armaments industry (Pankov, V. 1996), despite its multiple ties with the oversized military industrial complex (e.g. the Uragan ballistic missile launchers were produced exclusively by MAZ in Minsk), the importance of which declined substantially in the 1990s.

Economic development during the Soviet era

Under the first Five-Year Plan (1928–1932) production began at the first machine tool and agricultural machinery plants in Minsk, Viciebsk and Homiel, but the BSSR remained an underdeveloped, under-industrialized and under-urbanized western peripheral and strategic front zone of the Soviet Union until the Second World War (Ioffe, G. 2004).

In 1941–45, the **wartime destruction** and economic and human losses were the greatest in the Belarusian areas. In the course of the German occupation and the partisan war, one in four of the country's population were killed and most of the towns were destroyed. Indeed, Belarus saw more

destruction of its existing industrial capacity than any other part of the Soviet Union (Ioffe, G. 2004).

It was only **after the Second World War** that Belarus experienced dynamic industrial growth. This was due to investments. Belarus no longer lay on the frontline, as the border of the Soviet Union and its sphere of influence had shifted considerably westwards. Moreover, the main supply routes to East-Central Europe – above all, Poland, the GDR (East Germany), and the Baltic republics – crossed Belarus, which also had a stimulating effect on industrial investments, leading in particular to the decision to locate oil-refining capacities in Belarus (Balmaceda, M.M. 2014, Kozlovskaya, L.V. 2004). The transit role grew significantly from the 1970s onwards with the in-

crease in hydrocarbon exports to the West. From the 1950s onwards, Belarus gradually became the Soviet Union's "workshop" and "assembly plant", where tractors, trucks, synthetic fibres, televisions and, later on, microchips were produced. During the Soviet era, industrial production growth significantly exceeded the average Soviet growth rate (Ioffe, G. 2004). Between 1960 and 1975, the growth in per capita investment was higher in Belarus than anywhere else in the Soviet Union (Eke, S.M., Kuzio, T. 2000). In addition, between 1970 and 1986, growth in per capita income was two and half times higher in Belarus than in any other Soviet republic (Ioffe, G. 2004).

The change meant not only quantitative growth but also qualitative development. Belarus had the technologically most advanced industry in the Soviet Union. In terms of economic specialization, research and development as well as high technology received the greatest roles. Alongside the Baltic republics, consumer goods produced by Belarusian industry were known throughout the Soviet Union for their better quality (Ioffe, G. 2004).

Industrial development was focused on four industrial sectors: mechanical engineering, petrochemicals, radio electronics, and metallurgy (Kozlovskaya, L.V. 2004). The whole process of development was more balanced in Belarus than in Russia or Ukraine, since the preponderance of heavy industry was much less conspicuous.

In terms of industrialization, the eastern and western halves of the country developed differently (Ioffe, G. 2004). Whereas in the eastern half ten major industrial giants were established and their supplier plants were to be found in all the major towns and district centres, the country's western regions experienced substantial industrialization only at the end of the 20th century (electronics and chemicals in Hrodna and Brest).

Belarusian industry was closely integrated with Russian – and to some extent with Ukrainian – industry at the time of independence, and the close ties have been retained (Ioffe, G. 2006). Enterprises in Belarus typically process raw materials arriving from Russia or use Russian and/or Ukrainian components.

In 1990, 80% of Belarusian products were sold to other Soviet republics or abroad (Ioffe, G. 2006). Even now, the production of domestic and electronic appliances is mainly for export to the Russian market.

Reforms and the role of the private sector after 1991

In Belarus, there was an absence – with the exception of potash – of the extractive industries (oil, ores) that for example in Russia formed the basis for the first wave of privatizations. For this reason in Belarus, there was no question of employing this model in the early 1990s (Ioffe, G., Yarashevich, V. 2011). Moreover, there were few signs in Minsk of the Westernized atmosphere that characterized Moscow or Saint Petersburg during those years. Like the old Soviet enterprises, Belarus's giant companies – MAZ, BelAZ, MTZ, etc. – were not only involved in production but also operated social welfare systems, thereby enhancing the social security of workers. The transformation of the relatively small number of giant enterprises – which all Belarusian governments, including the pre-1994 government, have been reluctant to implement – would have caused huge social tensions and substantial increase in unemployment (Eke, S.M., Kuzio, T. 2000).

By 1994 most Belarusian companies found themselves in great difficulties, owing to the breakdown of the former economic division of labour and of the close ties that had characterized the Soviet Union. Production at the plants was limited to two or three days a week, as either they had been paralyzed by the lack of raw materials or they were unable to sell their products (Ioffe, G. 2004, Ioffe, G., Yarashevich, V. 2011). In the early 1990s, similarly to people in the other former Soviet republics, Belarusian workers produced food in their own household gardens as a means of supplementing their incomes. The period also saw rampant inflation and unemployment, a rapid depreciation in the value of people's savings (Eke, S.M., Kuzio, T. 2000), and a deterioration in public security. The early 1990s was a period of economic and social crisis and chaos throughout the post-Soviet region, which in Belarus too – similarly to the situation in Ukraine and Russia – remains, in the public's collective memory, a "nightmare" and a trauma – a time of empty shelves, skyrocketing prices, payments made months in arrears, corruption, crime and an escalating black market. In both Ukraine and Russia, however, this period was lengthier and more devastating than in Belarus.

Society and government barely dared to touch the collapsing structures of the Soviet era until as late as 1994 (Ioffe, G., Yarashevich, V. 2011). Privatization began spontaneously after 1990, but it received little support from the country's leadership. In addition, the level of entrepreneurial activity in the country was low. After 1994, following a political decision, the voucher-based privatization was brought to a halt.

At the time, restoring economic links with Russia was the only means of economic survival (Eke, S.M., Kuzio, T. 2000). Owing to cheap Russian energy supplies and an improvement in Russian-Belarusian economic relations, the situation had been stabilized by 1996 and economic growth could begin. At the time, most trade with Russia took the form of barter deals; Belarus paid for cheap Russian hydrocarbons by supplying machinery and equipment. In 1996, Russia cancelled Belarus's accumulated debt (Weiner, Cs. 2007). Compared with the other former Soviet republics, the decline in the economy and in industrial production was less severe. In 1999, Belarus's GDP stood at 83.6% of the 1991 level, whereas the corresponding figure in Ukraine was 44.7% (Ioffe, G. 2004).

The state firms were transformed into corporations, but the state remained the main shareholder. Almost uniquely in the post-Soviet region an investment law was adopted, but a law introduced in the late 1990s allowed the state to interfere in corporate decision-making regardless of the size of its stake.

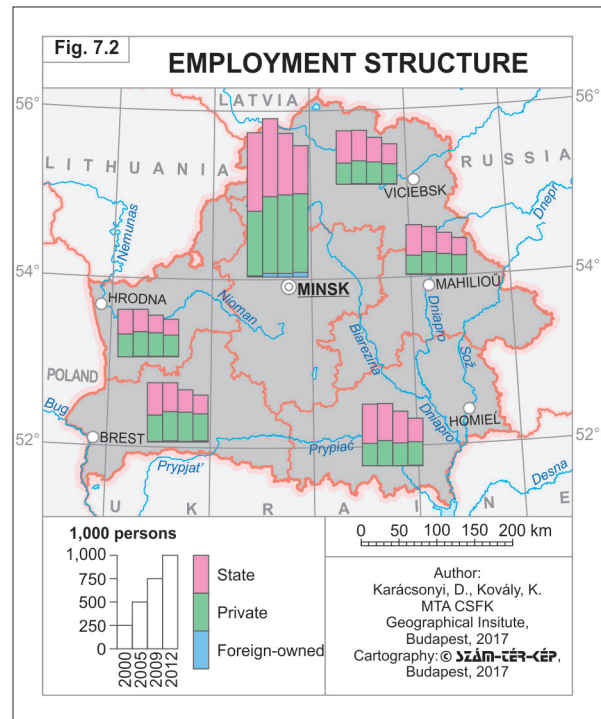
The privatization of the industrial enterprises began only much later in the form of joint ventures. In the course of this process, private investors assumed increasingly large shareholdings in the companies involved. As late as 2011, the private sector accounted for barely 25% of Belarus's GDP (Ioffe, G., Yarashevich, V. 2011). As in earlier periods, the state is able to influence – and directly intervene in – the country's economy by way of economic policy at the macro level and through its shareholdings in companies at the micro level (Kruk, D. 2013).

Between 2005 and 2008, Belarus's GDP growth was the highest in Europe (Ioffe, G., Yarashevich, V. 2011). By 2003, it had reached the GDP level of 1990, which Russia achieved only in 2006 and Ukraine has still failed to achieve (2017). The Belarusian government strove to less-

en imports by imposing customs tariffs and introducing protectionist measures on imports from Russia. Such measures were designed to assist industry, whose contribution to GDP growth has been particularly significant (Weiner, Cs. 2007).

Several industrial sectors grew significantly in the period up to the 2000s, as a consequence of which Belarus now accounts for almost three-quarters of bus production in the CIS, a third of truck production, two-thirds of tractor production, a half of television production, and, indeed, a half of the global production of microchips for watches. At the same time, however, Belarusian industry is losing its competitiveness in Russian markets in relation to Russian enterprises.

While the major industrial plants remain under state ownership, private ownership prevails in the commercial sector – restaurants, cafes, tourist services and mobile service providers (Figure 7.2). The state still plays a major role in industrial production, but it has withdrawn from the service sector. Even so, as late as the mid-2000s, the service sector was characterized by a low level of development (restaurants and shops were reminiscent of Soviet times) in comparison with Ukraine or Russia (Ioffe, G. 2004). The diversity of the Belarusian economy is relatively limited, but there are an increasing number of



registered legal entities (mostly private enterprises) (12,735 in 2014) and individual entrepreneurs (49,991 in 2014) (Figure 7.3). For the sake of comparison, it is worth noting that Russia, whose population is 15 times greater than that of Belarus, had 267 times more registered legal entities and 97 times more entrepreneurs in 2014.

The entrepreneurial social stratum that arose after 1991 (currently, 3–4% of the population) ranges from market traders to individual entrepreneurs and to the owners of the major com-

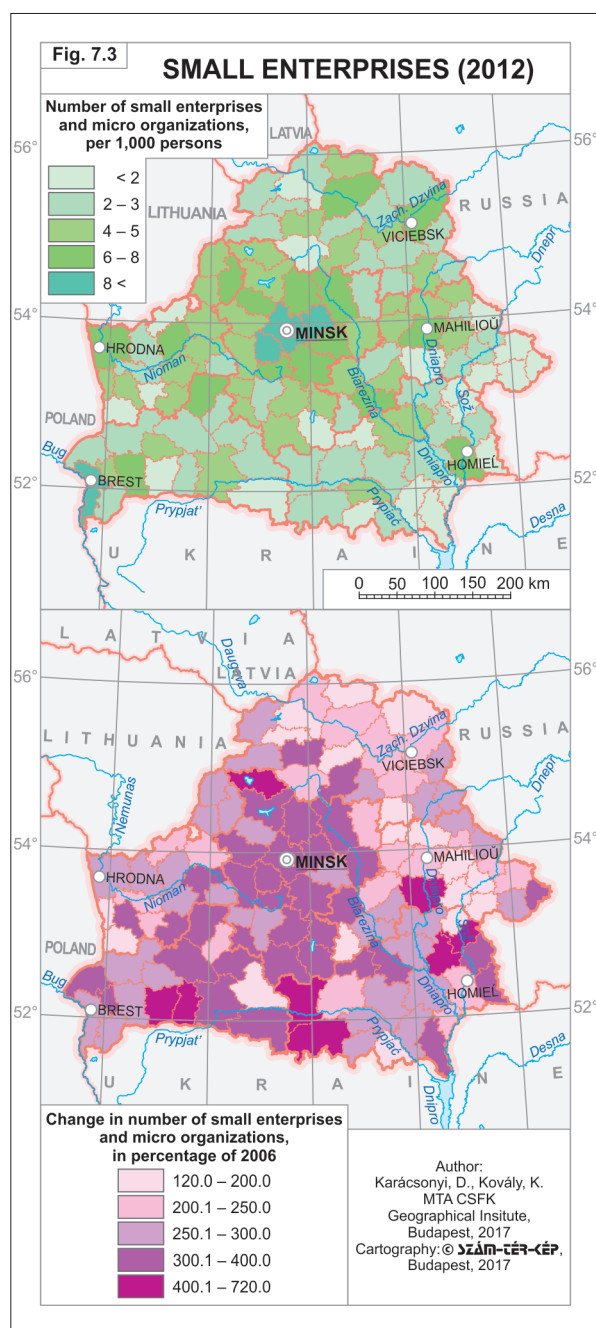
panies that have been established since 1991. The oligarchs that one sees in Russia and Ukraine, who grew rich at the time of privatization, are absent from Belarus (Yarashevich, V. 2014). In 2011, more than half of total employees were working in the private sector, and the sector accounted for 15–16% of output (Yarashevich, V. 2014).

Diversification, growing government debt and inflation since 2007

In recent years, Belarus has experienced a growing number of problems, owing to increases in the price of Russian energy imports and to the recession that followed the global economic crisis (2008). Although the problems had external causes, they were exacerbated by the slowness of structural reforms. The effect has been to encourage the acceleration of the country's cautious privatization programme and the diversification of its foreign trade relations.

The Russian-Belarusian “gas war” (political clashes because of gas export prices by Gazprom) of the winter of 2006–2007 fundamentally altered the relationship between the two countries, for it revealed the vulnerability that stemmed from the economy's one-sided dependence (Rácz, A. 2009). Belarus gradually lost state control of “Beltransgaz”, with “Gazprom” securing a 50% ownership stake in 2007 and then full ownership in 2011. Since January 2007, Belarus has not imposed duties on oil products made from Russian crude oil or on re-exported oil products. Moreover, in 2009 Russia began to impose duties on oil exported to Belarus (Ioffe, G., Yarashevich, V. 2011). In one memorable episode of the energy spat, in May 2010 the Mazyr refinery began to process Venezuelan oil that had arrived by train from Ukraine, along the Odesa-Brody pipeline. In response, by the end of 2010 Russia cancelled the duties that had been imposed (Ioffe, G., Yarashevich, V. 2011). The Russian-Belarusian oil and gas wars were accompanied by several minor trade spats, including a milk war that broke out in the summer of 2009 when Russia – citing quality concerns – imposed restrictions on milk and dairy imports from Belarus.

Alongside the periodic cooling in Belarusian-Russian relations, Belarus initiated a spectacular opening in foreign trade with the West



and it also stimulated foreign capital investment into Belarus. A privatization process in the form of joint ventures was launched in 2008. After the global financial crisis, the process resumed in 2011 (Ioffe, G., Yarashevich, V. 2011). Indeed, in the same year (2011), the moratorium on privatization was revoked and approximately 150 state-owned companies were listed for privatization (Ioffe, G., Yarashevich, V. 2011).

Until the mid-2000s, Belarus took on very little foreign debt – partly as a result of its negative political rating (Yarashevich, V. 2014). The country's external indebtedness changed significantly after the opening to the West. Moreover, in the post-2007 period, Belarus was forced to incur debt, following a price hike in Russian energy imports (Rácz, A. 2009). From the end of 2008, Belarus took a loan from the IMF. In addition to Russia, China also became a major creditor. Government foreign debt increased rapidly after 2007, around third of GDP by 2012 (*Table 1.2*).

The loans served to sustain the economy and maintain living standards. Even at the time of the global financial crisis in 2009, there was economic growth in Belarus, which was achieved by keeping domestic demand at artificially high levels (Kruk, D. 2013). A feature of the Belarusian economy is import substitution. Indeed, the shelves of retail shops have to meet a quota of Belarusian products. The effects of the global crisis were felt later on, manifested principally in a decline in the Russian export market and in a global decrease in the price of raw materials (potash and oil).

From 2009, the Belarusian ruble underwent a steady depreciation, and further devaluations followed in 2011 (Yarashevich, V. 2014). Kruk, D. (2013) has argued that the Belarusian ruble was overvalued until as late as 2011.

Owing to higher energy prices, Belarus's current account went from surplus to deficit. Thereafter the country's currency reserves were rapidly used up. By 2011 Belarus faced a currency crisis (Yarashevich, V. 2014). A factor that contributed to the crisis was an increase in vehicle imports in the first half of the year, which, in turn, was caused by the announcement of an impending hike in customs duties on imported used cars. Concurrently, the outflow of capital from the country speeded up. In mid-year, restrictions on the buying and selling of foreign

currency had to be introduced. The situation caused panic and prices increased rapidly. By August there was a shortage of some goods, due in part to shopping tourism from Russia (Ioffe, G., Yarashevich, V. 2011). The problems led to high inflation rates in 2011–2012 (*Figure 7.1, Table 7.1*). In an effort to counterbalance the effects of inflation, the government increased the salaries and wages in the public sector workers by more than 50%, and further significant wage increases were implemented in 2012.

Government debt, which had reached 63% of GDP in 2012, has undergone a decline in absolute terms since the second half of 2014. This decline, however, is due in large part to Russian energy price falls and to the post-crisis recovery in world markets. There is uncertainty about the extent to which the Russian economic crisis, which worsened in 2015, will affect Belarus's economic performance. The Belarusian economy may even draw benefit from the EU embargo on Russia.

Alongside its trade with Russia, Belarus has opened up towards China, Venezuela, Iran and – last but not least – the EU. As a result, the country's role as a bridge (e.g. its role as mediator in the 2014 Ukrainian crisis) has been enhanced, and the country has also seen a gradual modernization of its economy, in particular the industrial sector. In the 2010s, the Belarusian economic model has no longer been defined by cheap energy imports and the production of goods for export to Russia. Rather, Belarus has sought to capitalize on the competitive advantages that stem from its location (EU-Russia, Europe-Asia) and from its relative political and social stability – compared with other countries in the region. Such factors are more likely to have a positive impact on investors. In the 2010s, China's role in offering credit and aid has intensified. Joint investment projects are being realized, and there are an increasing number of Chinese-Belarusian joint ventures.

Sectoral structure of the economy

Gross domestic product at the end of 2014 totalled 76.1 billion US dollars (65th place in the ranking of the International Monetary Fund), an increase of 1.6% compared with 2013. Belarus's share of global GDP is 0.08%. The dynamic GDP growth observed in the period 2002–2008 had

slowed down by 2015 (Table 7.1). The worst dynamics, in terms of real GDP growth, were observed during the global crisis of 2009 and in the autumn of 2013, when the goal of economic and monetary policy was not economic growth but the retention of stability in the foreign exchange markets. A negative GDP trend was observed in 2015, owing to the deteriorating Russian economy and the fall in world prices for oil products. GDP growth in the period 2012–2015 was less than 1.6% on a yearly average. The figures reflect not only global growth uncertainties but also the absence of structural reforms in Belarus.

Inflation is a significant factor in the gross figures. A negative dollar deflator (a general decline in prices in dollar equivalent) was recorded only in 2009 (during the global collapse in prices at the time of the global financial crisis, and also because of the January one-time devaluation of the Belarusian ruble) and in 2011 (in a period of currency crisis with an almost threefold increase in the value of the dollar in the country). Between December 2002 and 2014, real GDP had increased a little more than 2 times, and the nominal GDP in dollar equivalent by 5.3 times (GDP in 2014 compared with GDP in 2002). The dollar inflation factor in this period increased the nominal value of the dollar equivalent of GDP by 2.6 times. Currently, the inflation source of growth is on the decline: the dollar deflator (annual dollar inflation in Belarus by GDP) in 2014 amounted to 101.7% (+1.7% compared with 2013), which is comparable with the rate in western countries.

In terms of **GDP structure**, the manufacturing sector is dominant, with a share of 47%. The share of GDP accounted for by services is lower than in the neighbouring countries (Lithuania, Latvia, Poland) and does not exceed 43%. In terms of the sectoral structure of GDP, the largest elements are manufacturing industry, trade and

construction. For example, in 2014 manufacturing's share of GDP was 23.2%, while commerce accounted for 12.1% and construction for 10.4% of GDP. It is worth noting that there has been a slowdown in the growth of agriculture. Its share of GDP was 9.2% in 2010, but by 2014 the figure had fallen to 7.7%.

In the **regional structure of GDP**, Minsk (24.9%) is dominant (Figure 7.4). This is due to

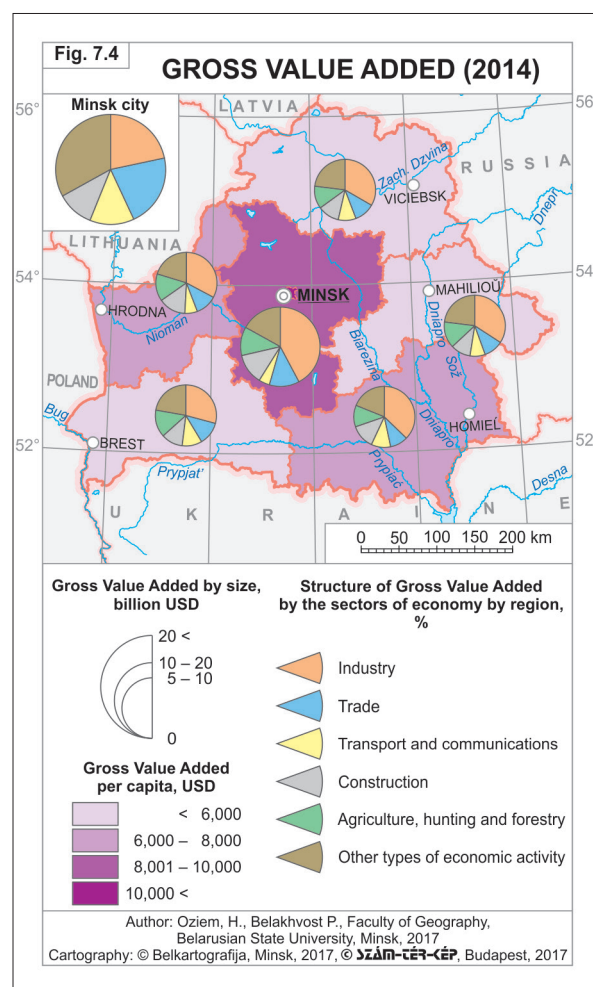


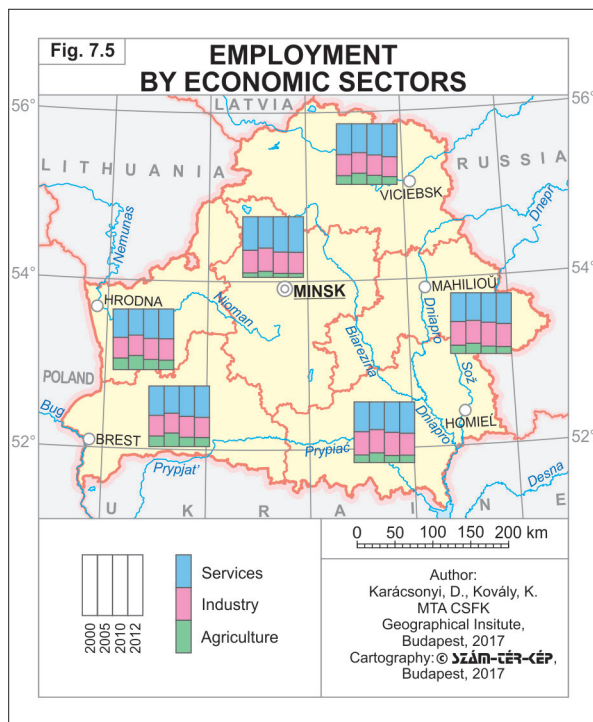
Table 7.2 Sectorial structure of the economy (% of GVA)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agriculture	9.8	9.8	9.5	9.8	9.5	10.3	9.1	9.6	7.9
Industry	43.4	42.4	42.4	44.7	41.8	40.7	41.3	41.8	41.0
Services	46.8	47.8	48.1	45.5	48.7	49.0	49.6	48.6	51.1

Source: http://www.belstat.gov.by/en/ofitsialnaya-statistika/macro-economy-and-environment/natsionalnye-scheta/osnovnye-pokazateli-za-period-s__-po-___gody_2/structure-of-production-of-gross-domestic-product-by-kinds-of-economic-activity/

the fact that Belarus's major enterprises and companies are concentrated in the capital city. The second place is taken by the Minsk region (GRP in 2014 totalled 10.9 billion US dollars). The smallest regional share of GDP was observed in the Mahilioŭ region – 7.2%.

In 2014, 4.5 million people were employed in the Belarusian economy. Industry accounted for 41% of total employment, and the services sector for 51%. The percentage of people employed in industry or agriculture is on the decline – in line with international trends (Table 7.2, Figure 7.5).



Industry

Belarus maintains a leading position in industrial development among the CIS countries. In spite of the reduction in its share of GDP (26.7% in 2014 compared to 37.9% in 1990), industry remains the most important element of the national economy. The total volume of Belarusian industrial production in 2014 amounted to 56 billion US dollars. Whereas the volume of industrial production steadily increased in the 2000s (with the exception of 2009), since 2012 industrial production has decreased in absolute terms (Table 7.3). Belarusian industry is, by the nature

Table 7.3 Indices of industrial production (1995–2015)

Indicators	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Electricity generation (billion kWh)	24.9	26.1	25.1	26.5	26.6	31.2	31.0	31.8	31.8	31.8	30.4	34.9	32.2	30.8	31.5	34.7	33.8
Gasoline (thousand tonnes)	1 849	1 964	1 824	1 756	1 895	2 840	3 330	3 498	3 181	3 330	3 272	3 158	3 135	3 730	3 683	3 945	3 969
Diesel (incl. biodiesel) (thousand tonnes)	3 465	3 847	3 880	4 606	4 913	5 845	6 426	6 616	6 693	6 719	7 106	6 137	8 842	11 471	7 809	7 989	8 159
Mineral or chemical fertilizers (in terms of 100% nutrients) (thousand tonnes)	3 349	4 056	4 379	4 495	4 953	5 403	5 669	5 469	5 880	5 870	3 390	6 176	6 288	5 859	5 279	7 368	7 508
Chemical fibres (thousand tonnes)	210.6	218.7	221.1	204.3	202.6	203.4	210.8	203.2	228.6	225.7	200.4	233.1	231.0	239.4	216.1	190.6	182.9
Tyres (thousand units)	1 292	2 440	2 666	2 281	2 765	3 198	3 052	3 563	4 792	5 068	5 073	4 820	5 169	5 732	5 569	5 012	3 911
Machine tools for metalworking (thousand units)	4.9	5.5	5.9	6.0	5.4	5.6	3.9	5.0	4.9	4.9	2.7	3.9	5.3	4.5	4.5	2.8	1.1
Buses (units)	62	914	460	467	499	610	1263	2104	2160	2 196	1 520	2 089	2 162	2 277	2 341	1 691	795
Trolley buses (units)	83	109	62	56	127	118	147	176	311	446	388	283	206	174	118	106	86
Tractors (thousand units)	29.3	23.8	23.3	25.0	27.9	35.2	42.9	51.3	62.3	69.2	51.0	50.9	66.8	71.0	62.6	52.2	34.3
Heavy trucks (thousand units)	12.9	14.7	16.5	16.5	18.1	21.5	22.3	23.2	25.5	26.3	11.5	13.5	23.3	26.2	19.3	12.7	6.0
Refrigerators (thousand units)	746	812	831	856	886	953	995	1 050	1 072	1 106	1 007	1 106	1 197	1 263	1 200	979	899
Televisions (thousand units)	250	532	727	738	690	1 262	1 308	1 067	702	717	352	446	404	594	245	92	22
Washing machines (thousand units)	36.9	88.1	81.0	66.2	63.3	49.6	36.7	12.7	163.3	216.5	236.4	273.8	310.8	323.5	324.3	151.6	203.6
Bicycles (thousand units)	271	586	767	875	775	776	441	458	374	250	130	134	176	184	194	99	59
Paper and cardboard (thousand tonnes)	133.3	219.3	216.5	222.6	239.9	257.4	284.2	286.0	307.7	316.6	272.5	341.9	357.3	381.7	331.7	332.7	292.2
Knitwear (million units)	39	59	49	38	41	39	43	47	51	55	55	64	64	64	61	55	38

of its specialization, resource demanding and import-dependent (Figure 7.6). It is characterized by the dominance of subject specialization and a relatively low participation in the technological and detail specialization. This feature of the

national economy emerged in the second half of the 20th century in the period of intense industrialization that took place within the framework of the single economic complex of the USSR. This was when the economic image of the country as

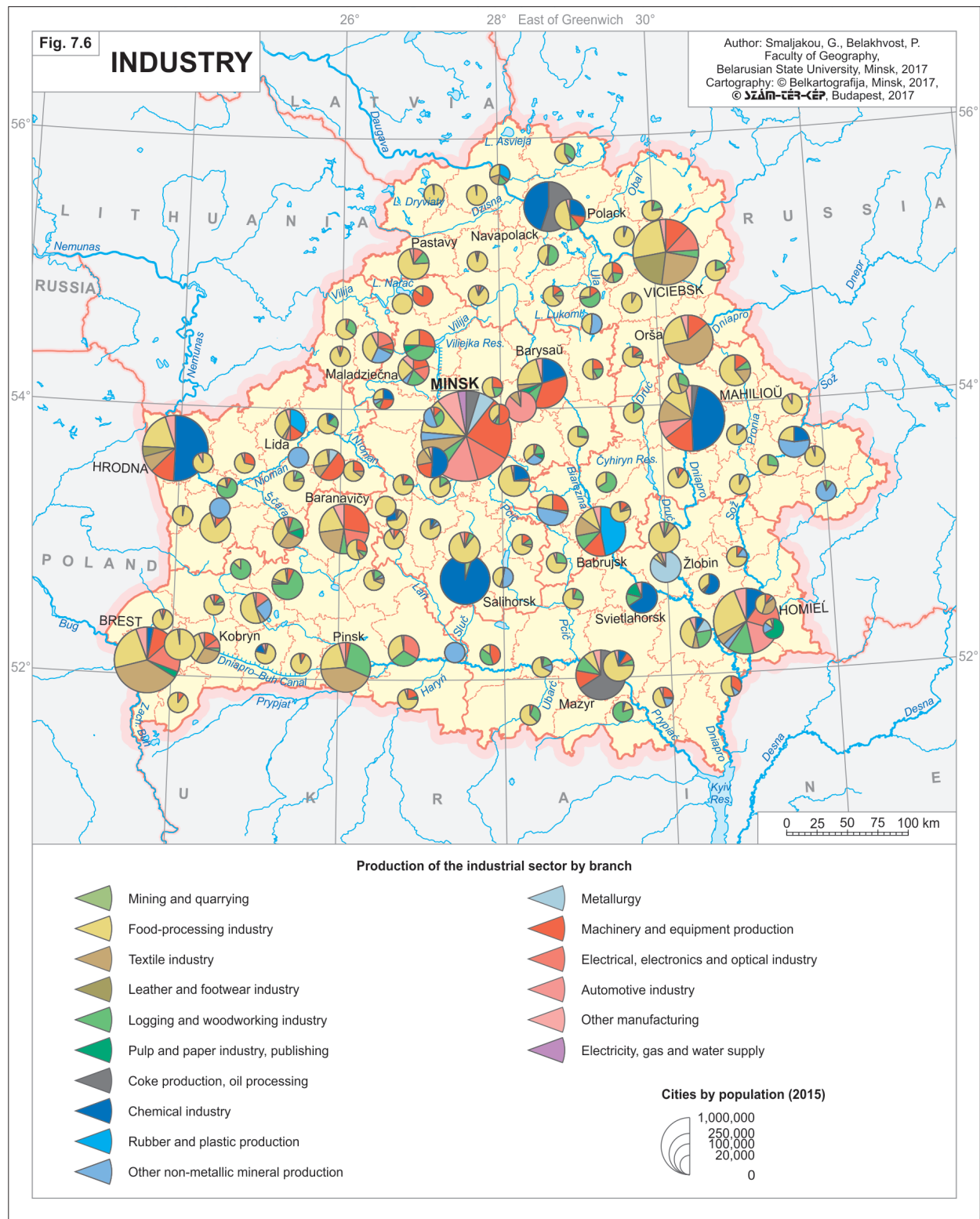
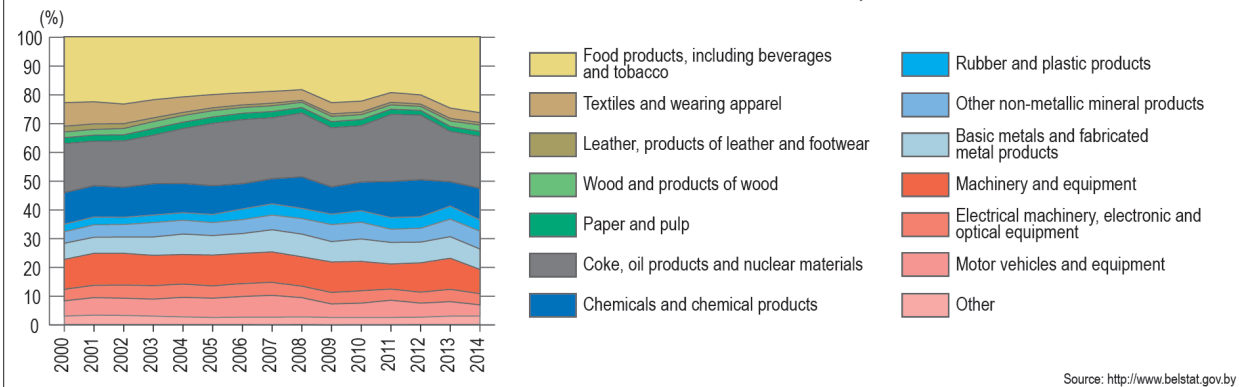


Fig. 7.7

STRUCTURE OF INDUSTRIAL PRODUCTION, 2000–2014



the “all-union assembly line” arose. The country produces 17% of all combine harvesters in the world, 6% of tractors, and 6.4% of flax fibre. At this time the share of BelAZ dump trucks in the world market is 30%. Belarus produces 1.4% of the world’s milk, but at the same time exports of dairy products account for around 5% and butter for around 11% of the world total.

Belarus’s economic potential is based on a number of industries, which account for almost 40% of basic production assets. The country has more than 2,300 industrial enterprises of various types (Figure 7.7).

Belarus has formed a holding company business model. Companies in major segments of the industry become the unifying core of industrial holdings. The largest holdings are based on joint-stock companies, 100% of whose shares are owned by the state. Almost all of them are enterprises in the mechanical engineering sector.

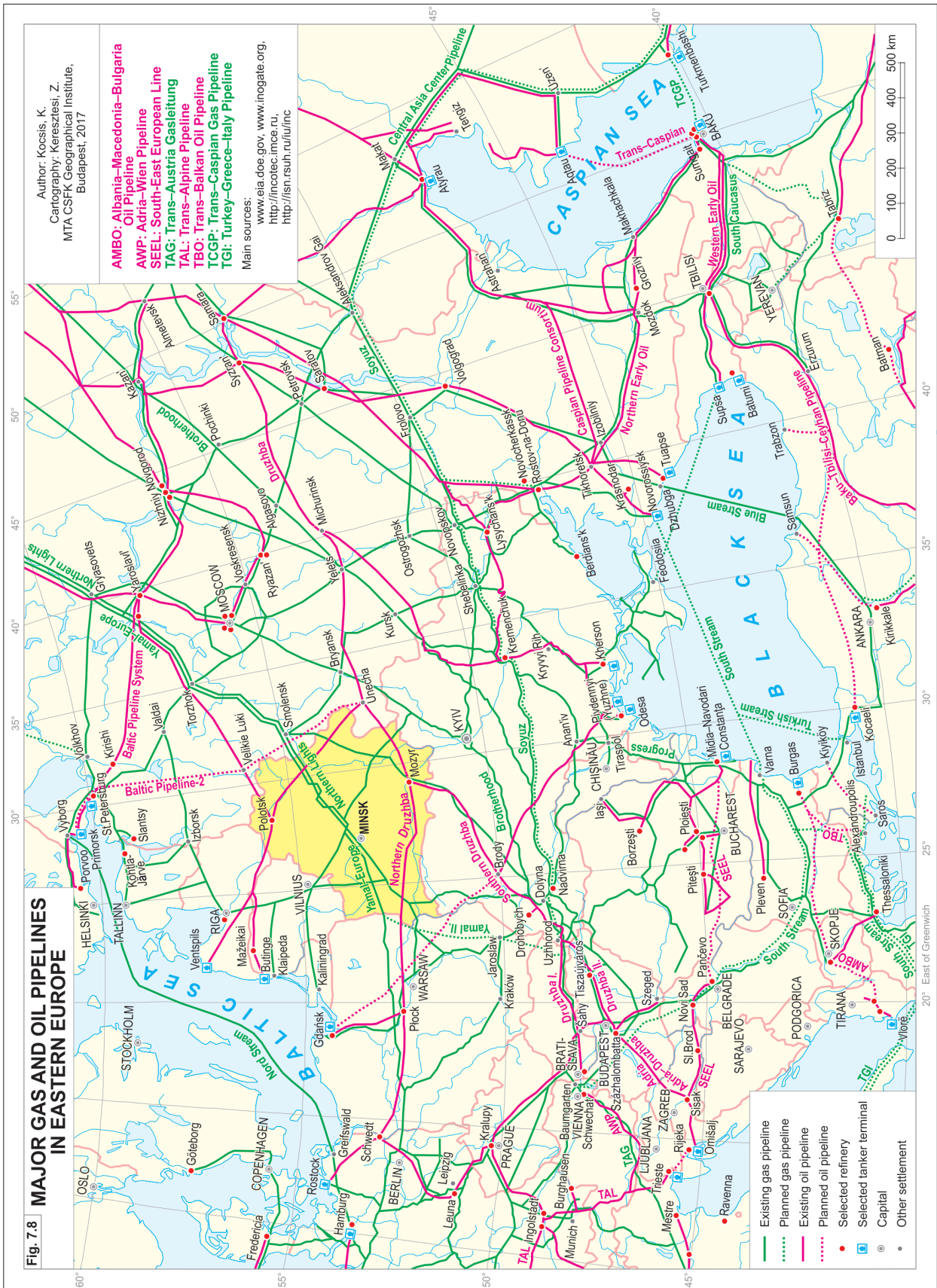
Regional specialization and industrial clusters are significant factors in Belarusian industry. The petrochemical industry is particularly strong in the Homiel and Viciebsk regions (Mazyr and Navapolack), while in Minsk the most significant sectors are mechanical engineering and electronics. Chemicals are particularly important in the Mahilioŭ and Hrodna regions, while in Brest the food industry is the largest sector, based on local agriculture. The “Program for Development of the Industrial Sector in Belarus, 1998–2015” led to the creation of a series of regional industrial clusters: a chemical cluster in Hrodna, a petrochemical cluster in Navapolack, an agricultural machinery cluster in Homiel, an auto-tractor-building cluster in Minsk, a chemical-textile cluster in Mahilioŭ, an IT-cluster in Minsk and a flax cluster in Orša.

Energy

The country is poor in minerals and **energy resources**, and so its processing industry is highly dependent on Russian and Ukrainian raw materials. Since the 1960s, the country’s energy industry has undergone significant changes (Kozlovskaya, L.V. 2004). With the construction of oil and gas pipelines, energy imports from other areas of the Soviet Union, principally Russia, gained ascendancy over domestic energy sources. For Belarus a significant source of revenue has been its transit oil and gas trade. Such revenues played a particularly important economic role in the latter half of the 1990s and in the 2000s.

The **oil and gas pipelines** (Figure 7.8) that cross the country bring Russian oil into the country at lower-than-world prices. The oil is refined at one of the country’s two refineries and then exported to the West or to the neighbouring countries, in particular Ukraine and Moldova. Founded in 1963, the “Naftan” Refinery in Navapolack is Europe’s largest (Ioffe, G. 2006), with an annual production capacity of 25 million tonnes. The second refinery, the Mazyr Refinery, was founded in 1975 and has an annual production capacity of 18 million tonnes. The “Naftan” Refinery’s products are forwarded along a pipeline to the port of Ventspils in Latvia, while products from the Mazyr Refinery, which lies alongside the Friendship (“Druzhba”) Pipeline, are supplied to the EU in tank trucks or by rail (Ioffe, G. 2006).

Belarus’s transit role grew rapidly in the 1990s, following the breakup of the Soviet Union. Having inherited ownership rights to the pipelines and to the refineries, Belarus became not



only an energy transit service provider but also a major centre for oil processing. The energy industry is a major economic sector in Belarus. It provides energy to the country's domestic industry and it serves as a source of revenue. Such revenue derives from the export of oil products and from the processing and onward sale of oil (Kozlovskaya, L.V. 2004). The possibility of the privatization of the state natural gas company, "Beltransgaz", was raised as early as 2002. After several Russian-Belarusian gas disputes (in 2004, 2007 and 2010), in 2007 "Gazprom" obtained a 50% stake in the company. Since 2011, Gazprom has been sole owner of the company. In 2013, it changed the name of the company to "Gazprom Transgaz Belarus". In 2007, Belarus abolished the duty on Russian oil for transit and an agreement was reached on the price of goods made from Russian oil and sold for export.

Although local oil reserves have never covered the domestic demand for oil, Belarus does have some oil and gas deposits, the extraction of which began in 1965 near Rečyca. Production peaked in the 1970s, but soon the deposits were more or less exhausted. At present, there is no prospect of the discovery of further deposits. Consequently, oil production levels (1.6 million tonnes in 2014) and gas production (222 million m³ in 2014) are expected to decline further (Kozlovskaya, L.V. 2004).

Peat is another traditional source of energy. It became a vital element in the national energy supply in the 1920–30s. Peat production peaked in the 1960s, but its importance declined as other types of energy (coal, oil, natural gas) appeared. By 1987, peat had been completely marginalized as an energy source (Kozlovskaya, L.V. 2004), and its significance became limited to the agricultural sector, where it is used as a soil improver (1.4 million tonnes in 2014).

The **electricity** transmission system of the country was formed in the Soviet period. Modern electric power started to be developed in 1921, when the Soviet government set out a plan for the universal electrification of Russia (The State Commission for Electrification of Russia, GOELRO). In 1927, the first large power station was built in the area of today's Belarus. Its design capacity was 34 MW. The main phase of the construction of power stations in the country was in the 1960s–80s. At present, the country's electric-

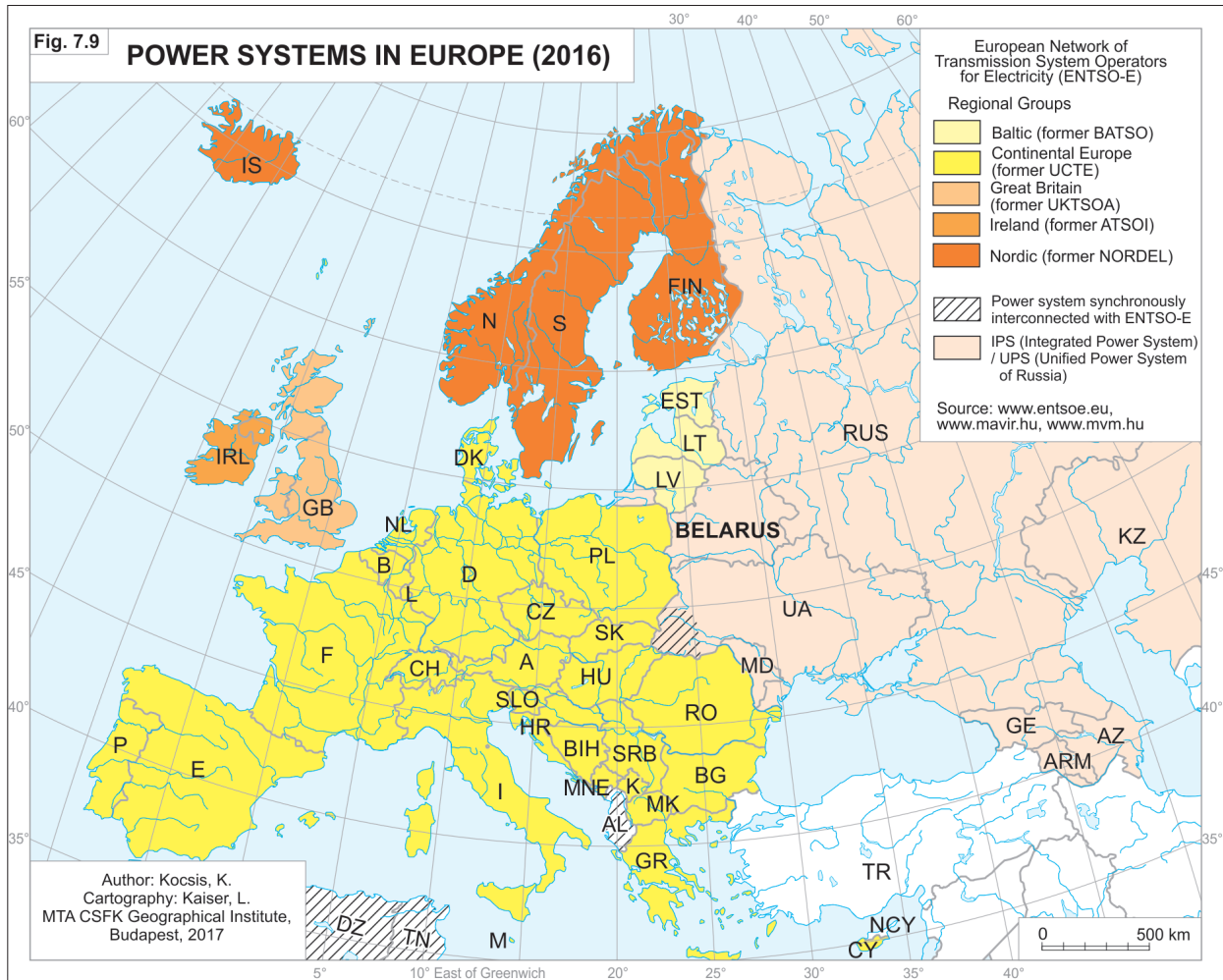
ity network is part of the post-Soviet Integrated Power System (IPS) (Figure 7.9).

Currently, the total capacity of Belarus's power stations is 8800 MW, and production exceeds 30 billion kilowatt-hours (kWh) (Table 7.3). The share of the electricity generation sector in industrial production has remained stable at about 8%. In this segment of the economy, there are more than 200 enterprises, which employ around 110 thousand people.

Electricity production in Belarus is centred on the power stations (99%), with steam-turbine (thermal) power plants playing the largest role. Such power plants supply energy and meet the demand for district heating. Most thermal power stations are fuelled with natural gas (60%) or oil (20%). The total length of electricity power lines is about 270 thousand km, including lines with 750 kV between Smolensk and Sluck, where the "Belarusian" transformer station is located (Figure 7.10).

The electricity production capacities met in full Belarus's reduced energy needs after the collapse of communism. Still, for Belarus, it proved cheaper to import electricity from outside the country than to produce electricity at its own power stations using imported fuels (Kozlovskaya, L.V. 2004). In consequence of the changes, since 1990, electricity production has fallen to a fifth of its previous level. Nowadays the country cannot meet its own energy needs. The consumption of electricity in the country has been growing steadily, and in 2014 it reached 38 billion kWh. The leading consumers of electricity in the country are manufacturing industry (38%), services and private consumers. Increasing demand has meant that electricity now needs to be imported – up to 8 billion kWh per year. Electricity imports come from the neighbouring countries, in particular the nuclear power stations in Russia (Smolensk) and Ukraine (Rivne). In earlier years, electricity also came from the nuclear power station in Lithuania (Ignalina).

Energy dependence is a long-term risk in view of the one-sided nature of imports and the likelihood of price hikes. A further risk stems from the possible malfunctioning of the supply pipeline system from Russia, which in the winter months could result in the complete shutdown of power stations. In view of Belarus's extreme dependence on hydrocarbon imports (Marples, D.R. 2008), the country has begun the construc-



tion of a 2 000 MW nuclear power station in the vicinity of Astravec. The project is being undertaken in cooperation with Russia's "Rosatom" and using Russian loans. Other sites had been mentioned earlier on, and there had even been talk of Belarus's participation in the expansion of the nuclear power station at Smolensk, which would then have supplied electricity to Belarus (Marple, D.R. 2008). Of course, in view of Belarus's experiences after the disaster at Chernobyl, public opinion research continues to reveal considerable public hostility to the construction of nuclear power stations (Marple, D.R. 2008). Even so, the country remains surrounded by nuclear power stations, including Ukraine's decommissioned Chernobyl power station, which lies just 10 kilometres from the Belarusian border.

The country's energy industry faces numerous problems on account of the dilapidated

state of the power stations and the obsolescence of the high-voltage power grid, the oil and gas pipelines and the heating systems. In addition to nuclear energy, the use of such domestic energy resources as the oil shale deposits in Paliessie, the fifth largest deposits in Europe (1 billion tonnes of shale oil), has been proposed. Although the quality of the deposits is worse than that of the Estonian shale oil deposits, Belarus began – in 2010 – seeking out Estonian and Chinese investors for the launch of production. Production has not started yet, however.

Belarus is actively working to save on fuel and power resources. The use of alternative, **renewable energy** resources is also on the agenda. At present, renewable energy in Belarus is almost limited to hydropower. In 2014, wind and solar energy accounted for 0.04% of the country's electricity production, while hydropower stations accounted for 0.5%. Together,

era, Belarus, which was poor in raw materials, specialized in mechanical engineering, whereby it processed raw materials and components that were supplied from other Soviet republics. Production in Belarus was supposed to meet the needs of the entire Soviet Union. Most of the engineering and automotive factories were established from the 1950s onwards.

After the breakup of the Soviet Union, mechanical engineering became a major export sector for Belarus. Amid the favourable geopolitical and external market conditions, from the latter half of the 1990s Belarus's machinery industry underwent a period of restructuring and development (e.g. through the purchase of Western licences). Production capacity was also increased. Since then, the share of machinery, equipment and transport vehicles in the total volume of industrial production has been steadily declining. This trend reflects the need to modernize the sector and enhance its innovativeness. Belarus's mechanical engineering products are of lower quality than similar products in the advanced countries; they are only competitive in terms of price.

The most important sectors in engineering are the **automotive industry**, the manufacture of tractors and agricultural equipment, and high-tech industries. The total industrial production of machinery, equipment and vehicles in 2014 amounted to more than 9 billion US dollars, representing more than 14% of the total industrial production of the country. Nationwide, there are more than 2,000 engineering enterprises, which employ around 250 thousand people.

A peculiarity of mechanical engineering in Belarus is the sector's close ties with metallurgy. In the absence of local raw materials and energy resources, steel production developed as a supplementary sector for mechanical engineering (Kozlovskaya, L.V. 2004). The only exception is the Žlobin Belarusian Steel Works, which mostly uses scrap metal and has tended to specialize in the production of steel wires (Ioffe, G. 2006). As much as 80% of Belarus's steel production comes from here.

The engineering sector has tended to be focused on Minsk (*Figure 7.11*), but there is cooperation with plants located in most of the country's major cities. Factories based in smaller towns are the subsidiaries of the major companies, and they usually produce components for assembly plants

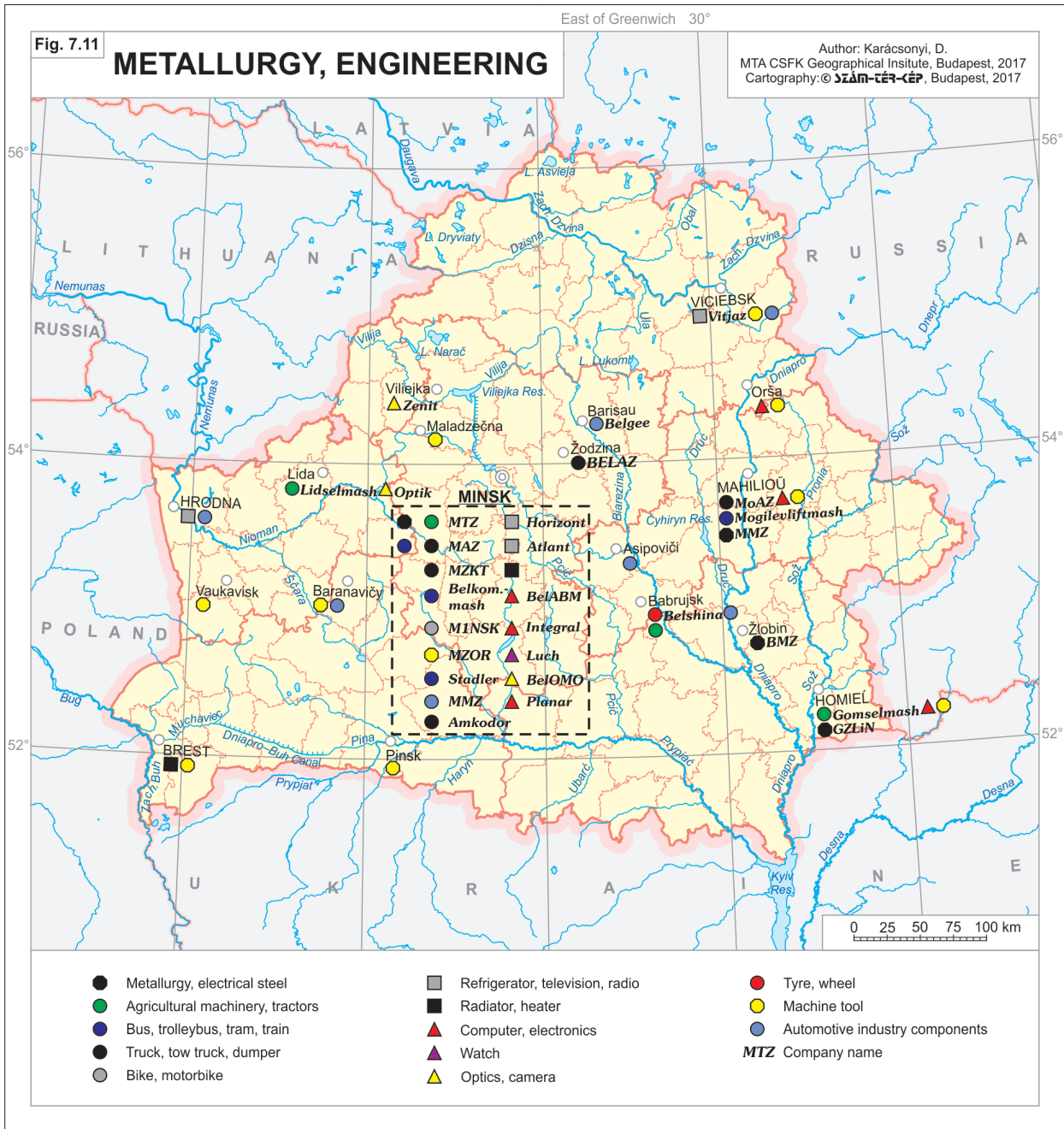
in the major cities, principally in Minsk. The location of the main engineering plants is linked with the availability of labour. Regionally, production of machinery and equipment is concentrated in Minsk city (38.6%) and the Minsk region (19.5%). The lowest production shares in this sector are seen in the Hrodna (4.6%) and Viciebsk (3.3%) regions.

The largest automotive plant, the Minsk vehicle factory (MAZ), which was founded in 1947, produces mainly buses and trucks. By the 2000s, MAZ had become the largest bus producer in the post-Soviet area. Since 1995 the factory has been producing low-floor buses under a licence from Neoplan (<http://maz.by>). The first such model was the MAZ-101. Since 1998, it has been producing trucks in collaboration with MAN. In 1991 the Minsk Wheel Tractors Plant (MZKT) became independent of MAZ; it had previously been the military vehicle section of the firm and made all terrain heavy duty ballistic rocket launchers and military tractors. Today, under the name "Volat", it makes ballast tractors, crane trucks and dumpers (<http://www.mzkt.by/>).

In the 1950s, the BELAZ plant in Žodzina near Minsk was established. It has since grown into one of the world's major dumper producers. Since 2013, the 450 tonne BELAZ-75710 mining trucks have been made here too, which is the largest such vehicle in the world (<http://www.belaz.by/>). Indeed, the truck appears in the Guinness Book of Records as the largest lifting truck in the world. The main advantages of the Belarusian dump trucks are operational reliability, ergonomics and the unique electronic control system of motors. A branch subsidiary within the BELAZ holding company (since 2006) is MoAZ, which was founded in 1948 and makes traction, road-building vehicles and graders in Mahilioŭ.

Another important vehicle production plant is the "MINSK" motorbike factory, making scooters and quads. Production was begun in 1951 using DKW (which later became MZ) equipment, which had been moved to Belarus from Zschopau in Germany as part of the war reparations (<http://minsk-moto.com/>).

A range of electric public transport vehicles are produced at the "Belkommunmash" plant in Minsk, which grew out of a Soviet-era trolleybus and tram repair shop, and which now exports low-floor trolley buses to several countries around the world (<http://bkm.by/>).



Minsk is also the site of the CIS's largest tractor factory, MTZ, founded in 1946, which accounts for a half of all tractor production in the CIS and 6% of world production. In addition to the principal export markets (Russia, Ukraine, Kazakhstan), "Belarus" tractors are exported to 120 countries (<http://belarusfacts.by/>). Belarus is the third largest producer of tractors in the world. The company has component production facilities in six towns, in addition to the one in Minsk (<http://belarus-tractor.com/>). Currently,

the tractor works have more than 22,000 employees. Competitiveness is associated primarily with its operational reliability, the ease of operation and maintenance, and comparatively low prices.

Alongside the "Amkodor" factory founded in 1927, the oldest agricultural machinery plant in Belarus is "Gomselmash" in Homiel, which has been making combine and other harvesters since 1930 (<http://eng.gomselmash.by/>). The other centre of agricultural equipment production is "Lidselmash" in Lida, producing smaller ag-

ricultural machinery and accessories, including potato seed drills (<http://en.lidselmash.by/>).

In vehicle and machinery production, alongside Western – mainly German – investors, recent years have also seen an interest from China, particularly in the Minsk Wheel Tractors Plant, which makes ballast tractors and military vehicles.

In the Soviet era, in almost every major town, there were companies making small turning **machine tools** and manufacturing automatic processing lines, in part for Western export. These plants are still owned by the state. Although production levels have fallen significantly, the range of goods has been broadened (Kozlovskaya, L.V. 2004). In 2014, the companies became part of a holding company under the auspices of “MZOR”, the machine tool plant in Minsk (<http://mzor.com/>).

Major producers of consumer goods include the “Horizont” holding company, the “Vitjaz” television factory (founded in 1976) and the “Atlant” refrigerator factory, formerly known as the “Minsk” plant. “Minsk” refrigerators have been produced since 1962. The Horizont holding company produces a wide range of consumer goods, from LCD and plasma TVs to vacuum cleaners, electric kettles and microwave ovens.

The IT and high-tech sector

In the Soviet era, the high-tech sector – precision instruments, radio electronics, communications and optical equipment, laser technology – was closely tied to the armaments industry (Kozlovskaya, L.V. 2004). The state-funded research and development facilities formed part of the Russian-Belarusian armaments industrial complex.

The leading radio electronics company was the “Integral” of Minsk (Ioffe, G. 2006) comprising several plants. It still produces integrated circuits, sensors, and timers for, among other things, consumer electronic equipment and for LCD and plasma TVs.

Lenses, prisms and fibre optic cables are produced by the “Optik” Works of Lida, which is the second largest optics manufacturer in Europe after Germany’s Carl Zeiss. The Belarus Optical-Mechanical Consortium, founded in Minsk in 1971, specialises in the manufacture of high resolution satellite cameras, but the com-

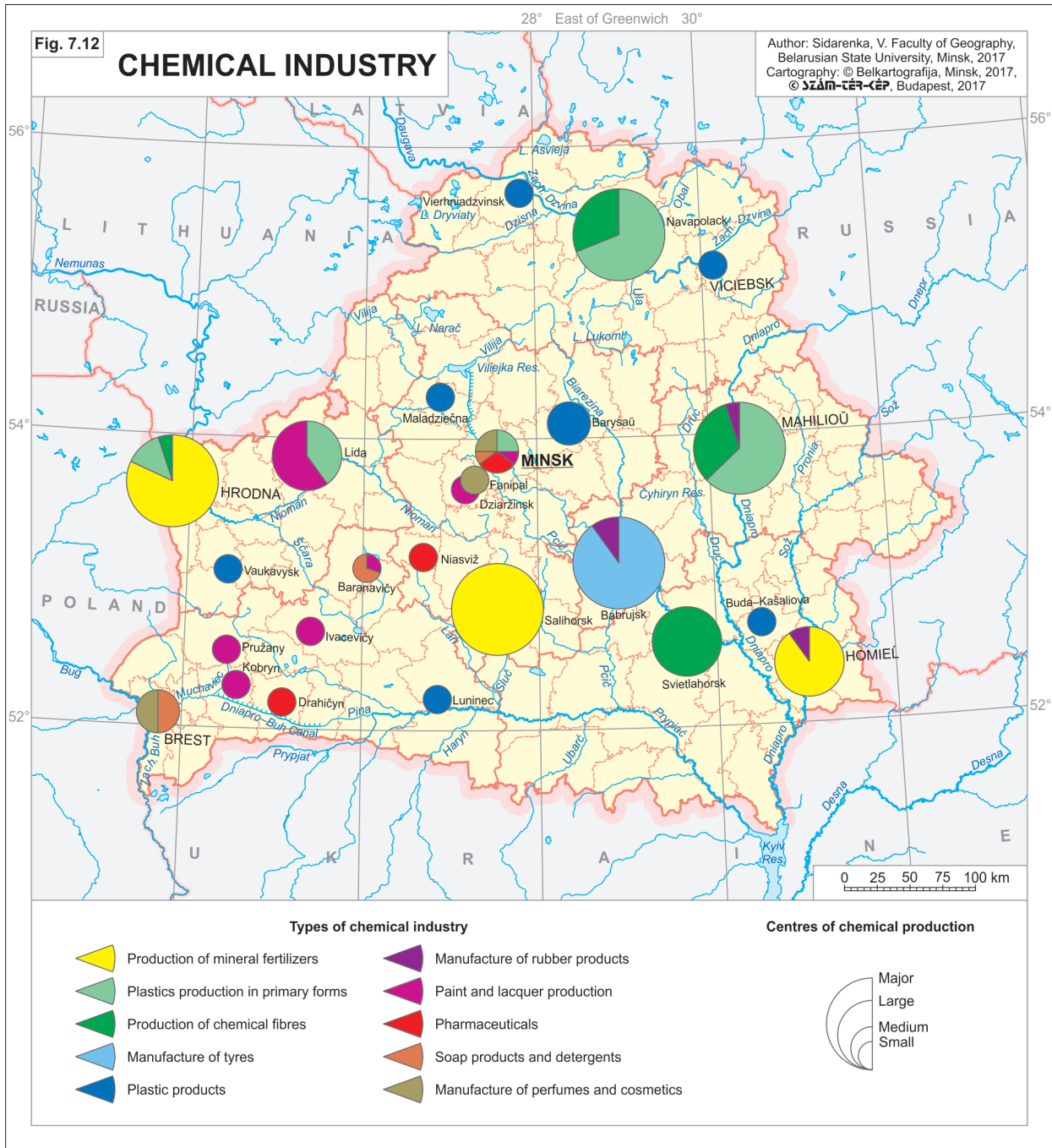
pany’s plant in Viliejka used to produce “Zenit” cameras (<http://belomo.by/>). An 80% stake in the “Luch” watch company, founded in Minsk in 1953, was recently purchased by the Franck Muller Company, which then began a program of modernization, while the state retained a 20% share (<http://luch.by/>).

The first computers were manufactured in Minsk in 1959. By 1970, the “Minsk”-type computers accounted for 70% of all computers in the Soviet Union. The largest computer manufacturer is currently BelABM of Minsk, a partner of Compaq and Fujitsu (<http://www.belarusguide.com/>).

The IT sector has also been developing very rapidly. In recent years Belarus has earned the reputation of being the leading “IT country” in the Eastern European region. According to the Global Services 100 rating, the country is placed 13th among the 20 leading countries in the sphere of IT outsourcing and high-tech services (<http://belarusfacts.by/>). According to Forbes Magazine: “Per capita income from IT-services export in Belarus exceeds that of Russia and Ukraine”. Following a presidential decree in 2005, the foundations were laid for a new high-tech park (HTP) on the outskirts of Minsk and close to the airport and the motorway. The first building of the high-tech park was completed in 2009. The park, which has received the nickname “Mini Silicon Valley”, has become a centre for knowledge-based start-up programming firms, and the U.S. IT sector has gradually turned it into its East European base. The park now provides a home to around 150 firms, employing 6,000 people. Half of these companies are Belarusian, while the remainder are foreign-owned (<http://www.park.by/>). The export share of total production exceeds 80 percent.

Chemical industry

Belarus’s chemical industry (*Figure 7.12*) accounts for a third of total industrial production and 12% of total GDP. The sector contributes a fifth of the country’s exports, which, in addition to the processing of Russian hydrocarbon imports, is limited to the processing of the significant deposits of rock salt and potash. Fertilizer industry, chemical fibres and threads, plastics and synthetic resins have a dominant role. The chemical industry of Belarus is characterized by



a high degree of complexity and a high level of regional concentration.

The greatest problems facing the chemical industry in Belarus (albeit potash is an exception) are its dependence on imported raw materials and the gradual reduction in transit duties on oil derivatives. The two factors reduce the sector's competitiveness in both domestic and foreign markets. Another problem is environmental pollution and degradation in a sector that requires modernisation.

Most chemical industrial products are exported to Russia, the Baltic countries or Western Europe. In recent years there has been an increase in exports to China, India, the United States and Latin America, a trend that reflects in part the closed nature of European markets (Kozlovskaya, L.V. 2004).

The **fertilizer industry** consists of three enterprises located in Salihorsk, Hrodna and Homiel. The country produces all three main

types of fertilizer: nitrogen, phosphorus, and potassium. Within the fertilizer industry, potash production is the principal sector. It accounts for 15% of the country's hard currency earnings (Kozlovskaya, L.V. 2004). Potash deposits were discovered near Salihorsk and Starobin in 1949, and a potash fertilizer plant was opened there in 1963. The "Belaruskali" company was the Soviet Union's largest potash fertilizer producer, and it is currently the world's largest producer, accounting for one-seventh of world potash fertilizer production (<http://kali.by>). Belarus is the fourth largest potash producer in the world, after Canada, Russia and China. Since 2003, the "Belaruskali" company has opened several new mines and commenced the production of complex (NPK) fertilizers. To enhance potash industrial exports, the Belarusian Potash Company was established, with "Belaruskali" (48%) and Belarusian Railways (42%) as the principal shareholders. The company is seeking to increase exports, primarily to the BRIC countries (<http://belpc.by/>). The cartel between the "Uralkali" and "Belaruskali" companies broke up after the so-called potash conflict of 2013, because Uralkali began selling its products independently of the Belarusian Potash Company. As part of a Chinese investment, the "Slavkaly" mining plant was established near Starobin. It intends to sell its products by way of the Belarusian Potash Company.

The development of the **petrochemical industry** in Belarus accelerated in the 1960s. The period saw the establishment of the two oil refineries and the opening of two major fertilizer plants: the "Azot" nitrogen fertilizer plant in Hrodna and the superphosphate fertilizer plant in Homiel. The latter processes apatite from the Kola Peninsula as well as Russian and Ukrainian pyrite. Concurrently, the "Belshina" tyre factory opened in Babrujsk, supplying the large automotive factories.

The **plastics industry** has a raw material orientation, because such synthetic resins as caprolactam (Hrodna), dimethyl terephthalate and polyethylene terephthalate (Mahilioŭ) are produced in the country. The largest synthetic fibre factories, such as the polyamide manufacturing "Hrodna-Khimvolokno" plant, the polyester manufacturing "Mahilioŭ" and "Svietlahorsk-Khimvolokno" plants, and the viscose factory at Mahilioŭ, were established at this time, as were

also several other plastic and synthetic resin plants (Kozlovskaya, L.V. 2004). The "Polymir" factory at Navapolack specialized in the manufacture of polyethylene and various polyacryl synthetic fibres. In terms of the volume of synthetic fibres and threads produced, Belarus is among the top fifteen countries in the world.

The privatization of the chemical industrial giant "Belneftekhim" – accounting for 30% of Belarus's chemical industry production – began rather slowly. Since 2002, several of its plants have become independent companies in the course of privatization. Examples include "Belshina" and the synthetic fibre producer "Polymir".

Pharmaceutical production developed dynamically in Belarus after the breakup of the Soviet Union. This was due to the existence of a rich network of research and development institutions (Kozlovskaya, L.V. 2004). The main pharmaceutical facilities are in Minsk and Barysaŭ.

Textile industry

Textiles has traditionally been the largest light manufacturing sector in Belarus. Today, the sector retains its significance, even though the problems it faces are similar to those found in other European countries. Competition from the developing countries, which benefit from cheap labour, and high duties in the European markets are two difficulties facing Belarus's textile industry. The major textile industrial town is Orša. The **linen factory** in Orša produces more than 700 types of linen. Both linen production and its processing is concentrated almost entirely in the Viciebsk region.

In the 1980s, Belarus accounted for a quarter of Soviet linen and 10% of world production. Although the volume of processed linen has declined, Belarus has succeeded – unlike the other post-Soviet republics – in retaining its leading role in the manufacture and processing of textiles made from linen. Linen fabrics are mostly made for export to the West.

In 2004, the government decided to establish a holding company, which would unite all the linen plants, the Orša linen plant, and the logistical centres involved in the linen industry up to and including the production of the final product. The theoretical goal was to increase the efficien-

cy and competitiveness of the linen industry in international markets (Kozlovskaya, L.V. 2004).

In Soviet times Belarus was third among the various republics in terms of the manufacture of woollen fabrics and carpets, but in recent years the Belarusian woollen industry has undergone a decline, owing to the lack of raw materials (Kozlovskaya, L.V. 2004). A similar decline has affected the Belarusian cotton industry centred on Baranavičy. Further, both silk and artificial silk production in Belarus, which used to account for 10% of total Soviet production, have experienced production falls.

Despite the presence of raw materials and cheap labour, Belarus's knitting, weaving, sewing apparel and shoe industries, all of which await modernization, face substantial competition from Turkish and Chinese producers. Alongside the old production companies – “Komintern” in Homieĺ, “Znamya industrializacii” (Flagship of Industrialization) in Viciebsk, and “Progress” in Minsk – the year 2000 saw the foundation of the company “Milavitsa” in Minsk. This latter company was privatized in 2006 and has since become Europe's largest underwear manufacturer. As a member of the Silvano fashion group (<http://www.silvanofashion.com/>), which includes Estonian and Latvian underwear manufacturing plants, its products can be found throughout the world.

Wood and paper industry

Although Belarus has enormous forests and the wood industry is one of the country's traditional sectors, the wood industry's share of industrial output is only 2%. A half of Belarus's forests serve an ecological purpose, while the other half are utilized by the wood industry. On a post-Soviet scale, the forestry companies in Belarus operate efficiently, planting and protecting forests. An important task faced by such companies, however, is the modernization of the wood producers, coupled with the switch to environmentally-conscious selective wood cutting practices. The wood industry firms are controlled and directed by the state company “Bellesbumprom”. Major workshops tend to be concentrated at the intersection of forested areas and the main routes of supply, especially in the

southern and south-eastern parts of the country (Babrujsk, Barysaŭ, Pinsk, Ivacevičy, Rahačoŭ, Rečyca, Mazyr). In Soviet times, 25% of Soviet wood exports came from Belarus. However, as the natural wood resources were exhausted, the wood industry found that it could only meet domestic demand. In consequence, substantial amounts of raw material had to be imported from the rich forests of Russia. Belarus was once the Soviet Union's principal match producer. There were seven match factories (including the largest in Homieĺ) and a good number of veneer and plywood factories. Cardboard and paper production was also significant.

In consequence of the economic changes of recent years and the planting of forests, Belarus's wood industry is currently able to satisfy domestic demand and increase its exports. To date, Austrian investors have been the most active group of foreign investors in the Belarusian wood industry. The export of raw wood has been increasing gradually ever since 1996, following a period of neglect in the 1990s. Softwoods – less valuable than wood from coniferous species – account for more than a half of Belarusian wood exports (Kozlovskaya, L.V. 2004). Softwoods are used in match and plywood production.

Significant production levels are seen in furniture manufacturing and the manufacture of wooden panels and building elements. A large proportion of the furniture industrial products are made for export to Russia. In recent years, however, increasing energy costs have resulted in a significant decrease in the competitiveness of Belarusian furniture in the export markets.

The cellulose and paper industry is less developed. The first paper factories in the area of today's Belarus were established in the early 19th century (Svietlahorsk, Dobruš, Slonim), whereas cellulose production began only in the 1980s in Svietlahorsk. A factory producing newsprint is operating in Škloŭ. Although there are significant water resources for use in the cellulose industry, the high demand for energy means that low-value softwood is exported, while pulp and paper produced from the exported softwood is then imported (Kozlovskaya, L.V. 2004). In recent times, Chinese investors have shown an interest in the Svietlahorsk plant, while Chinese loans are being used to modernize the “Hero of Work” paper plant at Dobruš.

Agriculture and food industry

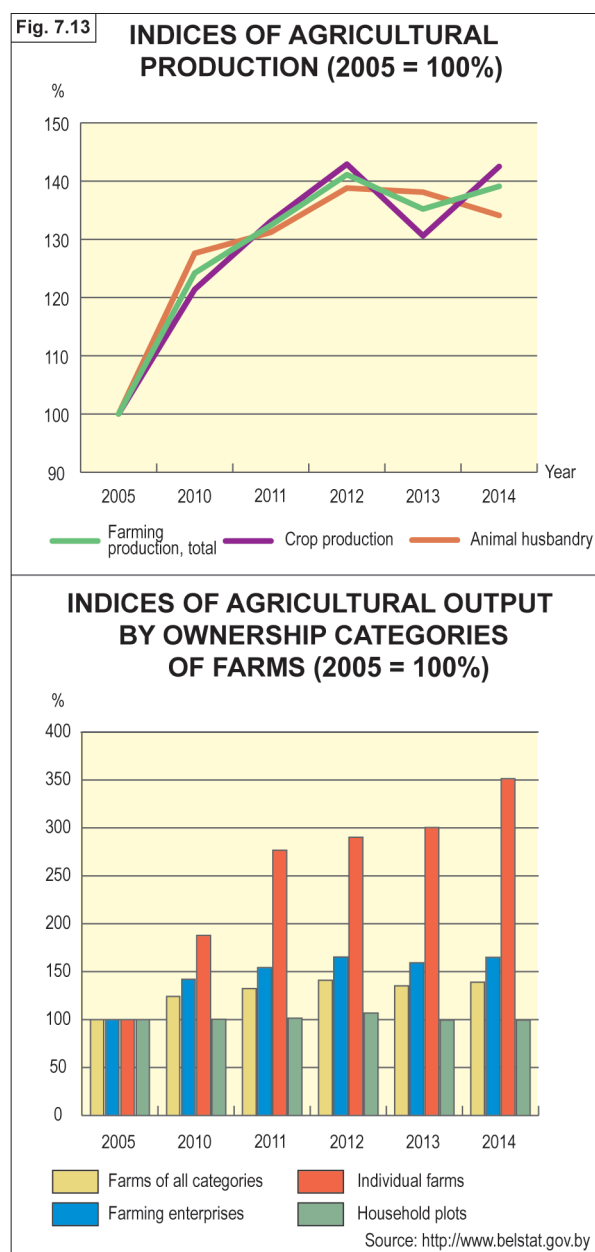
In view of its sandy moraine soils, waterlogged marshes and acidic podzols, Belarus with its cool climate has less agricultural-ecological potential than does its southern neighbour Ukraine. As a result, the significance of agriculture for the national economy is also less, although this is hardly reflected in production levels.

Belarus's territory – in line with the natural conditions – can be divided into three agricultural-climatic zones, running from north towards south. In the central and northern zone, in addition to the sandy and stony moraine soils, climatic factors also exert a negative impact on conditions for agriculture. In the southern region comprising the Paliessie area, however, the number of frosty days is at a minimum and the amount of growing season heat and sunshine totals are at their highest. The alluvial sandy soils – and loess in the eastern part of the country – are highly suitable for the production of grain, sugar beet and buckwheat, as well as sunflower and maize.

The land melioration/reclamation projects and investments of the 20th century affected mainly Belarus's southern areas, which have the best potential. In consequence, agricultural production standards improved considerably (Gusakov, V.O. 2010). In the second half of the 20th century, agriculture began to intensify. Chemicalization, mechanization, land melioration and reclamation, animal breeding and plant selection are the main processes that led to the growth of agricultural production in this period. However, Belarus did not avoid the negative impacts of such large-scale interference in the natural environment (Ioffe, G. 2004): the draining of wetlands led to severe droughts, particularly in the Paliessie area. In consequence of the Chernobyl nuclear disaster, 1.8 million ha of agricultural land became polluted, particularly in the south-east of the country in the Homiel region. The country's richest agricultural lands – those with the greatest agricultural-ecological potential – were left in a state of devastation, causing huge losses to Belarusian agriculture.

After the country's independence in 1991, the intensification of agriculture continued, but production levels fell until 1998. In view of these circumstances, attempts were made to reform the sector. Beginning in the early 2000s, the ag-

ricultural sector began to receive significant state assistance. Several agricultural development programmes were launched (e.g. the "State Rural Development Program", launched in 2003, or the "State program for sustainable development of rural areas" in 2011–2015), with a view to improving competitiveness, satisfying domestic demand, and enhancing exports. The reforms have resulted in increased agricultural production, the emergence of farming, the privatization of enterprises involved in the processing and/or marketing of agricultural products, and state subsidies for agriculture (Figure 7.13).



In Belarus, the **role of agriculture in the economy** is slight; only in 2010 did production reach the level seen before the crisis of the transition (Ioffe, G. 2004; Yarashevich, V. 2011). This indicates a far slower pace of development than that seen in other sectors of the national economy. Even so, compared with situation of the agricultural sector in other post-Soviet countries, Belarusian agriculture is in a far better position. Average yields are higher in Belarus than in any other former republic of the Soviet Union (<http://www.belstat.gov.by>). In 2014, agriculture accounted for 7% of Belarus's gross domestic product and employed 9% of its working population. In the same year Belarus had 8,632.3 thousand ha of agricultural land (or 41.4% of the total area), whereby arable land and grasslands were prominent.

Land ownership and land use. In Belarus all agricultural land is state-owned and used on the basis of long-term leases of 5–99 years (FAO 2012). The state is the landlord, managing and controlling the highly integrated agricultural sector by means of five-year plans and sector programmes. The former *kolkhozes* and *sovkhoses* have been replaced by production cooperatives and state companies, and agricultural enterprises continue to receive significant state support (Ioffe, G., Yarashevich, V. 2011).

Leading roles in agricultural production are played by the above mentioned agricultural organizations (76.2%) and household plots (22.1%). The share of private farms remains low (1.7%) (Table 7.4). In terms of the ownership of agricultural land, a similar division can be observed: in early 2015, the largest share of land (86.9%) was held by the production cooperatives, while 1.8% of land was cultivated by peasant farmers and 9.8% by household plots (<http://www.belstat.gov.by>).

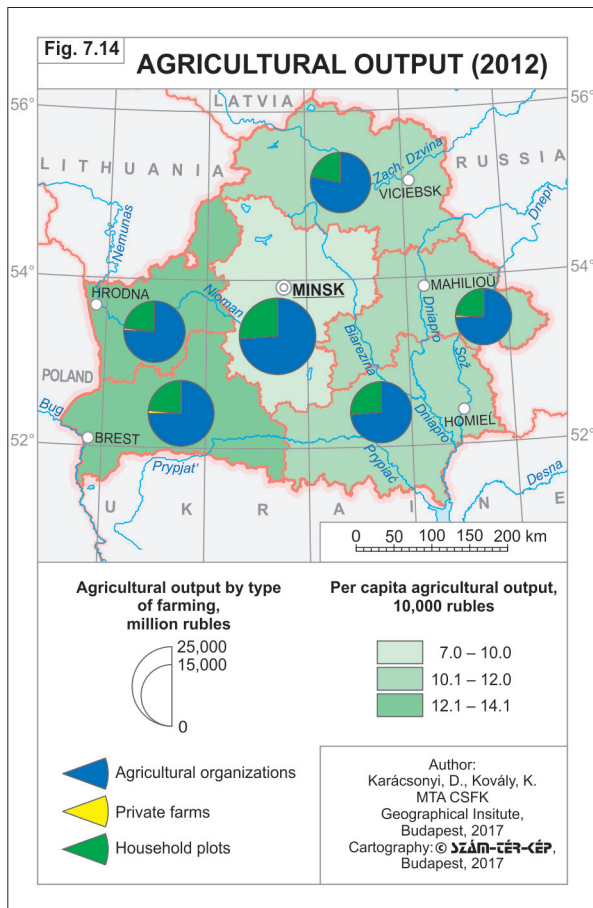
The average size of peasant farms has changed little in recent years – approximately 55 ha. However, the average size of the production cooperatives has increased significantly, rising from 2,930 ha in 2006 to 4,885 ha in 2012. This change is due to the government's reforms aimed at increasing the efficiency of agriculture. In Belarus, there is a peculiar east-west divide in terms of agricultural land use and organization: large cooperatives prevail in the West, while in the East peasant farms and smallholdings play a greater role (Ioffe, G. 2004) (Figure 7.14). The western half of the country “missed” the repression of Stalinist collectivization in the 1930s, and so Soviet-type communist agriculture developed later and under more favourable circumstances. Moreover, the western half of the country had a greater capacity to retain its population. This, in turn, led to a land shortage, and so there is no land available for distribution (Ioffe, G. 2004). In contrast, in Belarus's eastern half, available land per capita is greater because of demographic decline. This has meant that family farms and household farming plots tend to be bigger and, therefore, more competitive in an economic sense (Ioffe, G. 2006). Although the historical backdrop is similar, Belarus's east-west divide outlined above is the exact opposite of that seen in Ukraine, where smallholdings are a characteristic feature of the more densely populated western parts of the country. The underlying reason for this stark discrepancy is that agriculture has less economic significance in Belarus than in Ukraine, whereby in the former the economic pressure on the agricultural sector is less pronounced and the role of agriculture as a social buffer is also less significant.

The structure of agricultural production. Belarus's agricultural sector has maintained its

Table 7.4 Structure of agricultural production (Percentage of total agricultural production)

	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014
Agricultural production	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Crop production	38.6	36.5	53.3	35.1	53.1	56.0	52.6	46.0	46.4	48.4
Animal husbandry	61.4	63.5	46.7	64.9	46.9	44.0	47.4	54.0	53.6	51.6
Agricultural organizations	–	–	–	60.8	61.3	63.3	70.9	74.8	76.4	76.2
Individual farms	–	–	–	0.6	0.7	1.0	1.3	1.1	1.5	1.7
Household plots	–	–	–	38.6	38.0	35.7	27.8	24.1	22.1	22.1

Source: <http://www.belstat.gov.by>



specialization – which evolved in the Soviet era – on dairy and meat cattle farming, pig farming, and potato and flax production. Yet, after the collapse of the Soviet regime, the structure of the agricultural sector has slightly changed. Over the years, the significance of crop production has increased, while that of animal husbandry has declined (Table 7.3).

Agricultural production satisfies domestic demand almost entirely, and only 12% of consumed foodstuffs are imported (Aleksiyevic, M. and Valion, O. 2013). Belarus is, further, a major agricultural exporter. It principally exports dairy products, and the Russian market is particularly significant. Belarus is completely self-sufficient in meat, milk, eggs and potatoes, and it is almost self-sufficient in vegetables. At the same time, there is a lack of domestic production of fruits and berries and fish. Among the CIS countries, Belarus is ranked first in terms of per capita production of potatoes (663 kg) and sugar beet (507 kg), the second after Ukraine in terms of per capita production of grains and legumes (1,009 kg).

According to the FAO, Belarus is ranked third in the world in the production of flax and cranberries; it is among the top ten producers of rye and triticale and among the top twenty producers of sour cherries, oats, sugar beet, rapeseed and strawberries.

Crop production. The amount of cultivated land (5,860 thousand ha) and its structure have not changed significantly in recent years. The largest areas are used for cereals and legumes (45%) and fodder crops (38.4%). Industrial crops account for 10.1% of cultivated land, potatoes for 5.3%, and vegetables for 1.2% (<http://www.belstat.gov.by>).

Potato production (Figures 7.15, 7.16, 7.17) is typical of the central and western regions of the country. Individual farms account for 79.1% of production (<http://www.belstat.gov.by>), while

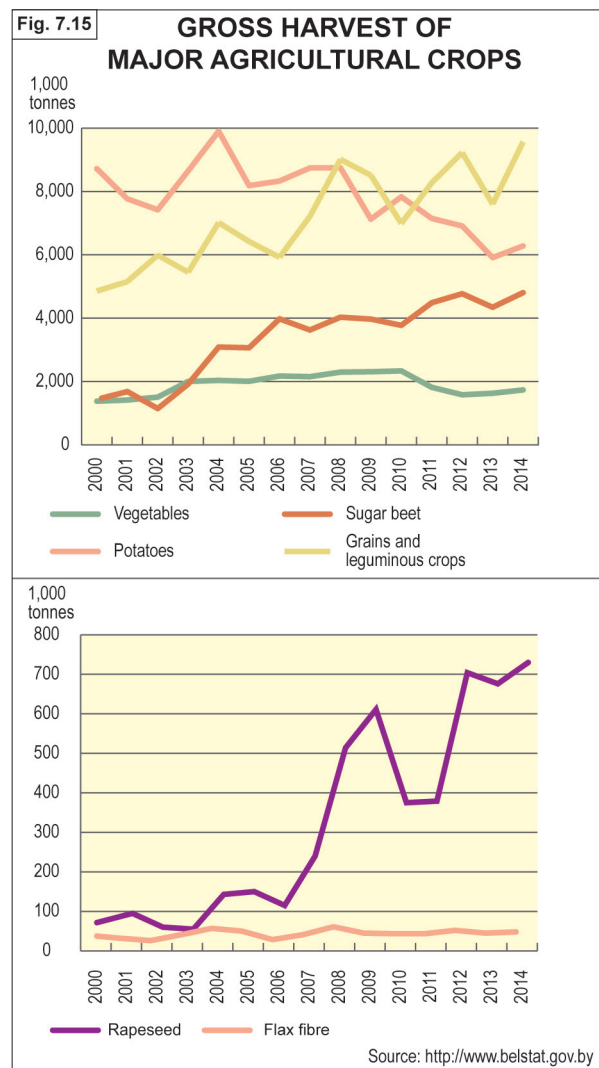
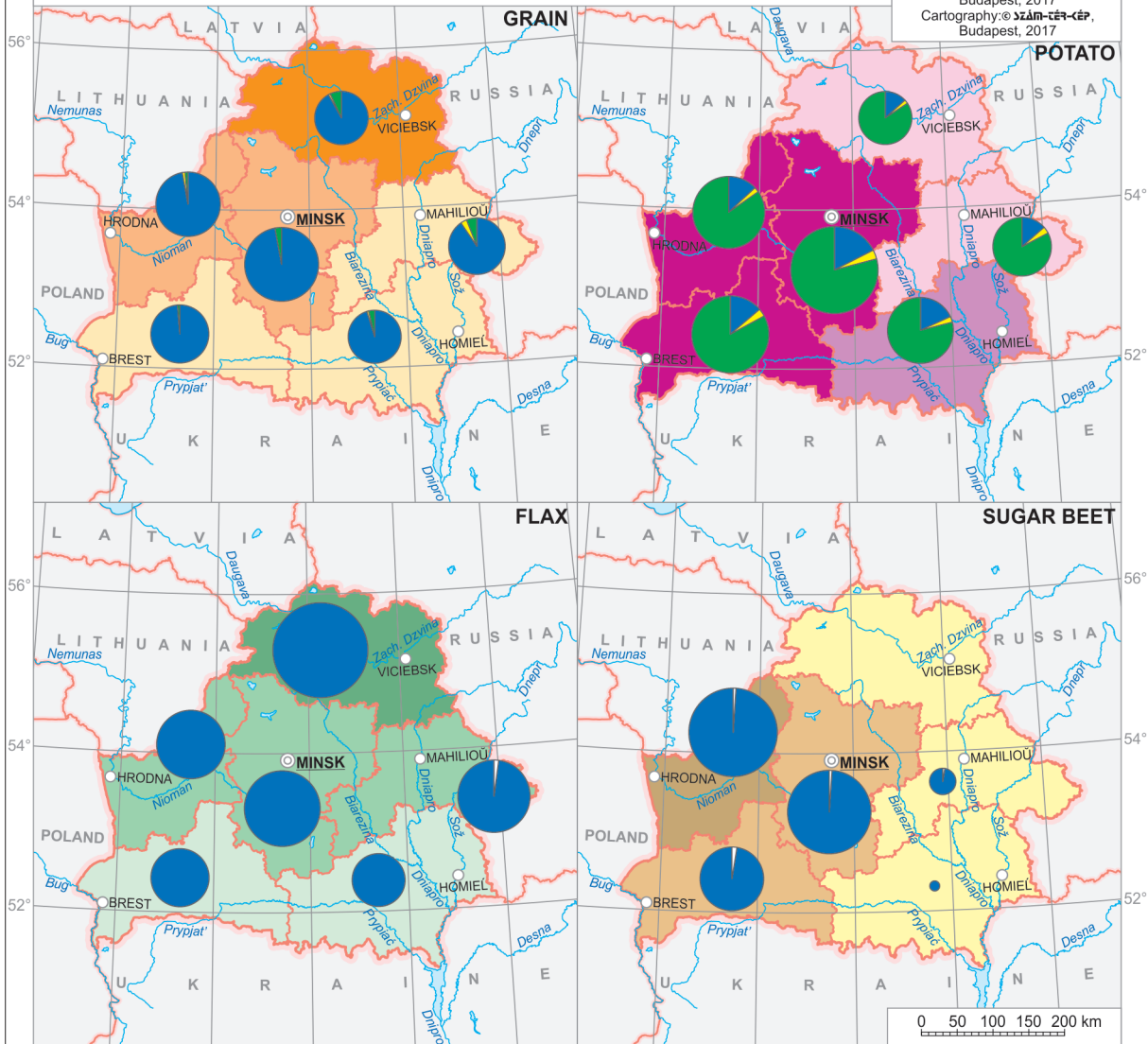


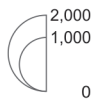
Fig. 7.16

OUTPUT OF MAJOR CROPS (AVERAGE OF 2010–2012)

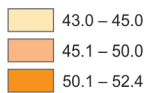
Author: Karácsonyi, D., Kovály, K.
MTA CSFK Geographical Institute,
Budapest, 2017
Cartography: SZÁM-TÉR-CÉP,
Budapest, 2017



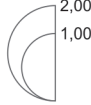
Grain production
by type of farming,
thousand tonnes



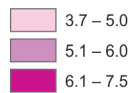
Sown area for grain
within the total sown area,
%



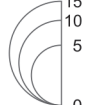
Potato production
by type of farming,
thousand tonnes



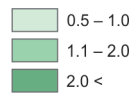
Sown area for potato
within the total sown area,
%



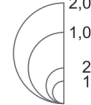
Flax production
by type of farming,
thousand tonnes



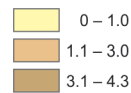
Sown area for flax
within the total sown area,
%



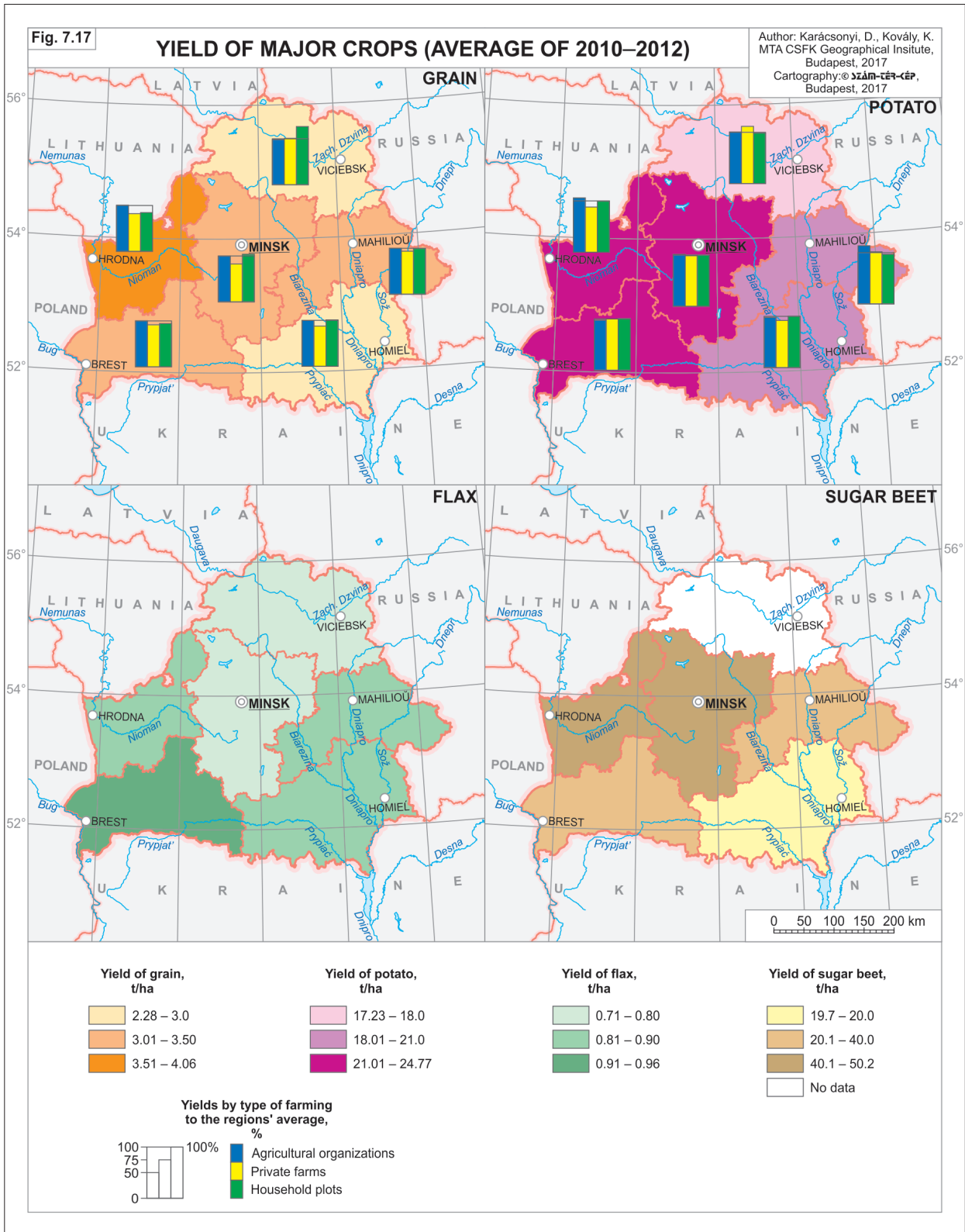
Sugar beet production
by type of farming,
thousand tonnes



Sown area for sugar beet
within the total sown area,
%



- Agricultural organizations
- Private farms
- Household plots
- Private farms and household plots



the production share of the collective farms has registered a steady decline. In terms of per capita consumption of potatoes, Belarus is a world lead-

er (181 kg/year). Most of the potatoes produced in Belarus are exported or used to meet domestic food demand (Kozlovskaya, L.V. 2004), but they

also play a significant role as fodder and in the production of alcohol (vodka).

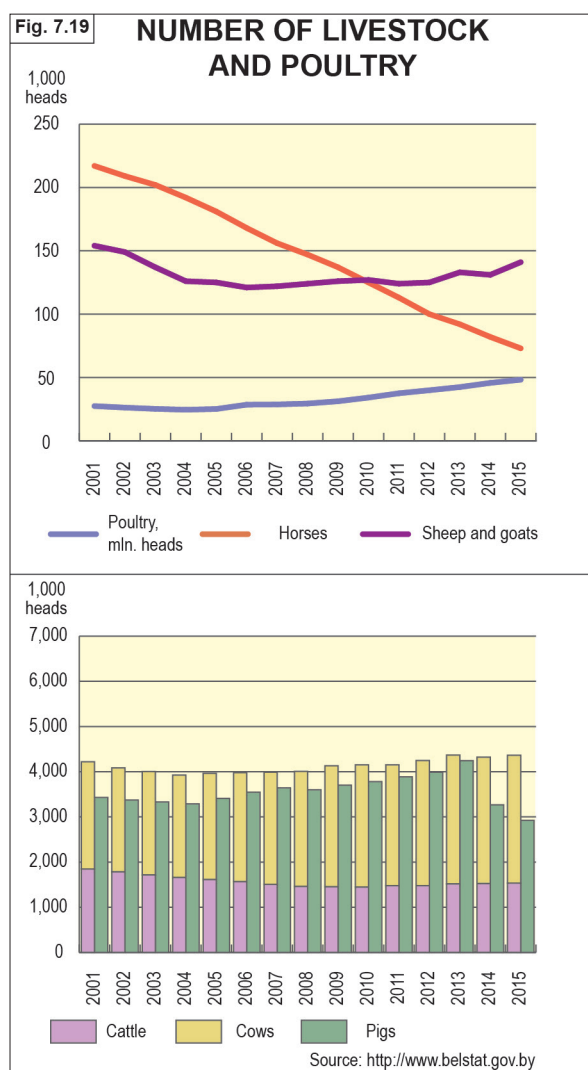
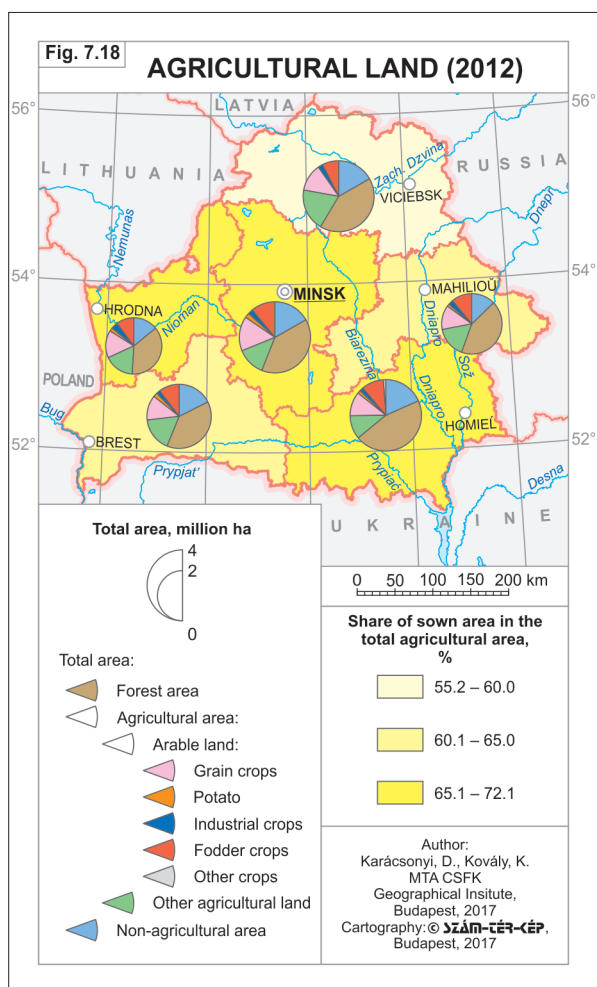
The most important **cereal crops** are barley, rye and wheat. The geographical location of cereal production is linked with the natural attributes of the various regions (climate, soil quality): cereal production is particularly significant in the Minsk and Hrodna regions. Although there has been an increase in the amount of land used in cereal production, Belarus still needs to import cereals.

The most important **fodder crops** are triticale and maize for silage, which are grown above all in the Minsk and Homiel regions (Figure 7.18). The amount of land used for triticale production has increased significantly in recent years. The major **industrial crops** are sugar beet (the importance of which has grown), rapeseed and flax, the production of which is concentrated in the central and western areas that have the most favourable natural attributes and a suitable processing industrial capacity. The sugar industry

developed in the south-western and central areas of Belarus in the 1950s and 1960s. Owing to a sugar shortage in the aftermath of the Second World War, major sugar factories were established, and sugar beet plantations then arose in proximity to these factories. With a view to meeting the demand for sugar and to providing employment and income to rural populations, the so-called "State Sugar Program" was introduced with the goal of increasing the sugar beet crop as well as production levels at the sugar beet processing plants.

Flax production is concentrated in the central, northern and north-eastern parts of Belarus, where rainfall is sufficient and summer temperatures are moderate.

Vegetable production is usually carried out in the private sector (67.2% of production), with the largest horticultural farms being situated



near major towns and/or in the vicinity of one of the processing plants. The most important types of vegetable produced in Belarus are cabbages, carrots, onions and beetroot. **Fruit production**, which is limited to apples and berries, is rather insignificant in view of Belarus's cool and wet climate. Private farms account for 83.9% of production (<http://www.belstat.gov.by>).

Animal farming became loss-making after independence and the transition, and so most farms specialized in crop production, which requires less labour and is more profitable. Even so, owing to the state subsidies, animal farming has retained some of its former significance: in-

deed, it still accounts for more than half (51.6%) of agricultural production and a major share of exports. The export of dairy products is particularly significant. The main sectors of production are milk and meat cattle breeding on large farms, pig breeding, and poultry (*Figure 7.19*). Almost a half of all poultry production and around 80% of poultry processing is undertaken by the agricultural company "Belptakhoprom" (Aleksiyevec, V.; Valion, O. 2013).

Until the 1990s, dairy farming was one of the most developed sectors of agriculture in Belarus. In the Soviet Union, per capita milk production was very high in Belarus and exceeded

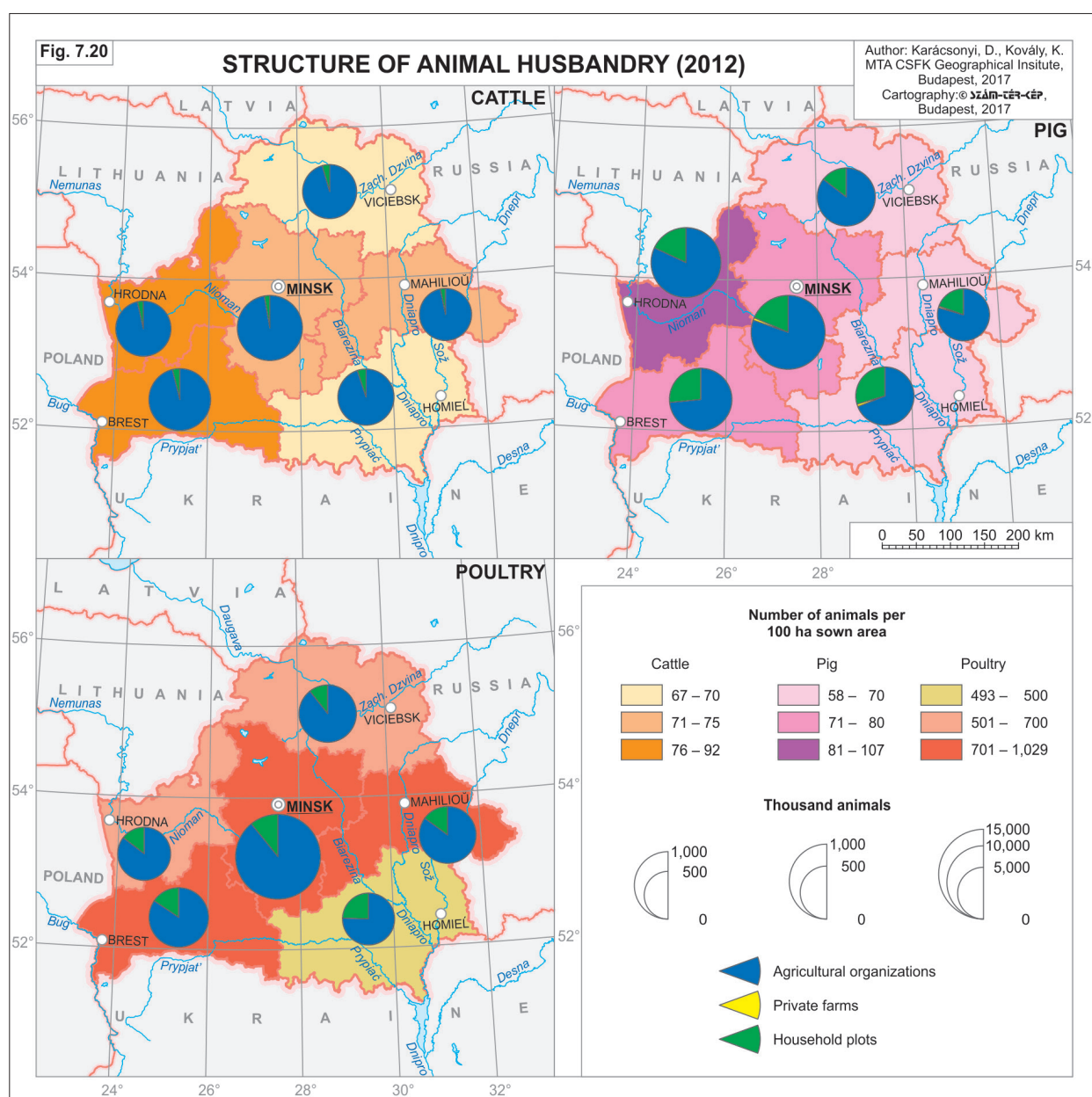
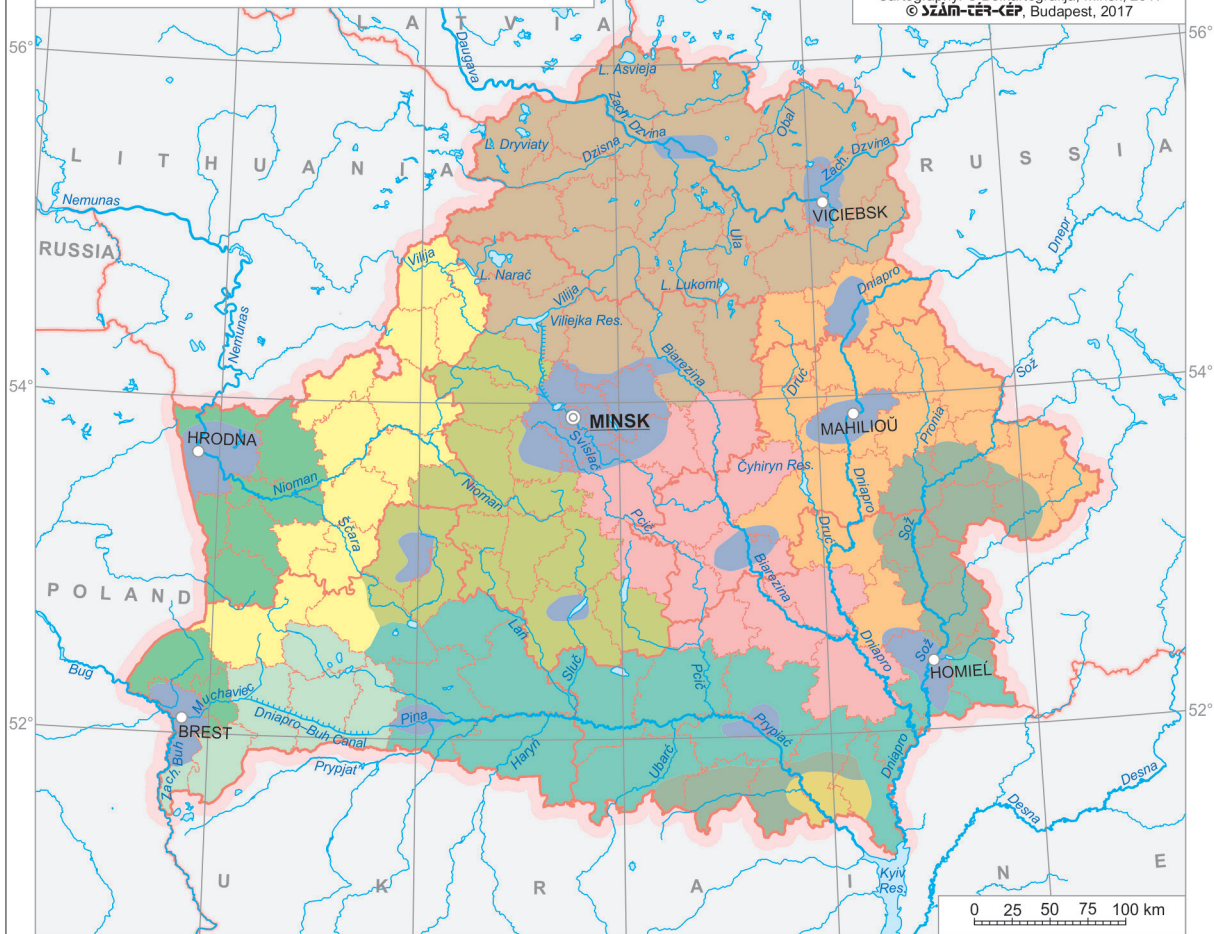


Fig. 7.21

AGRICULTURAL REGIONS

Author: Smaljakou, G., Belakhvost, P.
 Faculty of Geography, Belarusian State University,
 Minsk, 2017
 Cartography: © Belkartografija, Minsk, 2017
 © SZÁM-TÉR-ÉP, Budapest, 2017

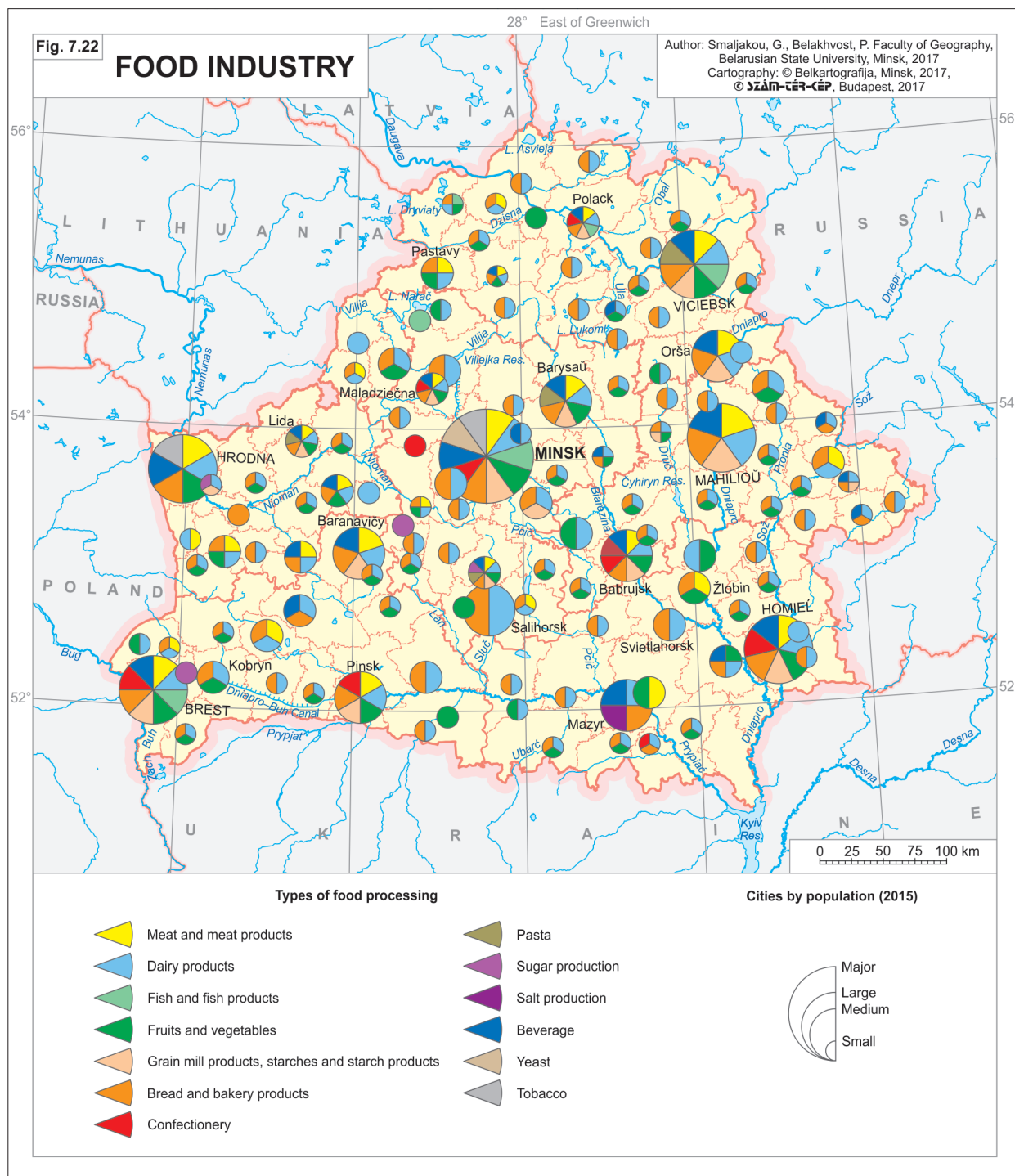


Types of farming

- High intensity use of cultivated lands, dairy and beef cattle breeding, cultivation of flax, dominance of field forage production, gardening. Drained lands occupy less than 30% of agricultural lands.
- High intensity use of cultivated and meliorated lands, dairy and beef cattle breeding, pig breeding, cultivation of beet and flax. Vegetable cultivation in open ground. Widespread natural forage lands. Drained lands occupy from 20 to 60% of agricultural lands.
- High intensity use of cultivated lands, dairy and beef cattle breeding, widespread cultivation of sugar beet, natural forage lands. Drained lands occupy less than 30% of agricultural lands.
- Intensive use of cultivated lands, dairy and beef cattle breeding, developed cultivation of flax, field forage production. Drained lands occupy less than 30% of agricultural lands, but in some areas the proportion rises to 40–50%.
- The medium-intensive use of cultivated lands, dairy and beef cattle breeding, developed pig breeding, cultivation of flax, forage crops occupy about half of the cultivated area. Drained lands occupy from 20 to 45% of agricultural lands.
- Intensive use of meliorated lands, dairy and beef cattle breeding, developed pig breeding, cultivation of potato, vegetables in open ground and greenhouse, berry crops. There are areas with the density of radioactive contamination above 185 kBq/m². Drained lands occupy for more than 60% of agricultural lands.
- The intensive use of cultivated and meliorated land, dairy and beef cattle breeding, cultivation of flax, potato, forage crops occupy more than 40% of agricultural land. Drained lands occupy generally more than 60% of agricultural lands.
- The intensive use of cultivated and meliorated lands, beef and dairy cattle breeding, cultivation of vegetables on open ground. Large areas of land with radioactive contamination density over 5 curie/km².
- Additional actions are needed for the safe conduction of agricultural production in connection with the accident at the Chernobyl Nuclear Power Plant. Drained lands occupy from 15 to 60% of agricultural lands.
- High intensity use of cultivated lands, suburban dairy cattle breeding, poultry breeding, beef cattle and pig breeding, cultivation of potato, vegetables in open ground and greenhouse. Drained lands generally occupy less than 15% of agricultural lands.
- Lands of high density radioactive contamination, including long half-life radionuclide, almost entirely are not used in agriculture. Intensive self-healing of natural systems.

only by the Baltic republics. After independence, cattle stocks declined, and so both **meat and milk production** decreased significantly. However, from the mid-2000s production increased once again. Milk and meat cattle breeding and pig keeping are typical of the central, western and south-western regions of Belarus (Figure 7.20). Milk and meat production has tended to be or-

ganized around the major cities and industrial centres, principally in the Minsk, Brest and Hrodna regions. Nowadays, in terms of the per capita production of cow's milk (708 kg) and the per capita production of livestock and poultry for slaughter (113 kg), Belarus is the leader among the CIS countries. **Egg production** has increased in recent years, owing to the modernization of



the egg production plants and a broadening of the product range. The most important area of egg production is the Minsk region (33%), where large-scale production is typical.

In Belarus, several agricultural regions can be distinguished based on their agricultural-ecological attributes and the typical forms of production (Figure 7.21). Milk and dairy cattle production as well as flax production are typically seen in the northern and north-eastern parts of the country. Meanwhile, the central part of Belarus specializes in cattle and pig keeping, as well as potato and flax production. Pig breeding is a dominant feature of the south-western part of the country, but cattle farming is also advanced in that region.

The Paliessie region specializes above all in cattle farming and potato production, while poultry production and vegetable cultivation have tended to develop near the major cities. These regions and such factors as the source of raw materials and the location of markets are reflected in the regional specialization of the food industry (Figure 7.22). Thus, for instance, the sugar factories are located almost without exception in the western half of the country.

Banking and commercial services

The country's **banking system** consisted of 26 banks in November 2015. Belarus's largest bank is JSC "Savings Bank Belarusbank". Six banks have 100% foreign authorized capital. The share of foreign investors exceeds 50% of the authorized capital of 20 banks. A characteristic feature of the

evolution of Belarus's banking system has been a reduction in the share of banks controlled by the state. The state controls about three-quarters of aggregate authorized capital in the banking sector (Report of the National Bank for 2014), because state banks are large compared to private banks.

In 2014, the average interest rate on new bank deposits in the national currency was 35.3% for individuals and 25.3% for legal entities. The average interest rate on new bank deposits in freely convertible currency [Belarusian ruble, denominated in 2016, is not freely convertible (Karácsonyi, D., editor)] was 4.8–4.9% for individuals and 5.0% for legal entities. Bank deposits account for more than half of individuals' liquid assets and approximately one-third of the private sector's liquid assets. The share of the liquid assets of government business enterprises held as bank deposits is small and on the decline.

At the beginning of 2015, the deposits of individuals amounted to the equivalent of USD 1,190 per person (Table 7.5). This index is below average (18–53% of the average) in all regions other than Minsk, where it is more than twice the average. Most of the deposits of individuals are in foreign currency. This trend applies to all regions. The share of savings in foreign currency is highest in Minsk (76%). In the Hrodna region it is close to the highest rate (74%), while in the other regions it varies between 63% and 67%.

In 2014, the average interest rate on new bank credits in the national currency was 31.5% for individuals and 36.2% for legal entities. In the same year, the average interest rate on new bank credits in freely convertible currency was 9.0%, but such credits are only available to legal

Table 7.5 Savings of the population (2002–2014)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total savings per capita (USD)	162	305	564	601	410	767	712	1,211	1,355	1,391	1,140	2,037	2,063
Savings in Belarusian rubles (percentage of total)	73.4	79.7	82.3	81.0	71.9	72.4	48.9	35.4	31.8	26.6	31.5	56.0	48.0
Savings in foreign currencies (percentage of total)	26.6	20.3	17.7	19.0	28.1	27.6	51.1	64.6	68.2	73.4	68.5	44.0	52.0

Source: <http://www.nbrb.by/bv/arch/498.pdf>

http://www.nbrb.by/engl/publications/bulletinYearBook/Bulletin_Yearbook2014e.pdf

<http://www.nbrb.by/statistics/Rates/AvgRate/?yr=2014>

http://www.belstat.gov.by/ofitsialnaya-statistika/solialnaya-sfera/demografiya_2/g/chislenmost-naseleniya-po-oblastyam-i-g-minsku/

entities. The main demand for bank loans stems from manufacturing companies, the commercial sector, the car repair sector, consumer spending on household goods and personal items, and agriculture, hunting and forestry.

Current development priorities in the banking sector are achieving an increase in demand for banking services and the expansion of the geographical reach of such services; developing new market segments through the enhancement of remote account management and payments; increasing the availability of credits to individuals and legal entities through a reduction in interest rates; ensuring the stability of the banking sector through the development of risk management and the self-regulation of banks (including such aspects as market discipline, professionalism and the independent auditing of banks); and developing financial intermediation in banking services (including the enhancement of corporate financial and advisory services).

An important trend in the commercial sector in Belarus is enhancing standards of customer service. This can be accomplished by replacing old markets with large modern shopping centres and multi-functional complexes and through the introduction of high-tech and multi-purpose storage methods. A salient factor is the high concentration of trading services in metropolitan areas, particularly in Minsk. There is a need to accelerate the development of trading networks and e-commerce.

The **retail sector** in Belarus has seen a rapid increase in the share of foreign capital, which has led, in consequence, to a reduction in the

share of domestically produced consumer goods. Between 2010 and 2014, the share of foreign capital in terms of total retail turnover increased from 6.7% to 18.4%.

A growth in concentration has been a remarkable trend in the retail sector. In 2014, the largest retail organizations accounted for 64.7% of total retail turnover. Almost a third of retail trade organizations (29.1%) are concentrated in the city of Minsk. In 2014, retail trade turnover per capita exceeded USD 4,700 in Minsk. In three other regions, the corresponding figure was less than USD 3,000.

Similar trends may be observed in the **wholesale sector** (Table 7.6). More than half of wholesale trade is concentrated in Minsk, and for the entire metropolitan area the figure is almost 70%. Both in the city of Minsk and in the Minsk region, wholesale trade turnover per capita and the share of foreign capital are at high levels. Consequently, in 2014, the share of foreign-made consumer goods as a percentage of wholesale trade turnover was 42.9%.

E-commerce in Belarus is still in the early stages but has made promising advances in recent years. The number of online stores (3,072 units in 2014) has increased almost threefold over a five-year period. Almost 60% of online shops are registered in the city of Minsk. The owners of online stores are mostly individual entrepreneurs or small businesses: 47.5% of them are owned by individual entrepreneurs, 41.5% by micro business entities, and 7.1% by small businesses.

Table 7.6 Wholesale turnover (2000–2014)

	2000	2005	2008	2009	2010	2011	2012	2013	2014
Ownership	Billion rubles								
State	1.3	3.4	5.8	5.1	6.6	10.5	31.1	23.7	31.4
Private	2.9	19.6	51.5	55.3	72.6	190.1	264.7	261.5	307.8
Foreign	0.1	3.4	8.6	6.7	6.6	9.3	56.0	47.7	54.5
	in %								
State	30.7	12.7	8.8	7.5	7.6	5.0	8.8	7.1	8.0
Private	66.8	74.3	78.2	82.5	84.7	90.5	75.3	78.5	78.2
Foreign	2.5	13.0	13.0	10.0	7.7	4.5	15.9	14.4	13.8

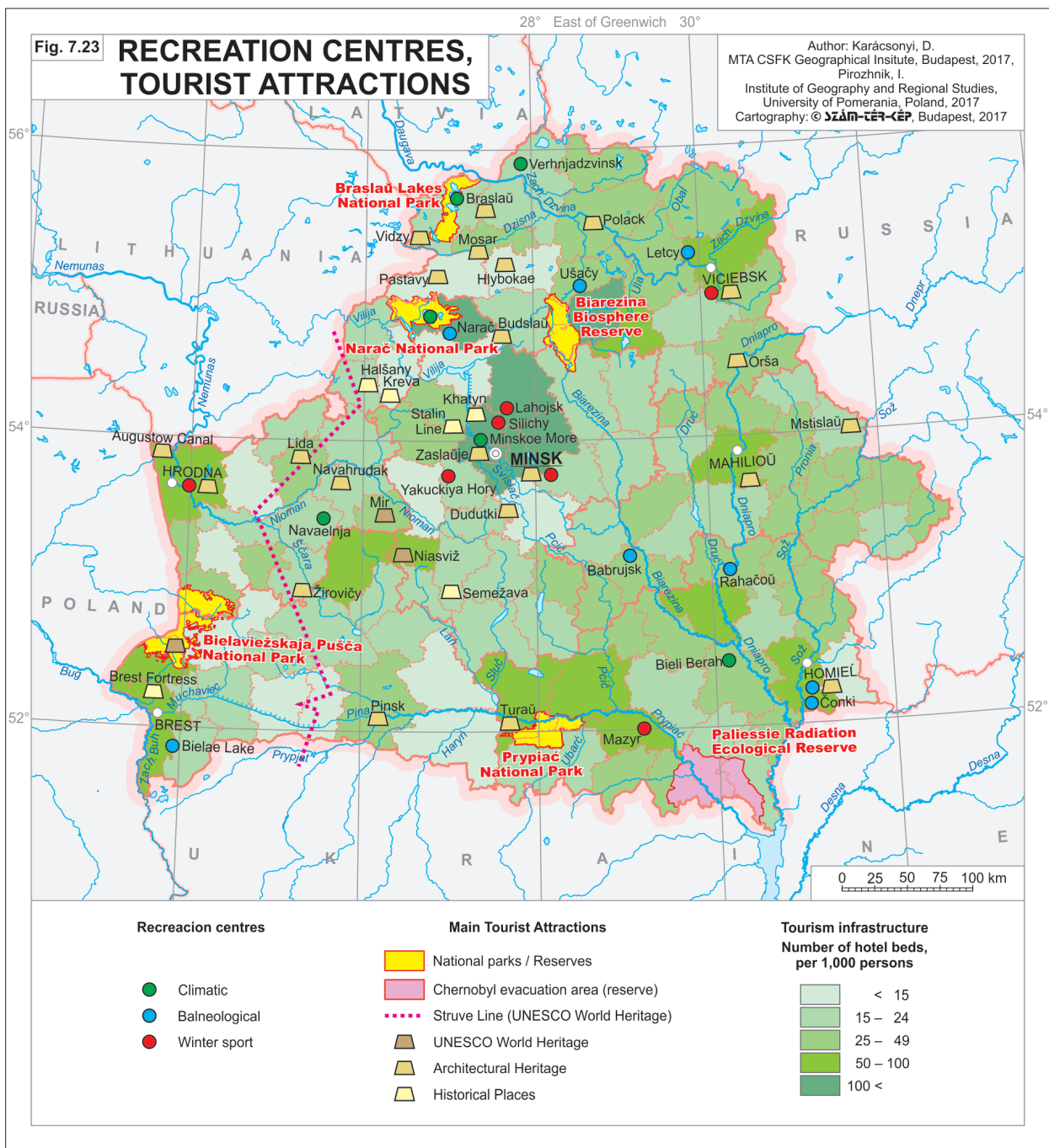
Source: http://www.belstat.gov.by/ofitsialnaya-statistika/realny-sector-ekonomiki/vnytrennia-torgovlya/optovaya-torgovlya/godovye-dannye-1995-2011-gody-_5/optovyi-tovarooborot-organizatsii-optovoi-torgovli-po-formam-sobstvennosti/
http://bseu.by:8080/bitstream/edoc/19003/1/Rozina_T_M_S_241_246.pdf

Recreation and tourism

Belarus stands out from other European countries for the high level of preservation of its natural environment. In the northern part of the country there is the Belarusian Lakeland, an area of rugged terrain interspersed with lakes (there are more than 2,500 lakes). In the central part of the country lies the Belarusian Ridge (a line of hills of glacial origin), which forms the water-

shed between the Baltic Sea and Black Sea basins. In the southern part of Belarus there is Belarusian Paliessie, an area of significant biodiversity with marshland and bogs. This latter region is uniquely valuable in terms of the preservation of many bird and amphibian species.

The current state of Belarusian tourism and its future potential are linked with the country's **natural resources** and the existence of extensive nature conservation areas (comprising



around 8% of Belarus's territory) (Figure 7.23). Such conservation areas include two sanctuaries (Biarezina Biosphere Reserve and Paliessian Radiation Ecological Reserve) and four national parks (Bielaviežskaja Pušča, Braslaŭ Lakes, Narač and Prypiać). The presence of mammals and birds for hunting (22 mammal species and 31 bird species) facilitates the development of hunting tourism in Belarus. More than 250 hunting farms offer hunting tourism services in Belarus. The high number of rivers and lakes constitute a considerable potential for tourism and recreation development. The development of therapeutic and health tourism is based on the country's extensive forests (covering more than third of its territory) and on the availability of various mineral waters (there are over 100 wells of mineral water), sapropel and peat mud.

The **cultural heritage** of the country has a long history dating back to the 9th century. This is reflected in the large number of historical and cultural monuments (more than 17,500 objects). Around 5,400 of these monuments feature on the State List of Historical and Cultural Values. Included on the list are the Bielaviežskaja Pušča National Park (a transnational park shared with Poland), the Mir Castle Complex, the Architectural, Residential and Cultural Complex of the Radziwill Family at Niasviž, and the Struve Geodetic Arc (a chain of survey triangulations stretching from Hammerfest in Norway to the Black Sea). All these sites have been inscribed on the UNESCO World Heritage List. Tourism in the country also relies on a rich folklore and ethnographic tradition and more than 100 centres of crafts (embroidery, pottery, weaving, etc.) as well as the exhibitions of more than 160 museums.

More than 1,376 organizations are involved in tourism. In addition, there are about 2,279 registered entities operating in rural tourism. The tourist infrastructure includes 1,050 accommodation facilities with a total capacity of about 30,000 guests, including more than 570 hotels and hotel complexes. Belarus has more than 480 spa and health facilities, with 49,000 beds in total. Seventy-four of these facilities are spa-resorts. The country has a dense network of railways and highways. There are more than 400 roadside service stations located along the latter. Belarus has over 180 gambling establishments, of which more than 30 are casinos.

Belarus has every year more than 4,200,000 foreign visitors and more than 6.9 million Belarusian citizens travel abroad. According to hotel and accommodation registration the annual tourist flow exceeds 2,750 thousand tourists (62% in hotel, 28% in sanatorium and health resorts, and 10% in agro-tourist facilities). Among them, about 1,030,000 are foreign tourists (75% of them are citizens of the CIS and 25% are citizens of other countries) who use the services of hotels (79%), sanatoria and health facilities (18%) and agro-tourism (3%).

Four main recreational and tourist regions can be identified in Belarus based on spatial factors, resource potential, and the level of development of the recreational functions: Northern (the Viciebsk region), Central (the Minsk region and the Ašmiany, Astravec, Smarhoń raions of the Hrodna region), South-Eastern (the Homieł and Mahilioŭ regions), and Western (Brest and the main part of the Hrodna region).

Transport

Belarus has an advantageous geographical location, being situated at the crossroads of several major Pan-European transport corridors (West-East and North-South), namely Pan-European Corridors II, IX, and IXb (with a total length of 1,520 km in Belarus). All this grants the country a significant potential for transport and logistical functions within today's globalized markets (Figure 7.24). The geographical location at the centre of Europe determines Belarus's transport policy. Being a landlocked country without direct access to the sea, the country has no option but to play the role of transit corridor (UENCE 2013).

Belarus's **road infrastructure** consists of 86,500 km of public roads, ensuring continuous year-round access to almost all populated areas. More than 80% of cargo and passenger traffic is transported along the 15,636 kilometres of national roads. Local roads extend for 70,855 kilometres, while there are around 200 kilometres of departmental roads (agricultural, industrial and forest roads) (Table 7.7). There are 74,650 kilometres (86.4%) of surfaced roads, including 100% of national and 83.5% of local roads. Surfaced roads provide transport links between cities, townships and the central farms of agri-



cultural cooperatives and other rural settlements (UENCE 2013). Road freight traffic is growing and is generated primarily in the major cities. There are distinct flows of freight traffic along the Pan-European transport corridors and between Minsk and the regional centres, with a relatively low proportion of transit and inter-

national traffic (5.5% in 2013). The significance of mass transport has declined slightly, owing to the increased rate of motorization, which has been a trend since the early 2000s. Passenger car ownership stands at 282 cars per 1,000 inhabitants (2013), which is one of the highest rates among the CIS states. New forms of passenger

Table 7.7 Network length by transport type (2005, 2014)

Road type/Year	2005	2014
Total public railways (km)	5,518	5,490
Electrified railways (km)	897	1,013
Total public roads thousand (km)	83	101
Total paved roads (thousand km)	72	75
Pipelines (km)	12,237	11,571

Source: Transport and Communications in the Republic of Belarus Statistical book National Statistical Committee of the Republic of Belarus Minsk. 2014.

mobility – online ticket purchases, park-and-ride facilities, Uber taxis (in Minsk only), Bla-Bla Car and other ride-share services – have gained popularity since 2011. Since 2013, an electronic toll collection system (Bel-toll) has been in operation on 1,500 kilometres of toll roads.

Railway transport is divided into public and private sectors. Belarusian Railways manage the public rail transport system in accordance with national laws. The public railway network extends over 5,000 kilometres, with 1,013 kilometres of electrified line (2013). It has Russian track gauge (1520 mm), which means that railway connection to Poland should implement transshipment or changing the gauge. The network provides access to more than 2,100 settlements. The major railway hubs are at Minsk, Brest, Homieł, Orša, Baranavičy, Žlobin, Kalinkavičy, Mahilioŭ, Viciebsk and Polack. Over the last decade, Belarus has become important in terms of a range of rail freight transit functions, primarily for the transport of Russian and Kazakh foreign trade goods to ports on the Baltic Sea, such as Kaliningrad (Russia), Ventspils (Latvia) and Klaipeda (Lithuania). In view of the worldwide trend for cargo containerization, Belarusian Railways is instituting the transport of containerized cargo in container trains. Ten container trains run regularly on the railway network, including the “East Wind”, “Kazakhstan Vector”, “Mongolian Vector”, “Zubr”, “Viking”, “Volkswagen Russ” and “Peugeot-Citroen” trains (UENCE 2013). A slight increase in the volume of rail freight was recorded in the period 2005–2013, alongside a decline in passenger traffic (*Table 7.8*). The year 2010 saw the introduction of a new concept of passenger railway mobility, including new forms of daily

commuter services. An example of this is City Lines, operating in the Minsk agglomeration (running from Minsk to Zaslaŭje, Dzieržynsk, Rudziensk and Smaliavičy). A further example is the inter-regional train service, Business Lines. In 2014, a connecting train service to Minsk National Airport was launched, running from the capital’s main railway station and using the existing modernized infrastructure. The service utilizes modern low-floor air-conditioned trains. However, the connecting train service is still rather infrequent, with just five trains daily. An extra bus transfer is required at the airport and the whole journey takes approx. 70 minutes (<http://www.railwaygazette.com/news/passenger/single-view/view/minsk-national-airport-rail-link-launched.html>).

Inland waterway transportation and transshipment involves 10 ports, located in the cities of Brest, Pinsk, Mikaševičy, Mazyr, Rečyca, Homieł, Mahilioŭ, Babrujsk, Viciebsk, and Hrodna. The ports at Mazyr, Homieł and Babrujsk have railway sidings. The principal forms of cargo carried by the Belarusian river fleet are sand and sand-gravel, crushed stone and gravel, timber, potash, granulated slag, as well as oversized and heavy freight. The total volume turnover of the ports is 15 million tonnes. Belarus’s inland waterways, including the Dniapro-Buh Canal (Muchaviec), are part of the E-40 international waterway (which runs from Gdańsk via Pinsk to Kherson). However, the Dniapro-Buh Canal is only navigable to the port of Brest. Between the port and the River Buh the only connection is the narrow moat of Brest Fortress, which is too small and shallow for vessels. Accordingly, there is no any cargo waterway between Poland and Belarus (between the Buh and Dniapro basins). Since the collapse of the Soviet Union, water based transport in Belarus has stagnated (UENCE 2013).

The civil passenger **aviation sector** is dominated by the state-owned “Belavia” airline, which has an average fleet age of 15.2 years (2015). Minsk National Airport (MSQ), with one 3,641 m (CAT II) operative runway, accounts for 80–90% of cargo and passenger traffic. In 2013, Minsk National Airport (jointly with Airport Minsk-1) served 2.182 million passengers (18% growth in comparison with 2012), handled 16,585 flights (18% growth in comparison with 2012), and offered flights to more than 42 international destinations (in Western

Table 7.8 Modal split in freight and passenger traffic by transport type (2005, 2014)

Type of transport	By weight of transported goods mln. tonnes		By freight turnover bln tone-kms		By passengers carried mln passengers		By passenger turnover mln passenger-kms	
	2005	2014	2005	2014	2005	2014	2005	2014
Railway	125	140	44	44	105	99	10,351	8,998
Road	101	192	9	22	1,509	1,416	9,231	10,546
Waterway	3	4	0	0	0.2	0.3	2	3
Air	0	0	0	0	0.5	1.6	684	2,490
Pipeline	165	134	74	61	–	–	–	–
Total	393	471	127	131	2,540	2,451	24,354	26,618

Source: Transport and Communications in the Republic of Belarus Statistical book National Statistical Committee of the Republic of Belarus Minsk. 2014.

Europe, the Middle East and elsewhere). The liberalization of the air transport sector in the EU and the expansion of low-cost airlines (Ryanair and WizzAir) have added to the attractiveness of the airports in adjacent countries. Accordingly, a greater number of Belarusians now travel to airports in Poland (Lublin and Warsaw), Lithuania (Vilnius – where the share of Belarusians in total passenger traffic was 20% in 2012 – and Kaunas), and Ukraine (Kyiv and Zhuliany).

In UNECE's view, Belarus's transport infrastructure is good but the logistics industry is still underdeveloped (UENCE 2013). The history of contemporary logistics in Belarus began in 2008 with the adoption of the "State program for development of a logistical system in the Republic of Belarus until 2015". Under the terms of the program, thirty-nine sites in various regions and cities (Brest, Viciebsk, Homiel', Hrodna, Mahilioŭ, Baranavičy, Babrujsk, Barysaŭ, Źlobin, Mazyr, Orša, and Pinsk, but mostly in the Minsk region – around 45%) were earmarked for the construction of logistical centres (LCs). Thirty-seven LCs are already operating in 2015 and 89.2% of them are in the Minsk region. The major logistical companies in Belarus are "Beltamozhservice", "BLT-Logistic", "Ozertso-Logistic" and "BelVingesLogistic". Logistical companies provide such services as transportation, customs declaration services, warehousing, communication with foreign suppliers, and the preparation of export and import documentation (Kurochkin, D.V. 2015).

The Logistics Performance Index (for 2014), which is based on data from a survey of logistics professionals (who are asked about performance in the countries in which they operate), ranked Belarus 99th among 160 countries in terms of ef-

fectiveness in the field of logistics. The most positive dimension was timeliness (3.1), while the least positive was customs, tracking and logistics competence (2.5). Evidently, Belarus is still in the initial stages of establishing and consolidating a transport and logistics industry. This also means that there is significant potential for improvement. In terms of logistics effectiveness, Belarus lags somewhat behind Western countries, owing to a limited understanding of modern international practices and a failure to meet the expectations of the global market actors. Further integration into the global market, coupled with investment in innovation and education, will significantly improve the quality of services in the national transport and logistics sectors.

Foreign trade

The economy of Belarus was formed as a single economic region within the Soviet Union's national economic structure. Its areas of specialization were mechanical engineering, chemicals and petrochemicals, and the processing of agricultural raw materials. Industrial production far exceeded the needs of Belarus, and so many manufactured products were sent to the other Soviet republics or to the COMECON (Council for Mutual Economic Assistance, the economic organization of the Eastern Block between 1949–1991) member states. In 1990, such exports accounted for 80% of industrial production.

Extensive cooperation ties and the export orientation reflects the close ties with other post-Soviet countries. Belarus's trade-to-GDP ratio (also known as the trade openness ratio)

has always been higher than 100%, and in 2011 the index reached 150%. Consequently, the main performance indicators of the Belarusian economy are closely connected with the development of foreign trade.

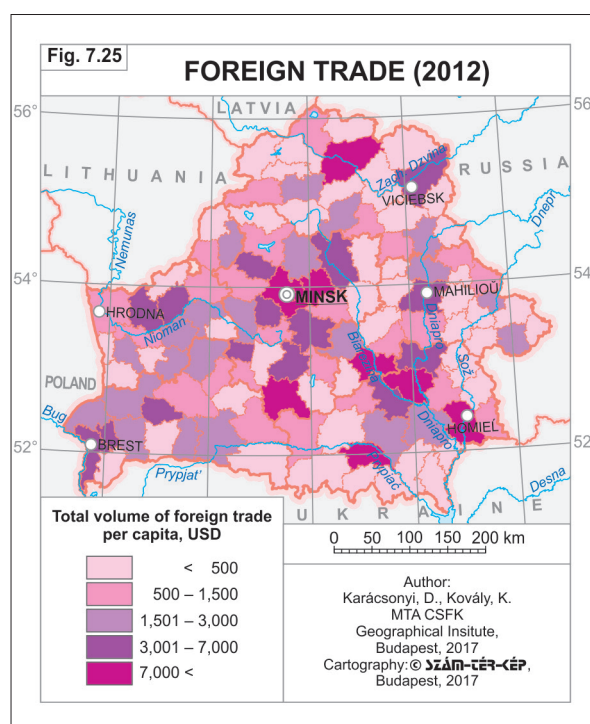
The volume of foreign trade increased steadily between 1995 and 2008, rising from USD 10.4 billion to 72.0 billion. After the global financial crisis, Belarus experienced fluctuations in foreign trade, which initially fell to USD 49.9 billion in 2009 before rising again to USD 92.5 billion in 2012. It is worth noting that 2012 was Belarus's most successful year in terms of foreign trade: exports reached USD 46.1 billion, and the trade deficit decreased to USD 344 million.

In 2014, however, there was a decline in foreign trade, as exports fell to USD 36.1 billion. This decline was due to falls in the price of oil and oil products as well as a recession in Russia, Belarus's main trade partner. The decline in exports was not accompanied by a corresponding reduction in imports. Consequently, the trade deficit grew larger.

Attaining WTO membership would amount to a key step forward in foreign trade. Belarus's WTO membership has been the subject of negotiations since 1997. At present, however, Belarus is unable to conclude the negotiations, in view of contradictions in its domestic law, significant subsidies in agriculture, and restrictions on access to its internal market for goods and services.

Belarus is an active participant in regional economic integration. Belarus cooperated with the Russia and Kazakhstan to form a Customs Union (in 2010) and a Common Economic Space (in 2012). This led, in 2015, to the establishment of the Eurasian Economic Union, with the three countries being joined by Armenia and Kyrgyzstan. Within Belarus, urban regions and the major industrial centres are the main actors in foreign trade, but in the western raions agriculture contributes significantly to a higher index of foreign trade per capita (Figure 7.25).

The **geographical orientation of foreign trade** is characterized by a high degree of concentration (Figure 7.26, Table 7.9). Since the collapse of the Soviet Union, Belarus has maintained close economic ties with other former Soviet republics. In 2014 eleven CIS countries accounted for 58.5% of exports and 59.7% of imports. Overall, the former Soviet republics – including Georgia, Estonia, Latvia and Lithuania – account for 63.1%



of exports and 61.2% of imports. The EU countries account for 29.6% of Belarus's exports and 23.3% of its imports. Trade with the neighbouring countries of Lithuania, Latvia, Poland, Russia and Ukraine together account for 60.0% of exports and 64.0% of imports.

A major trading partner is the Russia, which accounts for 42.1% of Belarus's exports and 54.8% of its imports. These percentages reflect the traditional ties of cooperation between the two countries and Belarus's specialization in the international division of labour. Trade with Russia is rather unbalanced: Belarus mainly exports to Russia high value added products, machine tools, tractors, lorries, textiles and chemical products, while it imports raw materials – principally hydrocarbons – from Russia. Televisions and refrigerators are manufactured almost exclusively for the Russian market. Exporting to Russia allows production to benefit from economies of scale, given the large size of the Russian market. It also facilitates advances into Western markets, the best example being the case of BelAZ, with its large mining dump trucks. In recent years, cooperation between Russia and Belarus has been further enhanced through the creation of the Customs Union and the Common Economic Space. Aside from Russia, Belarus's key partners in the post-Soviet space are Ukraine and Kazakhstan.

Table 7.9 Foreign trade by main partners (2005, 2014)

Country	Export		Import	
	2005	2014	2005	2014
	% of total			
Russia	35.7	42.1	60.5	54.8
Ukraine	5.6	11.3	5.3	4.2
Germany	4.4	4.6	6.7	6.1
United Kingdom	7.0	8.1	0.8	0.8
China	2.7	1.8	1.7	5.9
Poland	5.3	2.3	3.5	3.8
Netherlands	15.0	4.7	1.0	1.2
Italy	1.0	2.8	2.3	2.9
Lithuania	2.2	2.9	0.8	0.9
Kazakhstan	1.1	2.4	0.2	0.2
Brazil	1.0	2.0	0.9	0.4
Latvia	2.0	1.4	0.5	0.4
USA	1.6	0.3	1.4	1.3
Czechia	0.3	0.4	0.6	1.0
France	1.7	0.3	1.1	1.0
Switzerland	–	0.0	–	1.2
Turkey	–	0.5	–	1.1

Source: www.belstat.gov.by; ru.novabelarus.com/ekonomika-belarusi/glavnyje-torgovyje-partniory-belarusi/

In recent years, benefitting from the relatively low price of energy resources within the Customs Union, Belarus has specialized in refining Russian crude oil, subsequently exporting oil and oil products to the EU countries. This explains the high proportion of exports to the United Kingdom, the Netherlands, Germany, Lithuania and Italy. Belarus's principal exports to Germany are machinery, textiles, wood and paper products. Additional significant export markets are Brazil and China, which are the main consumers of Belarusian potassium.

The key import partners are the EU countries (Germany, Poland, Italy and the Netherlands), but also distant countries (China and the United States), and Ukraine and Switzerland. In terms of the imported products, the major sectors are high-tech mechanical engineering, automotive industry, chemicals and pharmaceuticals. Consumer goods tend to be imported from Poland (where Belarusians have traditionally gone for shopping with tax refunds) or from China.

In 2014, the **foreign trade deficit** amounted to USD 4.4 billion, whereas in 2010 it reached USD 9.6 billion (17.4% of GDP). There is a foreign trade surplus with the EU countries and the CIS countries (excluding Russia). In 2014, Belarus's trade surpluses with individual coun-

tries were as follows: the United Kingdom (2.6 billion dollars), Ukraine (2.4 billion dollars), the Netherlands (1.2 billion dollars), Kazakhstan (0.8 billion dollars), Lithuania (0.7 billion dollars) and Brazil (0.8 billion dollars). In the same year, Belarus had trade deficits with the following countries: Russia (7.0 billion dollars), China (1.7 billion dollars), Germany (0.8 billion dollars), Poland (0.7 billion dollars) and Switzerland (0.5 billion dollars).

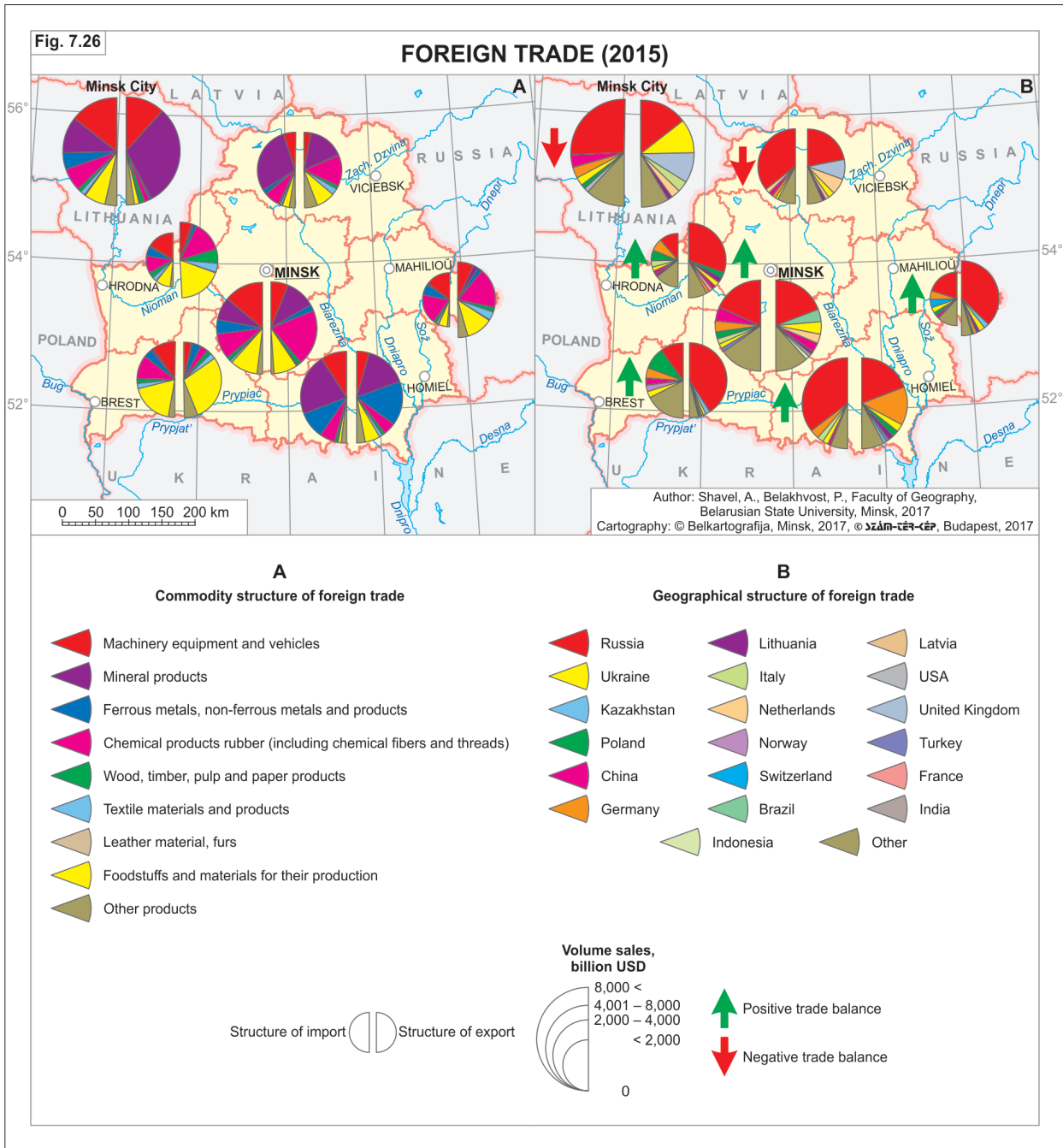
While there has been little change in the geographical structure of foreign trade, the **commodity structure** has undergone significant shifts (Figure 7.26). Until the 2000s, Belarus's most important export sectors were machinery, equipment and vehicles. However, as the price of mineral raw materials increased, so their importance (and that of derivative products) grew in terms of their share of exports and imports.

In 2014, mineral products accounted for 34.2% of exports and 30.0% of imports. Oil and oil products dominate this category. Other major export categories include chemical products (17.3%), foodstuffs (15.3%), and machinery, equipment and vehicles (15.2%). Within these categories, major export are potash fertilizers, chemical fibres and threads, vehicle tyres, dairy and meat products, dump trucks, tractors, refrigerators, freezers and automated machines. Turning to imports, we find that there has been a slight decline in the share of mineral products, whereas imports of machinery, equipment and vehicles (up to 25.3%) have increased their share.

The past decade has seen strong growth of the **foreign trade in services**. From 2005 to 2014, the volume of trade in services increased from USD 3.5 billion to 13.6 billion. Services to the CIS countries accounted for only one-third of Belarus's total foreign trade in services. Belarus has a surplus in foreign trade in services, which partially covers the negative balance of trade in goods.

The structure of trade is dominated by transport services, which make up almost half of exports and a quarter of imports. Advances in this sector are largely due to Belarus's favourable economic-geographical position: the country is located between a sizeable raw material source (Russia) and a large market for finished products (the EU), which results in significant traffic flows.

Turning to imports, the largest shares are held by construction services (26.6%), travel



(20.3%) and financial services (5.9%). Belarus continues to increase the volume of exports in services. Computer and information services are regarded as some of the most promising areas.

Foreign direct investment

Belarus has the lowest rate of foreign direct investment (FDI) per capita in the region. Even

so, the country achieved spectacular economic growth from the mid-1990s onwards (Urban, M. 2008). In view of the dominance of state ownership, Belarusian industry is rather weakly integrated into global cooperation (Kruk, D. 2013).

The **total stock of FDI** in Belarus is about USD 10 billion. Per capita indicators for Belarus are below the levels seen in Russia or Kazakhstan. Nevertheless, the United Nations Conference on Trade and Development (UNCTAD) indicated,

in its annual report on global investment, that Belarus has a high potential attractiveness for FDI inflows.

In recent years, the volume of foreign direct investment in Belarus has significantly fallen short of its potential. An UNCTAD report revealed that Belarus has been very ineffective at attracting FDI. Indeed, it has one of the lowest ratings in terms of FDI compared with the size of the economy (Mucha, D. 2014).

The World Investment Report of 2011 ranked Belarus forty-fourth in the world, based on potential attractiveness – owing largely to the presence of a highly skilled workforce, advanced industry and infrastructure, and a favourable geographical position. In terms of actual investment, however, Belarus ranks fifty-third.

To promote FDI inflows and to enhance investment attractiveness, Belarus elaborated and adopted a “Strategy of attracting foreign direct investment for the period up to 2015”. Seeking to attract FDI, Belarus offers competitive advantages in relation to the other countries in the Eurasian Economic Union (lower labour costs, lower taxes on profits, tax exemptions in the case

of innovative products and services, and the carrying forward of accumulated losses).

The enhanced investment attractiveness of the country’s **free economic zones** (FEZs) facilitates the inflow of FDI to the economy. The first FEZ was founded in 1997 with the aim of increasing Belarus’s export and investment potential.

The role of the FEZs in the Belarusian economy has been increasing steadily, but there is still much potential. The zones account for a tenth of industrial production, attract 8–9% of capital investments, and supply 12.7% of exports (2015). They tend to attract processing industrial companies, with German investor backing (Kiss, S. 2011). Most of what is produced in the zones (more than 90%) is exported to Russia. The reason for this is the customs union and the proximity of the EU as the principal investor.

Belarus had six FEZs in 2016, each of which has its own priorities (development of infrastructure and industry, promotion of investment, etc.). The “Minsk” FEZ (1998) was established for a thirty-year timespan with a view to increasing airport traffic at “Minsk-2”, developing air transport, founding an international traffic net-

Table 7.10 Foreign direct investment in Belarus by countries (2006–2014)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
	in million current USD								
Total (flow)	1,489	1,314	2,280	4,821	5,569	13,248	10,358	11,083	10,169
Total (stock)	2,734	4,483	6,683	8,537	9,904	12,997	14,570	16,659	17,730
By countries	% of total (stock)								
Russia	6.1	16.7	14.4	83.5	90.8	54.3	48.6	52.4	50.2
Great Britain	3.1	1.6	1.9	1.0	1.0	30.3	32.0	25.3	23.8
Cyprus	3.8	16.3	11.5	2.1	1.1	2.6	4.6	6.8	6.9
Germany	2.3	2.1	4.1	1.0	1.1	1.1	1.4	1.4	3.5
Austria	2.4	1.5	1.7	0.1	0.1	0.3	1.0	2.2	1.9
Lithuania	2.2	2.5	1.6	–	–	–	1.2	1.0	1.7
China	–	–	–	–	0.5	–	–	–	1.6
Netherlands	2.3	2.0	1.2	0.8	0.1	0.6	1.0	0.6	1.5
Poland	–	–	–	–	–	–	–	1.6	1.3
Latvia	–	–	–	0.6	0.6	–	0.7	0.9	0.8
USA	3.2	2.9	1.6	0.7	0.7	–	0.9	1.2	–
Switzerland	66.4	44.2	53.3	7.3	0.7	0.3	–	–	–
Other countries	8.2	10.2	8.7	2.9	3.6	10.5	8.6	6.6	6.8

Source: http://www.belstat.gov.by/ofitsialnaya-statistika/makroekonomika-i-okruzhayushchaya-sreda/finansy/godovye-dannye_14/inostrannye-investitsii-v-respubliku-belarus/
 Kayukova O.S. Drozd S.S.: Pryamiye inostrannie investitsiyi kak indikator investitsionnoy privilekathelnosti Respubliki Belarus. Vestnik HHTU im. Suchoho P.O. 3 2010.
http://www.belstat.gov.by/ofitsialnaya-statistika/makroekonomika-i-okruzhayushchaya-sreda/finansy/ofitsialnye-publikatsii_13/index_709/ (pp. 226–228)

work. The “Homiel-Raton” FEZ (1998) aims to develop transport infrastructure; this zone has created the greatest number of jobs. The “Brest” FEZ (1996) aims – in addition to fulfilling its general tasks – to trial-run new methods of economic management. This was the first FEZ to be established in Belarus, and it was founded for a period of fifty years. The other FEZs – each of which was established for general purposes – are as follows: “Viciebsk” (1999), “Hrodna” (2002) and “Mahilioŭ” (2002).

In 2010, the whole economy received USD 9.1 billion of foreign investment, 61.3% of which was FDI. The increase as compared to 2009 was close to the world average (15.5%). The largest inflows of foreign investment targeted the transport sector (53.2% of all investment), industry (22.8%), trade and catering (14.6%), and general business operations (3.6%). In terms of the inflow of foreign investment by country, Russia is in first place (72.1%, of all foreign investment and 90.8% of FDI), and it is followed by Austria, the Netherlands, Cyprus and the UK (Table 7.10).

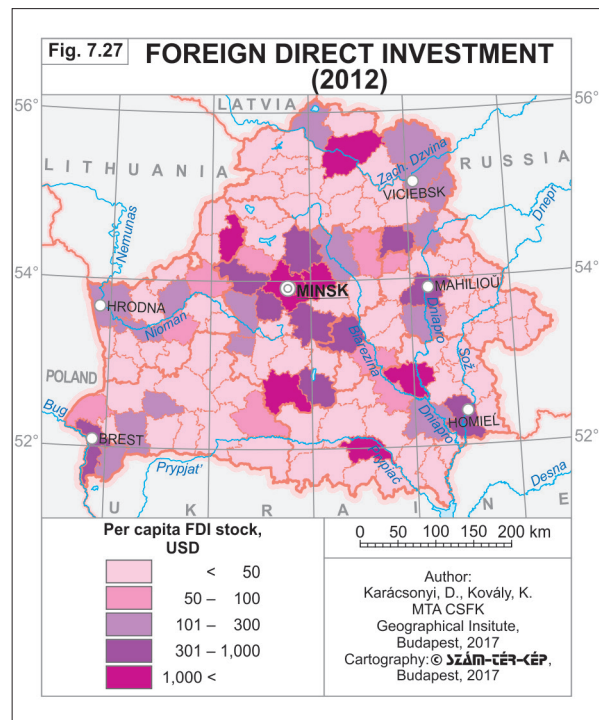
In 2013, the inflow of foreign investment into the Belarusian economy amounted to around USD 11 billion. The main form of direct investment was debt instruments (80.8% of total direct investment).

In recent years, Russia has taken the lead when it comes to the major investment projects in Belarus (e.g. “Beltransgaz”). Moreover, the construction of the Belarusian nuclear power plant is being undertaken with a Russian loan (worth around USD 10 billion).

In order to improve the rather poor investment climate, the government proposes the creation of regional agencies and business advisory centres, offering them personnel, logistical and infrastructure support. Currently, FDI inflows into Belarus reflect the dominance of Minsk and of the major cities and districts in the central and eastern parts of the country (Figure 7.27).

Belarusian foreign investments

Belarus has been actively developing its export potential by, among other things, promoting investment projects in the CIS countries. A clear trend in the past decade has been an increase in the total number of enterprises formed with



Belarusian capital and carried out by state exporting companies. Thus, the aim is not to establish manufacturing plants abroad but rather to promote the products of Belarusian industry in the neighbouring countries. Among the various state corporations and agencies (including government ministries as well as regional and municipal executive committees), the Ministry of Industry plays the leading role in terms of the number of distribution network firms. Turning to individual companies, we find that “BelAZ”, the Minsk Tractor Factory “Pinskdrv” (wood products), “Mogotex” (textiles), “Belshina” (tyres) and the Minsk Automobile Plant (MAZ) have established the greatest number of distribution network firms in the CIS countries (Monitoring ..., 2013, pp. 16–17.). The global economic crisis, which began in 2008, has accelerated (rather than blocked) the expansion of the distribution networks of Belarusian companies. Still, the geography of the distribution network has changed. The decline in trade with Russia forced Belarusian exporters to pay attention to other markets. Accordingly, in the period 2009–2012, Belarusian distribution companies tended to be established in other CIS countries rather than in Russia (Kvashnin, Y.D. 2013).

Belarusian investments are not limited to investment in retail distribution networks (albe-

it this trend has been dominant since the mid-2000s). As well as promoting their own distribution networks, some Belarusian companies (e.g. BelAZ and MTZ) have also established assembly plants, generally at existing plants. For instance, in 2010, BelAZ established a joint venture at the Korkino excavator-carriage repair plant (Chelyabinsk region, Russia), where a production line was launched. The Agricultural Machinery Plant “Gomselmash” in a joint venture with “Bryanskselemash” began assembling kits in Belarus in the mid-2000s. Until 2013, 31 assembly factories were created in Russia, but most of them are small businesses with a total

revenue of about USD 100 million (Kvashnin, Y.D. 2013).

The International Monetary Fund (IMF) has stated that Belarus’s total accumulated direct investment abroad at the end of 2011 amounted to USD 290 million. That sum is much less than the Belarusian direct investment figures for several CIS countries. The discrepancy in the amounts stems from the fact that significant funds are debt instruments, that is, the debt of foreign companies to direct investors – to Belarusian residents (71.3% of FDI in 2012), and most of this arose in 2011 amid the economic crisis and the devaluation of the Belarusian ruble.



People from a local village selling potatoes and vegetables on a roadside market near Niasviž.
(Photo: Karácsonyi, D. 2011)



Lake Naráč, famous for its clear water, one of popular holiday destinations in Belarus. (Photo: Karácsonyi, D. 2006)

8. REGIONS AND REGIONAL PLANNING

Spatial inequalities and regions at a glance

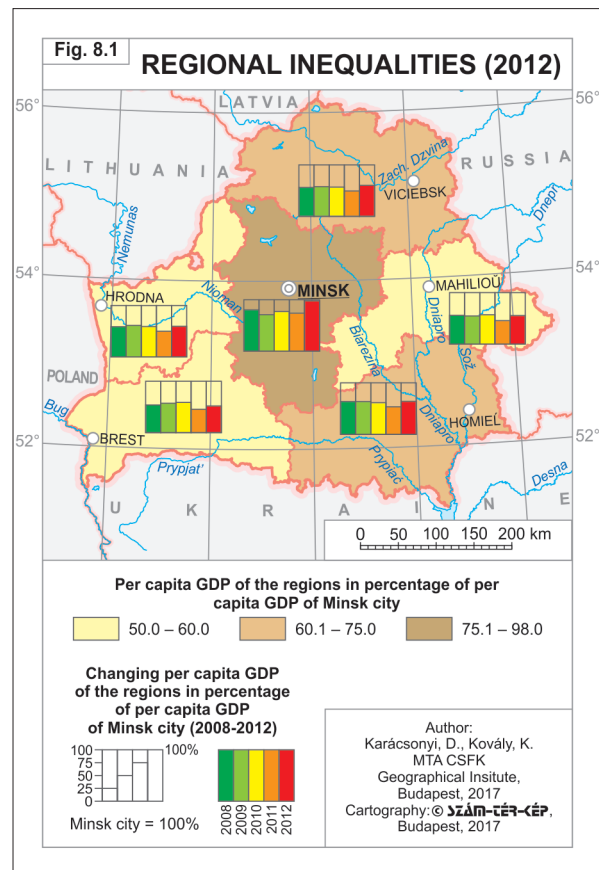
Whereas landscapes in Belarus change from north to south (e.g. from the Belarusian Lakeland in the north to the Paliessie region in the south), in terms of socio-economic development the country exhibits an east-west gradient as well as regional differences that reflect centre-periphery disparities. Some of these inequalities can be traced back to the period when the country's western regions formed a part of Poland (Kireenko, E.G. 2003). The east-west dichotomy is also apparent in the more industrialized nature of the eastern regions (Ioffe, G. 2004, 2006) and the richer cultural and architectural heritage of western areas with their more favourable demographics. Nevertheless, these differences are far less profound than those seen in Ukraine.

Belarus's **regional differences** are, however, outweighed by the dichotomy that exists between Minsk and the rest of the country. This dichotomy constitutes the main inequality of development in the country (Figure 8.1). None of Belarus's regions or districts have reached the same level of development as Minsk. Still, inequalities measured in terms of regional GDP are gradually being balanced out, a process that has been accompanied by a decline in income inequality (Figure 5.15). Per capita personal income in Minsk is 1.57 times higher than the national mean value, while in Homiel, Brest and Mahilioŭ per capita income is 82–84% of that mean value. In terms of socio-economic development and based on Kozlovskaya's calculations, which employ eight quotient indicators (Kozlovskaya, L.V. 2010), the Minsk metropolitan area and the Minsk and Homiel regions are the top-ranking areas, the Hrodna and Viciebsk regions are ranked in the middle, and the Brest and Mahilioŭ regions have seen their rankings decline since the end of the Soviet era.

The country's landscapes, which change from north to south, form three distinct regions.

The most sparsely populated area is **Paliessie**, which lies in the south. The only exceptions within this area are the eastern and western gateways of Brest and Homiel, which are the administrative centres of the region.

Brest, which is the location of the largest border crossing in the west, is famous for its fortress. The Bielaviežskaja Pušča National Park near Brest is a World Heritage Nature Reserve. It received this status as Europe's largest primeval forest. The pride of the park is its population of bison. Brest is also renowned as the site of several major historical treaties and events (the Brest Union of 1596, the Treaty of Brest-Litovsk of 1918, the defence of the Brest Fortress in 1941, and the



signing of agreements connected with the dissolution of the Soviet Union in 1991 in Viskuli).

In addition to these two major urban centres, the area has several towns that were established at river crossings (on the rivers Prypiać, Dniapro, Sož). The largest of these towns are Pinsk and Mazyr (refinery). Close to Pinsk lies the Prypiać National Park, which is famous for its birdlife and for its peatbogs and sand dunes. The historic town of Turaŭ is also situated in the region.

Homieĺ, the second largest city in Belarus, is a centre for a wide range of engineering industries. It is also the location of the famous Paskevich Palace and Park. The Paliessie Radiation Ecological Reserve lies in the eastern part of the region and there are special tours in this area that was so severely hit by the Chernobyl disaster. Most roads in the region run from east to west, given the impassable marshes in the south. The northern part of the area is relatively industrialized.

The terrain gradually becomes hillier towards the north, culminating in the **Belarusian Ridge**, which straddles the Mahilioŭ, Minsk and Hrodna regions. The main east-west transport routes cross this area, thereby avoiding the southern marshy areas and the many lakes in the north. This region is the most industrialized in Belarus and, in the west, it is also the richest area in terms of national monuments (Hrodna, Pinsk, Brest, Navahrudak, Mir, Slonim, Lida, the Žyrovičy Monastery, and the Struve Geodetic Arc, which has been inscribed on the UNESCO World Heritage List).

Hrodna lies at the centre of the Nioman valley. A major centre for Polish minority culture, the town has a university and a wealth of architecture. The town of Navahrudak was the nucleus for the formation of the Grand Duchy of Lithuania in the 13th century, which then became one of the largest states in medieval Europe. The region has numerous well-preserved ancient churches (St. Boris and Gleb's Church – Hrodna), fortifications and medieval castles. The area is the native region of Adam Mickiewicz (Zavosse – Baranavičy raion) and of Tadeusz Kościuszko (Kosava-Mieračoŭščyna – Ivacevičy raion).

The capital city, Minsk, is poorer in terms of architectural heritage. Minsk has a historical medieval core, but the city is otherwise dominated by extensive parks and modern high-rise build-

ings, a legacy of the Soviet era. The River Svislač, which cuts the city in two, expands into an artificial lake (Minskoje More) to the north of the city. The lake is a popular spot for bathing in the summer. The Minsk region is also the location of the Salihorsk potash and salt mines and it is home to the Niasviž Museum (a UNESCO world heritage site), the Historical and Cultural Reserve of Zaslauje, the memorial area of Khatyn, the ski resorts of Lahojsk and Silichi, and the “Stalin Line” military historical memorial.

Mahilioŭ, a major railway junction, is renowned for its historic buildings (St. Nicholas Monastery and the Church of St. Stanislaus) and as a centre for engineering. Meanwhile, Babrujsk, an industrial town, is noted for its mineral water springs and its 19th century fortress. The Mahilioŭ region hosts the “Belarusian Suzdal”, a series of churches and monasteries at Mstislaŭ.

The far north is the location of the country's principal area for leisure and recreation, the **Belarusian Lakeland**. In a broader sense, the area forms part of the Viciebsk region. Specialization in this region has given rise to the development of cultural, educational and event tourism (Viciebsk, Polack), balneological tourism (Ušačy and Letcy resorts), and sports and recreational tourism (Braslaŭ Lakes National Park). The Braslaŭ tourist area, which is based on a series of lakes (more than 30 lakes), is a popular place for sport and recreation. The ecosystems of the Braslaŭ Lakes preserve rich flora and fauna and are attractive for the development of ecological tourism. The northern tip of the Minsk region is the site of the country's largest lake, Narač, which is surrounded by a national park. The small town of Narač is a tourist paradise much favoured by the residents of Minsk.

The centre of the area is Viciebsk, the birthplace of Marc Chagall. The town is Belarus's cultural capital and is famous for its national monuments; it also has a strong mechanical engineering sector and is the place of manufacture of “Vitjaz” televisions. The Slavianski (Slavic) Bazaar, a cultural festival, is held in the town each year. Two further centres in the region are Polack and Navapolack; the former is famous for its architectural wealth and the latter for its petrochemical industry. Polack is the oldest city in the country. It has a rich historical heritage stretching back 1,140 years and is the site of many

architectural gems dating to the 11th and 12th centuries (Sophia Cathedral, the Transfiguration Church) and to other epochs. Polack is the cradle of Christianity in Belarus (a place of pilgrimage to the St. Euphrosyne Monastery) and the home town of an outstanding educator and pioneer of printing, Francišak Skaryna (Museum of Printing, a memorial monument).

Regionalization and raionization during the Soviet era

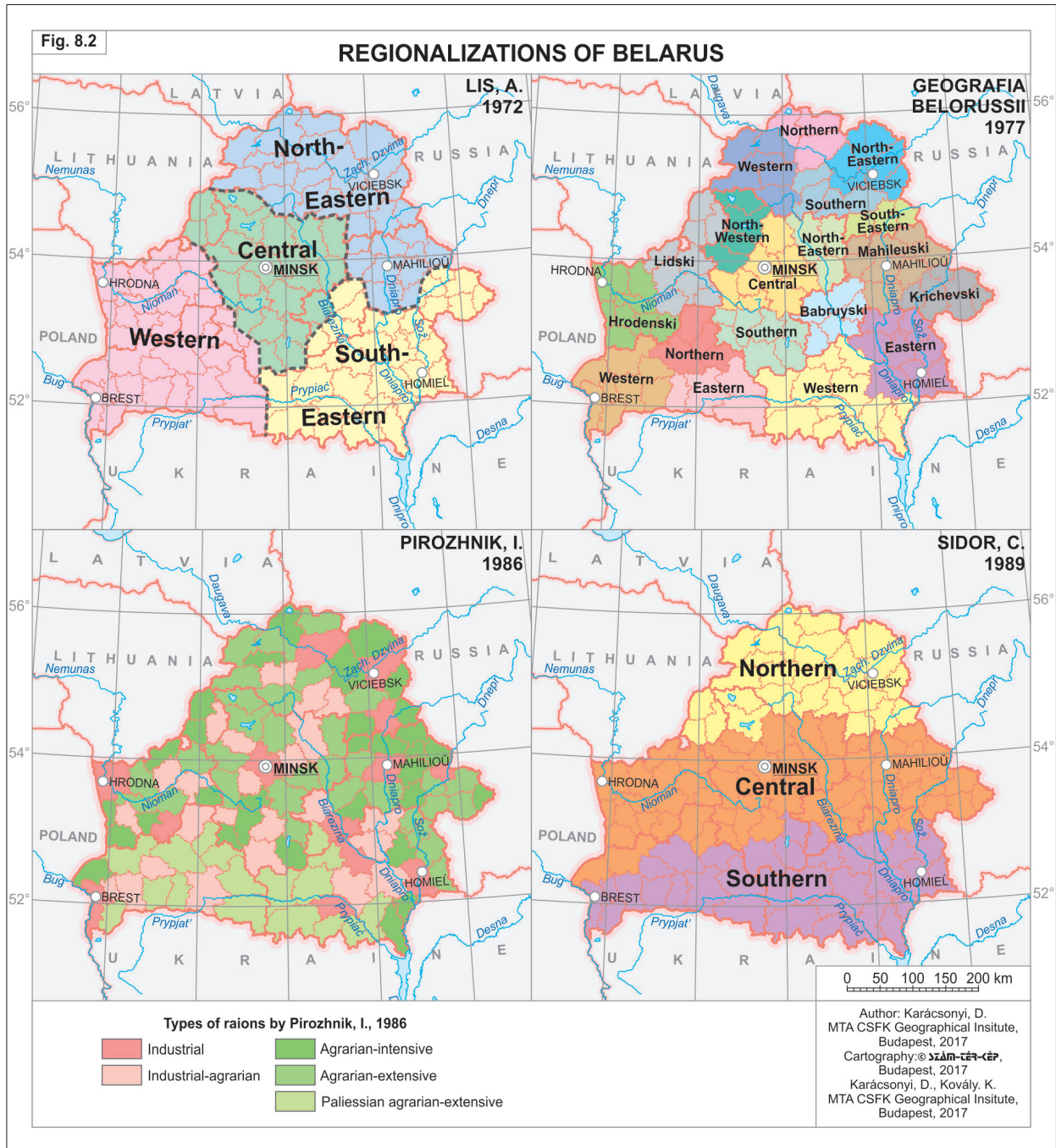
In the Soviet era, Belarus – which was known at the time as the Byelorussian Soviet Socialist Republic (BSSR) – was one of eighteen major economic regions within the Soviet Union since the 1960s. Its internal regionalization, or “*raionization*”, followed the uniform Soviet model from the 1920s (Kozlovskaya, L.V. 2005). With a view to optimizing the region’s economic potential, the Soviet Union sought to measure its natural, social and economic resources, whereby Soviet geography played a pioneering role. Yet, the general principles of centralized Soviet regional development, which were elaborated by the School of N. Baransky and then applied throughout the Soviet Union, ignored in many cases the natural and economic attributes of what was an enormous country (Dudko, G.V. 2007).

The first attempt at dividing the republic into **economic and administrative regions** was made in 1923–24 (Kireenko, E.G. 2003). When designating the so-called *okrugs*, Soviet planners considered the size and population of territories as well as their economic integrity. As far as the creation of economic geographical regions was concerned, an important role was played in the 1920s by Smolich, A.A. (Economic geographical raionization of Belarusian ethnic territories, 1919–1923), who elaborated the ethnic, economic and agricultural regionalization of the country (Kozlovskaya, L.V. 2005) (*Figure 8.2*). The typology created by the agronomist Yarosevich, N. (1923) considered such factors as agriculture, natural and demographic attributes, and the distance from the potential markets, for at the time Belarus was still an agrarian country (Kozlovskaya, L.V. 2005). In 1924, Bonch-Osmolovsky, R. proposed the division of the country into seven regions based on the regional organization of agricul-

ture (Kozlovskaya, L.V. 2005). Ultimately, when the new administrative structure was introduced in 1924, there were 10 countries (or *okrugs*), 100 districts and 1,202 local councils, all of which appeared to reflect economic attributes and administrative criteria.

In the post-war period, staff at the Institute of Economics, Academy of Sciences of BSSR, elaborated a **regionalization plan** for the administrative division of the country within the framework of Soviet economic planning. The **Geography of Belarus**, which was published in 1977, identified six economic regions (Brest, Viciebsk, Homieĺ, Hrodna, Minsk, Mahilioŭ) and nineteen subregions, which have not changed since the 1960s and are still valid today (Kozlovskaya, L.V. 2005). The major industrial towns were organized around these regions (Kireenko, E.G. 2003). Despite their many similarities, the various regions exhibit significant differences in terms of population density, workforce qualifications and skills, natural resources, history, economic development, and the structure of the economy. Each region constituted an economic core and a territorial-production complex (the territorial organization of productive forces in Soviet geographical terminology) specializing in one sector of the economy (Kozlovskaya, L.V. 2005). Likewise, the subregions also had their economic specializations, but unlike the regions they did not form a level of public administration and their borders did not always correspond with the district boundaries (Kireenko, E.G. 2003). The main parameters by which a subregion was defined included population size and the presence of a regional centre and a broader gravity zone. In turn, the subregions determined the specialization of regions and the direction of their future development.

The **regionalization proposed by Lis, A.** (The Problem of the Development of Productive Forces in Belarus, 1972) was based on the theory of territorial-production complexes and ignored administrative divisions (Kozlovskaya, L.V. 2005). Lis identified four separate areas in Belarus, based on the fuel and energy base, the transport network, the gravity zones of the major economic hubs, natural and human resources, and the specialization of the agricultural sector. The Central area included Minsk and was the country’s most advanced region. The South-East area was centred on Homieĺ, had an abundance of forests and



mineral deposits (petroleum, coal and potash), and specialized in the processing of raw materials. The North-East area specialized in the production of flax, was poor in raw materials, and therefore its industry mainly processed imported raw materials. The West area, with its favourable soil and climate conditions, specialized in agro-industrial production (Kozlovskaya, L.V. 2005).

Beginning in the 1960s, advances were made in regional and urban development. For

instance, an urban development plan for Minsk was introduced in 1965, and this plan served as a model for urban development in Belarus's other major urban centres. The first Belarusian regional planning policy paper in the field of tourism was published in 1960 and concerned Lake Narač (Dudko, G.V. 2007).

In the 1980s, the focus switched to **integrated natural and economic regionalization**, the basis for which was the relationship between

natural geographic divisions, economy and population, and the geographic location of natural resources and mineral deposits. Based on these factors, Sidor, S. (*Geografia Belarusi*, 1989) identified three major natural-economic regions within the country: Northern (Lake District), Central, and Southern (Paliessie) (Kozlovskaya, L.V. 2005, Kireenko, E.G. 2003). The Northern region was characterized by moraine soils, numerous lakes, dense forests (with many health resorts and a developed tourism sector), and a cool and rainy summer climate. Additional characteristic features were the presence of many small villages, an underdeveloped agricultural sector, and low population densities in rural areas. The Central region had a varied topography with various soil types, a high population density and a diversified agricultural sector. The Southern region was densely forested, with a relatively low share of cultivated land. Local industry was based on the mining of potash, petroleum, and imported black and brown coal. The region was sparsely populated and scarce in roads.

In the 1980s, Pirozhnik, II. (*Socio-economic Typology of the Raions of the BSSR*, 1986) produced a **multi-variable complex quantitative typology** of the raions in Belarus. He used 13 indicators, constituting three factors: socio-demographical, agrarian-landscape, and an industry-related. Pirozhnik identified four types of district. The first type comprised the major industrial cities, with large populations and advanced and diversified industrial sectors. In the second type were the industrial-agrarian raions, with dynamic small and medium-sized towns and intensive agriculture. The agrarian-intensive type was characterized by high percentages of arable land, high production yields, and overall favourable agro-ecological attributes. In the agrarian-extensive type, the centres of the districts were small towns or urban-type settlements, and both industry and agriculture tended to be rather underdeveloped (Kozlovskaya, L.V. 2005).

The late 1980s saw the publication of the “**Scheme of Complex Territorial Organization of the BSSR**”, which even today is regarded as the most thorough and comprehensive work in the field (Kozlovskaya, L.V. 2005). Belarus’s regional development strategy was published for the first time in 2000, and the strategy was revised and republished by the Belniipgrad ur-

ban planning institute in 2010 (Kozlovskaya, L.V. 2005). Such regionalization was designed to create living conditions of the same quality for most of the population; promote a rational approach to the regional planning of production; utilize natural resources in a reasonable fashion; and reduce regional inequalities. The regional development paper identified 388 economic-geographical territorial units, which were organized around 186 urban and 202 larger rural settlements. Each of these territorial units had a centre that could be reached within 30–35 minutes from the periphery, 60–70 villages, an average population of 25,000, and an average area of 500 square kilometres.

Based on the economic, social and natural characteristics and attributes, these territorial units were grouped into six types. The twenty most developed units comprised the largest multifunctional towns, including Minsk. The second type comprised 37 territorial units that had arisen around the industrial centres. The third type comprised 61 territorial units, formed around the industrial and agricultural centres and where the major industrial enterprises processed agricultural produce. The fourth type (159 territorial units) comprised the areas surrounding small towns and urban-type settlements, typically with agricultural production and the processing of produce. In the fifth type (76 territorial units), in addition to land used for agriculture, there was a high proportion of forest land, grassland, flood plains, and lakes. Tourist resorts were another typical feature. The sixth type (35 territorial units) comprised the nature protection areas and the national parks, with tourism and nature preservation being the main fields of activity.

Regional planning and depressed areas – since the independence

Ideological constraints meant that scant attention was given to depressed areas until the advent of *Perestroika* in the mid-1980s (Kozlovskaya, L.V. 2005). In those regions where industry was preponderant (Minsk, Homiel), restrictions were introduced, alongside measures to promote the development of small towns, a process that had begun in the 1970s (Dudko, G.V. 2007). By the 1980s, **environmental pollution** stemming from

industrialization had become a notable problem. Regions with significant industrial pollution included the Salihorsk area, as well as the major chemical and petrochemical centres (Mazyr, Navapolatsk). The western districts, which were less industrialized, counted as less advanced in terms of industrial development.

As of 1986, a further problem region emerged: the **areas affected by the Chernobyl disaster** (Kozlovskaya, L.V. 2005). In these areas, an important task is the ongoing monitoring of radiation levels in the natural resources (soil, water, forests, etc.). Measures are also required to protect the health of populations affected by radiation and to improve living standards. A major consideration is the need to restore the economic potential of the contaminated areas, to promote investment in the region, and to strengthen small and medium enterprises as well as local peasant farms. The situation of economic sectors (agriculture and forestry) in the most affected areas requires enhancement measures. An important issue for the Belarusian economy is the rational use and protection of the natural resources of the Paliessie region. In addition to the problems stemming from the Chernobyl disaster, a further major concern is landscape degradation caused by melioration measures. Flood protection and nature preservation are additional fields requiring action.

In the Belarusian Lakeland, in view of the economic and ecological factors, the most important development criteria are the rational use of the lakes, the development of tourism and a reduction in the pollution caused by local industry. In the Navapolack area, a key site for the chemicals industry, the level of harmful emissions is the highest in the country.

In consequence of the **economic crisis** that followed the collapse of the Soviet Union, there was an increase in social and economic inequality in Belarus, with a widening gap between western and eastern regions and between Minsk and the rest of the country (Kozlovskaya, L.V. 2005). As in other post-communist countries, in Belarus the transition from a planned economy to the market economy resulted in a further deepening of the inequalities between major cities and smaller towns; migration increased, with many people moving to the more developed regions (Kireenko, E.G. 2003).

The post-Soviet crisis particularly affected those regions in which industry was dependent on

the import of raw materials and energy resources. The most significant declines in industrial output were recorded in the Viciebsk and Hrodna regions, while the Minsk region survived the period relatively unscathed. The raw material production centres (e.g. Salihorsk) and the single-function industrial centres (Svietlahorsk, Smarhoń, Rečyca, Novalukoml and Mikaševičy) also encountered grave difficulties (Kireenko, E.G. 2003). By 1995, relative economic stability had been achieved, thanks to a series of economic policy-making decisions. From 1996, industrial production increased throughout Belarus, whereby the Viciebsk region was an exception (Kireenko, E.G. 2003).

During the economic transition, a new type of crisis region emerged, where the **unemployment** rate exceeded 10% (whereas in other regions the rate was approx. 3%) and where the hidden unemployment rate exceeded 50%. Such regions tended to be industrial centres that had been based on the defence industry (Smarhoń and Viliejka) and had met demand throughout the Soviet Union before its collapse. The former garrison towns represented a special problem category; they were afflicted by high unemployment as the Soviet army withdrew (Kozlovskaya, L.V. 2005).

After the dissolution of the Soviet Union, **depressed regions** also appeared along the **new national boundaries** (Kozlovskaya, L.V. 2005). Social and economic relations with such neighbouring countries as Latvia and Lithuania were broken. In contrast, cooperation with Poland increased. In recent decades the development of border areas has tended to occur with the framework of the Euroregions ("Bug", "Neman" and "Dnepr") or as part of international environmental cooperation. In 1996, a development program for border regions was elaborated under the auspices of the TACIS "Cross Border Cooperation Programme". The program targeted such areas as economic growth, reductions in unemployment, ecological improvements, tourism, the development of the transport and technical infrastructure, and the preservation of the historical and cultural heritage (Dudko, G.V. 2007).

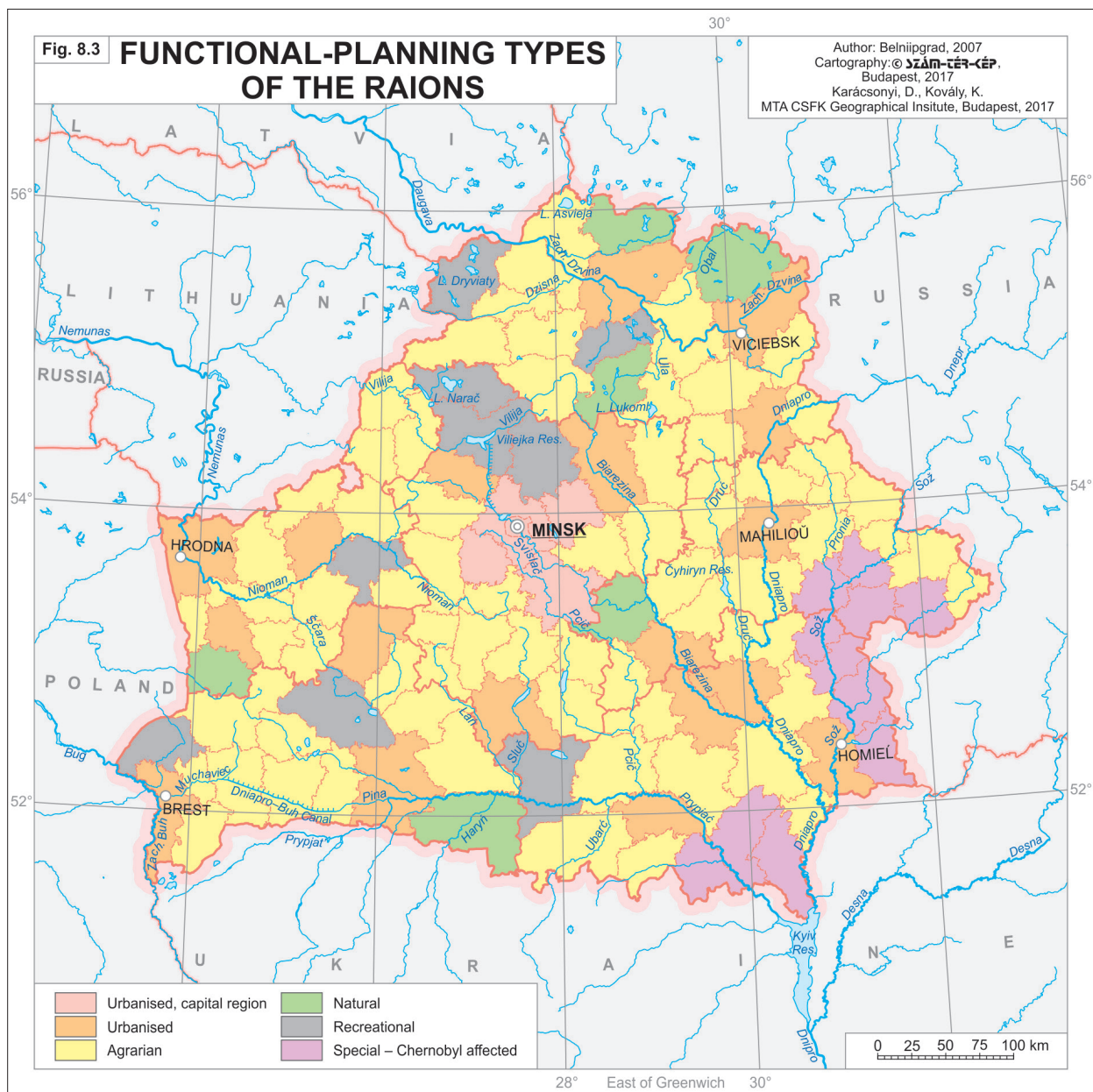
With the dissolution of the Soviet Union and the transition to a market economy, regional and urban development faced new challenges (Dudko, G.V. 2007). As the role of the state declined, so the ability to monitor and control regional and urban development weakened. Suburbanization and the

urban sprawl posed an increasing threat to the protective forests around Belarusian towns.

Within Belarus, **regional development planning** has occurred explicitly only since the early 1990s. In the towns and districts, five-year regional planning and urban development programs are elaborated in accordance with the national planning strategy. Between 1991 and 2000, plans for 150 towns were elaborated (Dudko, G.V. 2007). At present, the main regional development plan is the “State Scheme of Complex Territorial Organization of the Republic of Belarus” (National Plan), which was elaborated

in the period 1997–2000 and then revised and republished in 2010. A further significant document is “The National Strategy for Sustainable Development for the Period to 2020 of the Republic of Belarus” (Dudko, G.V. 2007).

The Belniipgrad urban planning institute produced a **functional development typology** for the country’s districts based on their socio-economic resources and development potential (Belniipgrad 2007) (Figure 8.3). Among the four types identified, the first is the city of Minsk, the capital city region, where the principal development priority is the coordination



of the agglomeration process with the adjacent settlements, whereby consideration should be given to environmental aspects and the differing development potential of the various settlements.

Urbanized raions comprise the second type. Their centres are the industrially advanced major cities and the well-developed medium-sized towns. Alongside a large urban population, a characteristic feature is the presence of numerous commuters. Here, environmental improvements constitute a special priority. The centres of districts that are agricultural in nature are small and medium-sized towns, where enhancing the population retention capacity of the area and increasing the standard of living are the main priorities. A characteristic feature of the local economy is the important role played by the agrarian

economy and the processing of agricultural and forestry products.

The third type comprises districts that perform an important function in terms of nature protection and human recreation and which constitute the backbone of Belarus's ecological network. Here, improvements in conservation are especially important.

The fourth type is made up of the special-status districts that were particularly affected by the Chernobyl disaster and dispose of limited natural and human resources. In these areas, the main priorities are to address the consequences of the Chernobyl nuclear disaster, to improve the socio-economic position of the contaminated areas, and to enhance the quality of life for local inhabitants.



Evroopt – New, European style supermarket in a Belarusian town on the periphery, Lieičy.
(Photo: Karácsonyi, D. 2015)

9. GEOGRAPHY IN BELARUS

The first geographical data pertaining to the area of modern Belarus appeared in the ancient chronicles of the 11th and 12th centuries and in the Belarusian and Polish chronicles of the 13th–16th centuries (Map of the Grand Duchy of Lithuania by Makowski, T. 1613). The works of scientists from the 18th and 19th centuries contain detailed descriptions of the natural features of the area. In the second half of the 19th century and in the early 20th century, members of the north-western branch of the Russian Geographical Society collected significant amounts of data (Picturesque Russia by Semenov, P.P. 1882). Systematic geographical research relating to the area of today's Belarus began to develop in the 20th century (e.g. works by Smolich, A.A. 1923, 1928, 1929, including the Geography of Belarus, published in Vilnius). The 1920s saw the introduction of higher education courses in geography at the Belarusian State University (BSU, est. 1921) and broad advances in scientific research in physical and economic geography. A natural science research facility was created under the auspices of the Institute of Belarusian Culture, a body that was established in 1922 and reconstituted as the Belarusian Academy of Sciences in 1929.

Maps on industry, population, agriculture, the social sphere, science and culture were produced. Such maps were then published in the "Atlas of the BSSR" (1958) and in the first "National Atlas of Belarus" (2002). In 2009, the Great Historical Atlas of Belarus was published in three volumes by Belkartografija (Minsk).

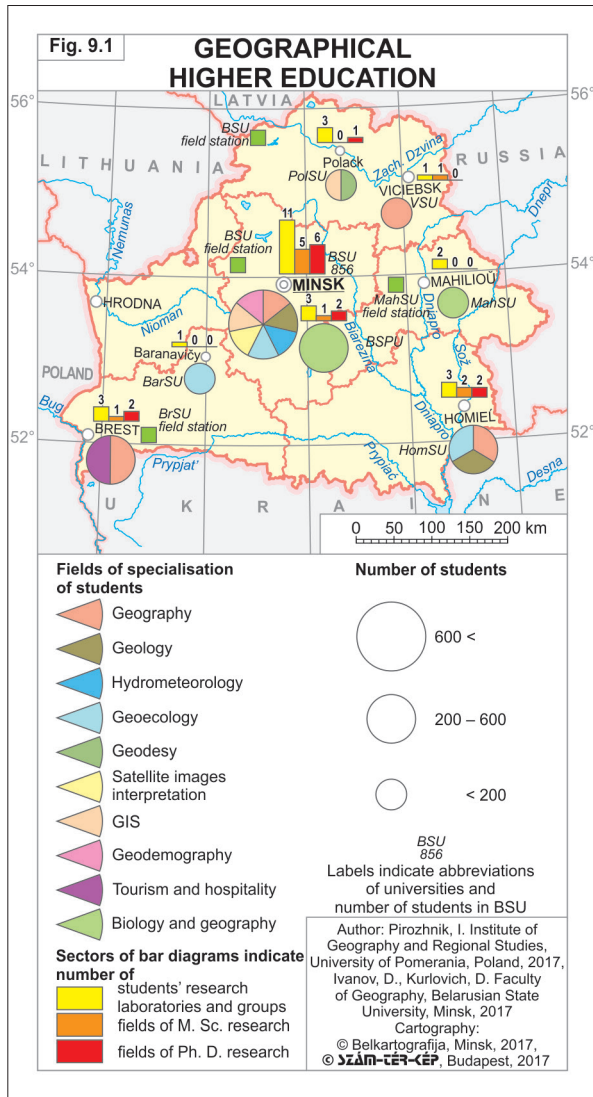
In Belarusian schools, **geography** is taught at both **primary and secondary levels**. At primary school (Years 1–4), children study basic geography as part of the course "Man and the World" (1 lesson per week). At secondary school, they complete the course "Man and the World" (1 lesson per week in Year 5) and then they begin to study the subject "Geography". Pupils study "Physical Geography" in Year 6 (1 lesson

per week) and a course entitled "Continents and Oceans" in Year 7 (1 lesson per week). In Year 8, the course is entitled "Countries and Nations" (2 lessons per week), and this is followed in Year 9 by "Geography of Belarus" (2 lessons per week). Pupils in Year 10 complete a course entitled "World Economy" (1 lesson per week at the basic level or 3 lessons per week at the advanced level). Finally, in Year 11, pupils complete a course entitled "Global Processes" (1 lesson per week at the basic level or 3 lessons per week at the advanced level). An exam in geography does not feature on the list of obligatory final school examinations.

In Belarus, students can enrol in B.Sc. or B.A. courses in higher education based on their entrance exam results (in the form of centralized testing) and their grade averages shown on the school leaving certificate. The admission requirements at the natural science faculties of universities include tests in Biology, Geography and Russian (or Belarusian). Students wishing to study geography at university are required to pass tests in Geography, Mathematics and Russian (or Belarusian) or in Geography, Physics and Russian (or Belarusian). The choice depends on the selected specialization.

Eight Belarusian universities offer degree courses in geography (*Figure 9.1*), with the greatest number of students attending the Belarusian State University (BSU). The Belarusian State Pedagogical University (BSPU) trains teachers of geography. The following regional state universities (SUs) offer degree courses in geography: PolSU (Polack), VSU (Viciebsk), MahSU (Mahilioŭ), BarSU (Baranavičy), HomSU (Homieĺ) and BrSU (Brest). At the M.Sc. and Ph.D. levels, geography can be studied at the following universities: Minsk, Mahilioŭ, Brest, Polack and Viciebsk.

In the second half of the 20th century and in the 21st century, **schools specializing in various aspects of geography** were created at univer-



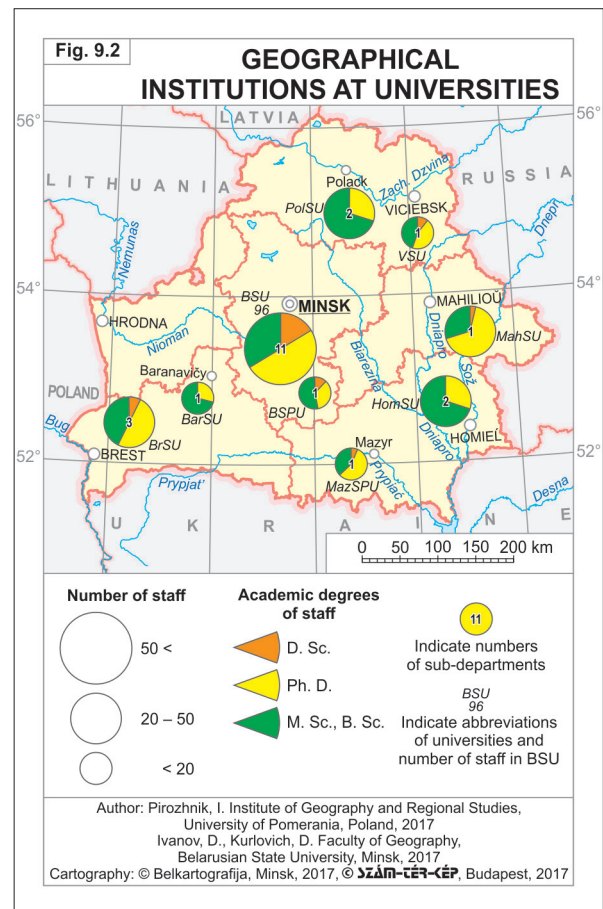
city departments or under the auspices of the National Academy of Sciences (Figures 9.2, 9.3). The best-known schools are as follows:

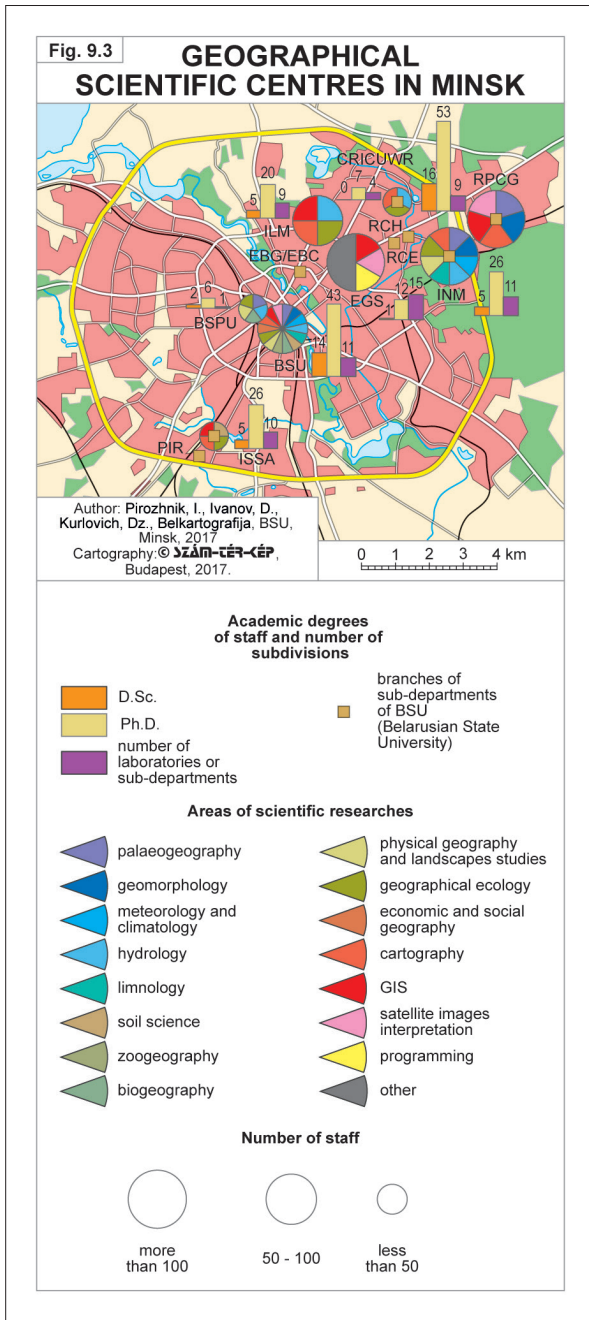
School of **physical geography and landscape studies**, focusing on the structural features of physical geography and on the genetic types of landscape, their multi-stage classification and mapping. Applied research is undertaken in such fields as landscape and recreation, agrarian landscapes, geochemical issues and landscape, human impacts on landscapes, and the development of urbanized landscapes and their sustainability. Recent areas of research include landscape diversity assessment, the preservation of unique landscapes, and the establishment and management of specially protected natural areas.

School of **economic and social geography**, examining and analysing the formation and al-

location of geographic socio-economic systems, industrial and transport hubs and complexes, the agricultural and agro-industrial sectors, population dynamics and composition, the migration of the population and workforce, and social, cultural, public and tourist services. Current research areas include the social and economic development of regions undergoing the transition to a market economy; population distribution and demographic security; the rational use of natural resources; and creating a national tourist product.

Palaeogeographic school. Glacial palaeogeographers have actively developed their fields of study by employing a broad range of palaeontological and chronostratigraphic methods. Complex research has made it possible to reconstruct climate, to trace the dynamics of environmental development, to assess in detail the development of the Pleistocene and Holocene flora and fauna of Belarus, and to construct a detailed regional stratigraphical chart of the territory of Belarus and then correlate it with the similar charts of neighbouring countries.





Geomorphological school, focusing on the results of the major geological surveys, which have resulted in creation of reconstructions. Applied research areas include: relief development in the Pleistocene; the drawing up of geomorphological maps; genetic classification and geomorphic zoning; and the locating of various genetic types and relief forms. There have been several detailed investigations into ice formations in the Belarusian Range (Bielaruskaja hrada), anthropogenic morphogenesis and the dynamics of

sloping, erosion and other relief-forming processes. Such areas of research can facilitate resource development optimization and enhance melioration in agriculture, engineering and construction.

Climatological school, focusing on the meteorological factors of climate formation in the various regions of Belarus. Based on long-term observations and climate modelling, assessments have been made of agroclimatic resources and agroclimatic zoning, of the regional features of climate change and emergency weather conditions in Belarus, and of climate resources from an agroecological perspective. A further area of research includes microclimate in cities, towns, and natural and man-made landscapes. The findings have been utilized in various sectors of the Belarusian economy.

School of **hydrology and limnology**, focusing on the hydrological, thermal and ice regimes of rivers, lakes and water basins, the genesis of lakes and lake sedimentation, lake classification, the impact of water balance on rivers and basins, water economy balances and catchment area programs, hydrological fundamentals of melioration and landscape draining, the influence of various kinds of economic activity on water resources and the principles of their rational use and protection. Belarus's water resources have been assessed, and the various kinds of resources, their special features and their formation have been investigated. Significant attention has been given to the history of swamps, their modes of functioning and their role in the biosphere.

School of **soil science and the geography of soils**, researching the genesis and structure of soils, the features of soil particle size, humus composition, mineral elements and microelements, fertility levels, and soil evolution. Large-scale research has facilitated soil mapping, enabling the soil geographical zoning of Belarus to be undertaken. The necessity and feasibility of the melioration of marshland was assessed. Recommendations are being elaborated on the efficient use of meliorated soils and on erosion-preventive measures. Geochemical processes are being studied, with a view to improving the agrochemical features of soils.

Bio-zoogeographic school, focusing on the geographical distribution of species and ranges of plants, revealing the areal features of vegetation cover and the territorial placement of veg-

etation communities, and determining the migration routes of species and floral forms, their phytogeographical connections to the flora of adjacent regions, the range of vegetation resources (medicinal herbs, wild berries, mushrooms) and the forms of their rational use.

In the zoogeographical field, revealing the features of fauna species composition, the geographical factors of the expansion of certain vertebrate species (mammals, birds, fish, amphibians and reptiles) and invertebrate species, various insect orders, as well as soil fauna. The zoogeographical zoning of Belarus has been undertaken, with the reconstruction of plant phylogenesis and the various stages of development of faunal forms in the Pleistocene and Holocene eras, based on data stemming from palynological and theriological research.

Geo-ecological school, analysing the structural features of geosystems and the geographical reasoning behind their functioning under various conditions of natural geography, the impact of humans, and the rational use of the resource potential. Special attention has been given to the development of environmental management systems that are compatible with the biosphere of various

natural environments, to radioactive and other man-induced contamination, to the accumulation and migration of different kinds of pollution, and to the cross-border transfer of pollutants. New ideas have been developed in the field of the management of city environments and the geo-ecological systems of cities and suburbs, and the long-term forecasting of environmental change.

Cartographic school. Based on geological, hydrological, soil and botanic surveys, a series of geological-lithological, hydrological, geomorphological, soil, landscape and other branch maps have been produced (scale 1:500,000).

Today, geographical research is actively implementing **GIS technologies**, using a wide range of software products. Digital land cadastres have been created for different kinds of natural resources (minerals, water, forests, recreational opportunities) and based on satellite images. Advances have been made in the remote sensing, and geographers from the BSU and the Institute for Nature Management of the National Academy of Sciences of Belarus (INM NASB) have come together with Unitary Enterprise “GeoInformation Systems” of the NASB, (EGS NASB) to participate in the Belarusian space program.



The skyscraper of Maxim Tank Pedagogical University at the Independence Square in Minsk. The Belarusian State University as well as the Belarusian Parliament is also located on this square. (Photo: Karácsonyi, D. 2006)

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Belarusian (official Latin, 2007, 2013)	Belarusian (British Standard, 1979)	Russian (GOST)	Belarusian (Cyrillic)	Russian (Cyrillic)
Asipovičy	Asipovichy	Osipovichi	Асіповічы	Осиповичи
Ašmiany	Ashmyany	Oshmyany	Ашмяны	Ошмяны
Astraviec	Astravyets	Ostrovets	Астравец	Островец
Asvieja	Asveya	Osveya	Асвея	Освея
Babrujsk	Babruysk	Bobruisk	Бабруйск	Бобруйск
Baranavičy	Baranavichy	Baranovichi	Баранавічы	Барановичи
Barysaŭ	Barysaw	Borisov	Барысаў	Борисов
Biarezina	Byarezina	Berezina	Бярэзіна	Березина
Biaroza	Byaroza	Beryoza	Бяроза	Берёза
Bierazino	Byerazino	Berezino	Беразіно	Березино
Bielaviežskaja Pušča	Byelavyezhszkaya Pushcha	Belovezhskaya Pushcha	Белавежская пушча	Беловежская пушча
Brahin	Brahin	Bragin	Брагін	Брагин
Braslaŭskija aziory	Braslawskiya azyory	Braslavskiye ozyora	Браслаўскія азёры	Браславские озёра
Buda-Kašaliova	Buda-Kashalyova	Buda-Koshelyovo	Буда-Кашалёва	Буда-Кошелёво
Čačersk	Chachersk	Chechersk	Чачэрск	Чечерск
Čavusy	Chavusy	Chausy	Чавусы	Чаусы
Čerykaŭ	Cherykaw	Cherikov	Чэрыкаў	Чериков
Červień	Chervyen'	Cherven'	Чэрвень	Червень
Chojniki	Khoiniki	Khoiniki	Хойнікі	Хойники
Čyhiryn	Chyhiryn	Chigirin	Чыгірын	Чигирин
Dobruš	Dobrush	Dobrush	Добруш	Добруш
Drahičyn	Drohichyn	Drogichin	Драгічын	Дрогичин
Dubroŭna	Dubrowna	Dubrovno	Дуброўна	Дубровно
Dziaržynsk	Dzyarzhynsk	Dzerzhinsk	Дзяржынск	Дзержинск
Hancavičy	Hantsavichy	Gantsevichi	Ганцавічы	Ганцевичи
Hlusk	Hlusk	Glusk	Глуск	Глуск
Hlybokaе	Hlybokaye	Glubokoye	Глыбокае	Глубокое
Homieł	Homyel'	Gomel	Гомель	Гомель
Horki	Horki	Gorki	Горкі	Горки
Hrodna	Hrodna	Grodno	Гродна	Гродно
Iŭje	Iwye	Iv'ye	Іўе	Ивье
Ivacevičy	Ivatsevichy	Ivatsevichi	Івацэвічы	Ивацевичи
Ivanava	Ivanava	Ivanovo	Іванава	Иваново
Jasiel'da (riv.)	Yasel'da	Yasel'da	Ясельда	Ясельда
Jełsk	Yel'sk	Yel'sk	Ельск	Ельск
Kalinkavičy	Kalinkavichy	Kalinkovichi	Калінкавічы	Калинковичи
Kamaryn	Kamaryn	Komarin	Камарын	Комарин
Kamieniec	Kamyenyets	Kamenets	Каменец	Каменец
Kapył	Kapyl'	Kopil'	Капыль	Копыль
Karma	Karma	Korma	Карма	Корма
Kasciukovičy	Kastsyukovichy	Kostyukovichi	Касцюковічы	Костюковичи
Klimavičy	Klimavichy	Klimovichi	Клімавічы	Климовичи
Kobryn	Kobryn	Kobrin	Кобрын	Кобрин

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Krasnapollie	Krasnopolle	Krasnopol'ye	Краснаполле	Краснополье
Lahojsk	Lahoysk	Logoisk	Лагойск	Логойск
Liaskavičy	Lyaskavichy	Lyaskovichi	Ляскавічы	Лясковичи
Lieĺčycy	Lel'chytsy	Lel'chitsy	Лельчыцы	Лельчицы
Liepiel	Lepel'	Lepel'	Лепель	Лепель
Liubań	Lyuban'	Lyuban'	Любань	Любань
Luninieć	Luninets	Luninets	Лунінец	Лунинец
Mahilioŭ	Mahilyow	Mogil'ov	Магілёў	Могилёв
Malaryta	Malaryta	Malorita	Маларыта	Малорита
Maladziečna	Maladzyechna	Molodechno	Маладзечна	Молодечно
Mazyr	Mazyr	Mozyr'	Мазыр	Мозырь
Mieračoŭščyna	Myerachowshchyna	Merechëvshchina	Мерачоўшчына	Меречёвщина
Mikaševičy	Mikashevichy	Mikashevichi	Мікашэвічы	Микашевичи
Mscislaŭ	Mstislaw	Mstislavl'	Мсціслаў	Мстиславль
Narač	Narach	Naroch'	Нарач	Нарочь
Naroŭlia	Narowlya	Narovlya	Нароўля	Наровля
Navahrudak	Navahrudak	Novogrudok	Навагрудак	Новогрудок
Navapolack	Navapolatsk	Novopolotsk	Наваполацк	Новополоцк
Niasviž	Nyasvizh	Nesvizh	Нясвіж	Несвиж
Nieščarda(lake)	Neshcharda	Nescherdo	Нешчарда	Нещердо
Nioman	Nyoman	Neman	Нёман	Неман
Novalukoml	Novalukoml'	Novolukoml	Новалукомль	Новолукомль
Orša	Orsha	Orsha	Орша	Орша
Paliessie	Palesse (Polesie)	Poles'e	Палессе	Полесье
Pastavy	Pastavy	Postavy	Паставы	Поставы
Pietrykaŭ	Petrykaw	Petrikov	Петрыкаў	Петриков
Polack	Polatsk	Polotsk	Полацк	Полацк
Pružany	Pruzhany	Pruzhany	Пружаны	Пружаны
Prypiać	Prypyats'	Pripyat'	Прыпяць	Припять
Rahačoŭ	Rahachow	Rogachëv	Рагачоў	Рогачёв
Rečyca	Rechytsa	Rechitsa	Рэчыца	Речица
Salihorsk	Salihorsk	Soligorsk	Салігорск	Солигорск
Ščučyn	Shchuchyn	Shchuchin	Шчучын	Щучин
Škloŭ	Shklow	Shklov	Шклоў	Шклов
Slaŭharad	Slawharad	Slavgorod	Слаўгарад	Славгород
Smaliavičy	Smalyavichy	Smolevichi	Смялявічы	Смолевичи
Smarhoń	Smarhon'	Smorgon'	Смаргонь	Сморгонь
Stoŭbcy	Stowbtsy	Stolbtsy	Стоўбцы	Столбцы
Svislač	Svislach	Svisloch	Свіслач	Свислочь
Talačyn	Talachyn	Tolochin	Талачын	Толочин
Turaŭ	Turaw	Turov	Тураў	Туров
Valožyn	Valozhyn	Volozhin	Валожын	Воложин
Vaŭkavysk	Vawkavysk	Volkovysk	Ваўкавыск	Волковыск

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Belarusian (official Latin, 2007, 2013)	Belarusian (British Standard, 1979)	Russian (GOST)	Belarusian (Cyrillic)	Russian (Cyrillic)
Viciebsk	Vitsebsk	Vit'ebsk	Віцебск	Витебск
Vietka	Vetka	Vetka	Ветка	Ветка
Viliejka	Vileyka	Vileyka	Вілейка	Вилейка
Voranava	Voranava	Voronovo	Воранава	Вороново
Zachodni Buh	Zakhodni Buh	Zapadnyy Bug	Заходні Буг	Западный Буг
Zachodniaya Dzvina	Zakhodnyaya Dzvina	Zapadnaya Dvina	Заходняя Дзвіна	Западная Двина
Zaslaŭje	Zaslawye	Zaslavl'	Заслаўе	Заславль
Zel'va	Zel'va	Zel'va	Зэльва	Зельва
Žlobin	Zhlobin	Zhlobin	Жлобін	Жлобин
Žodzina	Zhodzina	Zhodino	Жодзіна	Жодино
Žyrovicy	Zhyrovitsy	Zhirovichi	Жыровіцы	Жировичи
Žytkavičy	Zhytkavichy	Zhitkovichi	Жыткавічы	Житковичи

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The Republic of Belarus, one of the larger European successor states of the Soviet Union, first appeared on the political map of Europe in 1991. Even today, Belarus is barely known to many European citizens, and the sporadic information provided by the media is not always free of bias. Several factors, however, indicate that Belarus deserves greater attention. The country lies in the buffer zone between two huge cultural realms that have clashed several times during recent centuries, leaving a lasting impact on the people, landscapes and heritage of the region. Belarus remains a transit country of geopolitical importance: viewed from Russia it is a window to the western part of Europe, while looking from the other side it is a gateway to the East. Belarus is also a country in transition, seeking its own development by means of a unique economic model that is based on the political and economic power of a centralized state. So far, the Belarusian model has proved remarkably successful.

Recognizing the need to provide a factual, up-to-date and comprehensive overview of Belarus for both the scientific community and the broader public, Hungarian geographers commenced a complex research program in close co-operation with fellow geographers in Belarus. The result of their collaborative efforts is this atlas, which constitutes a further addition to the “in Maps” series initiated by the Geographical Institute of Hungarian Academy of Sciences in 2005. Like its predecessors, Belarus in Maps combines the features of a book and an atlas. The ninety-eight full-colour maps and diagrams are complemented by authoritative explanatory texts written by a distinguished team of contributors from both countries. Beyond the usual topics of physical and human geography, separate chapters address issues of specific importance for Belarus, offering insights into the ethnic processes that led to the emergence of the Belarusian nation, the background to the Belarusian economic model, and the lasting impact of the Chernobyl disaster.

Available in both printed and electronic form, Belarus in Maps is destined to serve as an abundant source of information about the country and as a standard reference work for many years to come. The atlas may also function as a kind of “business card” for Belarus, familiarising people around the world with this fascinating young country.

Ferenc Probáld

Professor emeritus, Eötvös Loránd University (Budapest)

Department of Regional Geography

