

Dr. DMITRI PITERSKI, Institute of Regional Geography, Leipzig, Germany  
VICTOR IVLITCHEV, Institute for Regional and Urban Planning, Minsk, Belarus

## NEW URBAN SETTLEMENTS IN BELARUS: SOME TRENDS AND CHANGES.

### *Abstract*

The modern urban system of Belarus is under the influence of a social-economic and political transformational processes. Social, economic and ecological processes that had place last years in country promoted new types of urban settlements formation. A number of small urban settlements and residential areas in cities have been built for civil representatives of military contingent that brought out of Central and Eastern European countries. These residential areas were built with participation of different Byelorussian and foreign building companies and German financing (1,4 billions DM = 715,8 million €). It is characterised by high quality of housing, service, engineering and transport infrastructure. Plots of land for residential areas location were defined with Institute for Regional and Urban Planning participation according to the master plans of cities with idea of living environment improving. Planning projects of the districts were made through tenders. Totally seven residential areas were built in Borisov and Maryina Gorka (Minsk Oblast), Baranovitchi and Bereza (Brest Oblast), Lida, Slonim and Ross (Grodno Oblast). There are 5,938 flats, five schools, seven kindergartens for 2,110 places, seven public centres, five policlinics and one hospital equipped by modern medical equipment, seven automated boilers with reserve capacity, and necessary structures for water and energy supply, sewerage and communications. On the last stage of the program the industrial area included five factories on roofing-tile production, products and constructions from silicate-concrete, dry building mixture, joinery and lime was built in Chist town (Minsk Oblast). However there are some problems in social sphere and a limit of labour market and as a result there is high rate of unemployment. Using the patterns of several residential areas some modern social-economic problems of mentioned residential areas and ways of their solutions are showed in the report.

*Key words: Belarus, urban settlement system, master plans, residential areas.*

### **Introduction: Belarus in the context of European settlement system. Some aspects.**

Republic of Belarus is located in the Eastern Europe. The country has geographical advantage. It is one of the important premises for integration into the joint European settlement system. Although, such specific geopolitical location historically caused an interstate pretensions. It is very important that Belarus is located on the European main communication links “West-East” and “North-South” crossing. High level of transport connection (railway network and roads) and good communication accessibility also matter as well as including of Belarus into the global computer network.

The area of Belarus amounts to 207.6 thousand sq. km. It is comparable with Poland (313 thousand sq. km.), Finland (305 thousand sq. km.) or Romania (238 thousand sq. km.). The population of Belarus is 9,990.4 thousand (01.01. 2001). It is comparable with population of Belgium (10.0 million), Sweden (8,9 million), Austria (8,2 million) and Hungary (10,0 million).

The average density of population is 48 inh. per sq. km. It is nearly average density of population of the Baltic Region countries (44 inh. per sq. km), however it is still less than in the European Union (115 inh. per sq. km.). At the same time the density of population on the territory of Belarus varies from 17 inh. per sq. km., in some districts of Mogilev Region, to 190 inh. per sq. km. in Minsk agglomeration.

Minsk City, the capital of Belarus, is located practically at the geometrical centre of the country, on the crossing of two European communicational links “West-East” and “North-South”. Minsk has been playing an important role in arrangement and development of international trade, innovative enterprises, financial institutes and international events holding (conferences, exhibitions, fairs, etc.)

### **Development of urban settlement networks in Belarus: problems and trends.**

Belarus was agricultural country till the Second World War. In 1940 there were 65 towns and 108 settlements of an urban type and the share of the urban population to the total population of the country was 21%<sup>1</sup>. Speed-up of urbanisation was noticed in 1950s<sup>2</sup> when large enterprises were built in cities and towns, which were rebuilt after the Second World War. The highest rate of the population rise was appropriated for Minsk City, the capital of Belarus. At the post-war period the population of Minsk have increased more than 6 times. This fact gives a possibility to speak about the so-called "Minsk phenomenon"<sup>3</sup>. Minsk is the largest city of Belarus with population 1,699.0 thousand<sup>4</sup>.

At the beginning of 2001 the population of Belarus was 9,990.4 thousand. The total number of cities, towns and settlements of an urban type<sup>5</sup> was 213 with a population of 7,013.6 thousand residents<sup>6</sup>. The settlement network of Belarus includes 213 urban and 24,150 rural settlements (01.01.2001). Density of human settlements is more than 117 units per sq. km. It is noticed the drop of the rural settlement's density from the north to the south and their average size increase at the same time. About 70% rural settlements of Belarus have less than 100 inhabitants. The majority of such settlements are situated on the North in Vitebsk Region. Historical conditions as well as natural differences determine this fact. Chernobyl disaster's consequences should be considered as well<sup>7</sup>. About 130 thousand people had been resettled from contaminated territories until 1999<sup>8</sup>.

Till the year 1994 the population growth had been noticed. In that period the overgrowth of the urban population and the rural population reduction had been marked (see figure 1). In 1994 the population of Belarus decrease was noticed first after the Second World War was finished because of sharp fall of birth rate and rise of death rate, which are not compensated by positive migration balance. The forecast shows that the trend of the population wastage will be saving till 2015. If there is a middle variant of demographic reduction than the population will fall to 9.8 million (in pessimistic variant — 9.3 million.). In fact, the rural population rate will fall, however, the urban population rate will increase in total number of the population<sup>9</sup>.

In cities and towns occupying 1,1% of the Byelorussian territory there is 70% of the population of Belarus. High rate of the urban population is the result of active industrial development, which took place until 1980. The components of that process were speeded growth of large and big cities, which are considered to be leaders of social-economic progress and intensification of their importance in social life. However, tasks of the control of big cities' extensive growth and stimulation of small and middle towns' development are topical nowadays because of transition to the sustainable development.

### **Typology of urban settlements of Belarus**

There is rather developed and equable human settlement network that was historically defined in Belarus. It reflects some specific features of natural conditions, economic activity, social-economic, demographic and cultural development of the country. Conditions for urban

settlement development, their resources' capabilities, scientific, technical and innovative potentials are measurably identified by type of urban settlement.

Urban planning's typology of urban settlements adopted in Belarus divides urban settlements into the categories (size, function, administrative status and importance in National Settlement System (NSS)<sup>10</sup>.

By the size:

- Largest — more than 1 million inh.: Minsk (1,699,000)
- Large — from 250,000 to 1 million inh.: Brest (291,000), Vitebsk (349,000), Gomel (490,000), Grodno (307,000), Mogilev (361,000)
- Big — from 100,000 to 250,000 inh. (9 cities)
- Middle — from 50,000 to 100,000 inh. (9 towns)
- Small — under 20,000 (69 towns and 104 settlements of an urban type)

By function:

- Polifunctional;
- Industrial;
- Agricultural-industrial;
- Agricultural;
- Tourist-recreational;
- Natural protected.

According to the importance in NSS urban settlements are divided into five types such as:

- Cities of European importance (Minsk);
- Cities of National importance (Gomel, Brest, Vitebsk, Grodno, Mogilev);
- Cities of Regional importance (Baranovichi\*, Bobruisk, Borisov\*, Lida\*, Mozyr, Molodechno, Orsha, Pinsk, Polotsk-Novopolotsk, Soligorsk);
- Other basic, sub-regional Cities and towns (Zhlobin, Zhodino, Kobrin, Retchitsa, Svetlogorsk, Slonim\*, Slutsk);
- Cities, towns and other urban settlements of Local importance.

\* Cities in which residential areas for civil representatives of military contingent that brought out of Central and Eastern European countries have been built.

### **Urban settlement network of Belarus**

The distinguishing characteristic of the urban settlement structure is a quantitative prevalence of small urban settlements (more than 81% of total urban settlements) where live about 17,4% of the total urban population. On the one hand comparatively equable network of small towns promotes arrangement of the central places system, on the other hand small towns have not possibilities to be the centres of good service making because they have low level of social-economic development.

In large and big cities, composing nearly 7% of total urban settlements 67% of urban population live. These cities are located mostly in a peripheral belt of the country, near with country's borders with other states.

In 11 largest cities such as Minsk, Mogilev, Gomel, Vitebsk, Brest, Grodno, Orsha, Bobruisk, Pinsk, Baranovichi, Borisov are about 70% of industrial staff and more than 50% of manufactures are produced there. These cities being an important centres of urbanisation in Belarus are characterised by the advanced polifunctional industry, developed social service and

the high level of population education. There are high-density building with high level of engineering infrastructure and developed public transport system.

Small urban settlements especially which are arranged out of main centres and axis of development are generally characterised by industrial-agricultural and agricultural multifunctional specialisation and by restricted labour market; insufficient service, low level of engineering infrastructure and outer accomplishment; unsatisfactory transport communication; high level of self-supply and self-service of population in daily activity; and detached houses' building dominating (about 98% of total residential territories).

### **Development of cities and towns of different types. Current problems and trends of urban settlement system of Belarus.**

Republic of Belarus is characterised by outpaced growth of the urban population and activation of relations between human settlements, urban lifestyle dissemination on surrounding territories or urbanisation process development inland.

Main current trends of urban settlement development in Belarus in some cases are conformed to transition from 3 to 4 Gibbs<sup>11</sup> stage of urbanisation evolution and are characterised as:

- General growth of polarisation of urban processes and population concentration in big and large cities, which are centres of city agglomerations and zones of their influence and also along transport corridors of international importance;
- Strengthening of large cities role (Minsk City, Minsk city agglomeration and national centres) — national centres of NSS which are considered to be leaders of social-economic progress and centres of innovation's dissemination;
- Strengthening of importance, activation and raise of the competitiveness of big cities (with number of the population is more than 100,000) — regional centres of NSS;
- Reduction of the rural population and stagnation of the majority of small towns that compose the most numerous group of human settlements.

The city agglomeration's formation spreads quite slowly in Belarus, excluding Minsk City that has special forms of urban process going. First, there is intensively growing centre of agglomeration that is oversized in comparison to surrounding small urban settlements. Second, absence of middle towns on the distance of 70-100 km. from the centre<sup>12</sup>.

It is worth mentioning that Byelorussian cities, like the cities of former USSR's republics, were the result of speedy industrialisation (in case of Belarus since 1950). For instance, 70% of urban population rate was provided by migration from rural territories in the 1970s. At the same time including of rural inhabitants into urban lifestyle and urban culture development was deferred. So Byelorussian population have rural mentality like the rural population in Russia<sup>13</sup>.

In contradistinction from Russia there were not mass migration from cities and reduction of total population even in particular years during the transformational period<sup>14</sup>.

Topical problems of large and big cities were focused in reconstruction, modernisation and diversification of current industrial potential, economic activation. These problems' solving will affect both sustainable urban development and republic in general.

In the Soviet times many industrial ministries were eager – in contradiction to the official policy of limiting of the growth of large cities - to promote the settlement and development of industrial areas which were located in already established large cities, in order to be able to save money on

development of land and housing construction. This resulted in an extremely slow process of developed of small and medium-size cities, where provision of social structure, including engineering and technical supplies became very much neglected<sup>15</sup>.

For small urban settlements with traditional local manufacturing based on agricultural and agricultural-industrial specialisation, the main problems are concentrated in low level of engineering equipment of residential and public sector, low level of social service. Solution of these problems requires the special government programs development as well as active state support.

Now the territory of Belarus includes high-urbanised areas with large and big cities (Minsk agglomeration and territories within of large and big cities' influence zones) on the one hand, and broad rural spaces (agricultural areas) that are submitted to the small urban settlements on the other hand.

The level and character of urbanisation is determined by new social and economic processes, demographic specialities, historically established human settlement structure, and environmental conditions. Comparative analysis of administrative districts' urbanising processes shows essential differences within the districts.

As mentioned above the administrative districts submitted to Minsk and to the regional centres, including Bobruisk district, have the highest level of urbanisation. The majority of regions of the North-West part of the republic and Polesiye<sup>16</sup> have the lowest level of urbanisation. These regions are characterised by low density of urban population in the whole (less than 25 inhabitants per sq. km.).

Priorities in management of urbanisation are following: determination of the territorial recourses, including human potential, and methods of their efficient use; definition of the ecological sustainability of the territory and formation of the system of the planning circumscription; searching for the top sizes and parameters of development, determination of the central and regional level priorities, and territorial strategy principles development on this basement; formation of the regions development varieties with their comparative forecast.

### **Some new types of urban settlements in Belarus**

Social, economic and ecological processes that had place last years in country promoted new type of urban settlements formation, such as:

- Settlements located on the contaminated territories;
- Settlements on the cross-border areas;
- “Military towns” — settlements for military contingent and their families, brought out of Germany.

Each group of mentioned settlements are differed by special conditions of development and requires particular measures for their development.

### **Urban settlements for military contingent brought out of Germany -- new element of urban settlement network of the Republic of Belarus**

From the beginning of 1990s actions on reclamation of territories which belonged to military contingent have been implementing. Earlier there were military bodies of troops and divisions as well as military towns. Legislation and mechanism for vacant territories quick involvement into the economic activity are formed and measures on social, economic, ecological and other problems that were ensued are developed<sup>17</sup>.

It should be mentioned that during conversion of military towns a lot of serious problems were appearing. These problems have as national as well international importance. So it is taken some steps on international Cupertino and partnership activation<sup>18</sup>. The International project of UNDP, IOL and EEC UN on military towns conversion has been implementing officially in Belarus since November, 1994. The "National Program of Social and Economic Revival through Demilitarisation" was developed by the Executive direction of this project. Also the big group of experts was engaged into this Program elaboration.

From 1991 to 1998 according to intergovernmental agreement between Germany and the USSR from October 9, 1990 the part of the special program on housing for military contingent brought out of Germany was implemented. Within this program it was foreseen to locate towns and residential complexes in the urban settlements for settling civil staff of military contingent brought out of the of Central and Eastern Europe.

The territories for planned towns location were determined with participating of Institute for Regional and Urban Planning of Belarus on the basement of master plans of cities that were chosen for mentioned program implementation.

By present time the residential towns development was finished. Residential districts in Borisov, Maryina Gorka, Baranovitchi, Bereza, Lida, Slonim and Ross<sup>19</sup> were built. There were built 5,938 flats or 364,446 sq. m. of dwelling space, five schools, seven kindergartens for 2,110 children, seven multifunctional public centres, five policlinics and one hospital provided with modern medical equipment, seven automated boiler-houses with reserve capacities, also necessary installations for water-supply, sewerage, utility, energy-supply and communication.

At the complete stage an industrial complex that includes five plants of construction industry was built in Chist Town (Minsk Oblast).

The development of towns was implemented on the base of tender projects with participation of different Byelorussian and foreign building firms and with German financial support.

This program implementation allowed to provide military contingent with houses as well as to decide social acuity related with housing for military contingent to a great extent. The majority of military population of built towns, including members of their families, got a permanent job although the problem of unemployment is saved.

It is worth mentioning that this program, known on the West as Program "7.8+0,5" and financed by the Federal Governace of Germany, does not have any analogues in history and in practice of construction in the former USSR and in Belarus if to consider its investment, quality and terms of implementation, social and economic outcomes. The participation in this program was like a school of European knowledge and practice for developers and builders. Designed and built military towns differ in high quality of created living environment, architectural individuality and technological innovation.

### **Typology of settlements for the military and their families**

Examined military towns can be divided into several groups by the following typological features:

- character of location in urban settlement network;
- function.

According to the location in urban settlement network the military towns are divided into:

- co-dependent urban settlements within the borders of set cities (Borisov, Baranovitchi, Lida, Slonim);
- separate urban settlements located near cities or on the base of small towns (Ross, Maryina Gorka, Bereza, Chist).

By function military towns are divided into:

- Residential settlements -- so called "bedrooms" with residential functions only (e.g. Lida);
- Residential and industrial settlements that includes as residential districts as well some industrial objects (e.g. Ross, Chist).

Furthermore towns, which were built in Belarus as a result of mentioned program implementation, differ by their architectural organisation and technical structure and by plan. The following examples can be considered.

Slonim Town was built by principle of sheeted terrace building with well-expressed public centre's architecture with maximal use of existing landscape and monolith housing methods.

Residential district of Lida located on the small hill in the bottom of Lida-river is semi-insular different-storied formation (from 3 till 12 stories). It is an example of prefabricated individual housing and public building construction, where mixed constructional schemes are used.

As mentioned above Chist Town has as residential formation as well modern high-tech industrial complex that includes five plants of the construction industry that meet international standards. Products of built plants (on roofing-tile production, produce from silicate concrete, dry mixtures for construction, joinery and lime) gives a possibility to use materials, including joinery, and all constructions for building beginning from foundation till the roof in housing accounting all modern standards.

### **Ross Town**

This urban settlement is distinguished by singularity of architectural and planning approaches and by quality of construction<sup>20</sup>.

Design and development of Ross Town was implemented by Byelorussian architects, developers and builders. Project organisations from Minsk, and Grodno such as "Minskgrazhdanproject", "Grodnograzhdanproject" and building company "Grodnozhilstroy" were the main actors in building process. Total number of organisations taken part in the project implementation included 25 contractors from Minsk, Brest, Gomel, Grodno, Volkovysk, Baranovitchi as well as builders from Finland, Lithuania and Poland.

Planning of urban environment of this town was based on historically established traditions of small Byelorussian towns' organisation, interpreted to modern conditions. Progressive urban and architectural ideas for humane, comfortable and aesthetic urban environment were successfully realised here.

The whole composition of buildings was created on contrast of line structure of public centre and residential quarters. The public centre joint with residential area and pedestrian connections in the space opens the general panorama. The school and kindergarten that are located on the central axis develops the central composition. There is central pedestrian way passing through the trade lanes, square-forum, school yard, sport zone, pedestrian alleys opened to the yards of residential areas along the perimeter of the public centre.

Thus, public centre is located in the centre of town and residential quarters are tied to it and organise its own comfortable environment with small objects, accomplishment and greens. Transport connections are outside of perimeter of building. Architectural and spatial organisation and functional and planning system of Ross permitted to reach maximal conveniences for its inhabitants.

The Ross Town is like an example of new approach to design and construction of large urban complexes in Belarus.

- Firstly, the object was developed and built by tender. It means there was a choice for best idea and project solution on the base of competition, democratically and rationally.
- Secondly, there were invited the best building companies both domestic and foreign which were chosen on the base of competition as well.
- Thirdly, there was used new organisation of working process.
- Fourthly, this constructing became a real school of building skill due to new material and modern equipment using.

It has been already mentioned that small towns of Belarus are not able to play a role of service centres because of low level of social and economic development. And Ross, vice versa, can bring functions of service centre for all rural surroundings. It could give some definite changes in system of central places in Grodno Oblast.

### **Some social and economic problems in “military towns” and their solutions**

The major problems of military towns development are mainly concentrated in economic sphere. The main disadvantage is limit of jobs. So there are following consequences:

- High level of unemployment;
- Low level of incomes within the population.

Possible solutions of the problems appearing while these towns have been functioned and existed are following:

- Formation of legal base and mechanism for involvement of these towns into the national economy;
- International co-operation support;
- Military towns involvement into the international co-operation and priority projects on social and economic development implementation.

Last issue foresees in particular:

- Commercial activity support within the existing enterprises and small business establishment;
- Promotion of professional training of former military contingent and for the members of their families;
- Stimulation of private business development and new patterns of economic activity;
- Measures on superfluous women's resources using;
- Support of youth living on the territories of these towns to qualify and to find a job, etc. Measures of economic and social character.

### **Conclusion**



Complicated social and economic problems of development of the republic, which were in 1990s, as well as change of its geo-political location are reflected in trends and problems of modern urban settlement network formation and development. Urbanisation process is dynamically continued although its quantitative rates were put down comparing to 1960-70s.

In the 1990s new type of urban settlements appeared in Belarus. It included seven residential districts (towns) in Borisov, Maryina Gorka, Baranovitchi, Bereza, Lida, Slonim and Ross and industrial complex in Chist Town, which were calculated for civilian population of military contingent brought out of Central and Eastern Europe. Also the goal included housing problem solution within the military staff.

These residential formations were built with participation of different Byelorussian and foreign building companies and financed by the Federal Republic of Germany. They are distinguished by high quality of houses, engineering infrastructure and transport network as well as social service. However the lack of jobs is a big disadvantage. And as a result there is quite high level of unemployment and other social problems, which require complex measures undertaking at the national, regional and local levels.

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<sup>1</sup> SHACHOTKO L.P. Urbanization of the Republic of Belarus/ Actual statistic 2000, p. 69-86, Minsk, 2000.

<sup>2</sup> If in Byelorussian SSR the rate of urban population was about 22% in 1950, at the same time in Russia rate of urban population was 45% (see Statistical yearbook of the Republic of Belarus 1999. Ministry of the statistic and analyze of the Republic of Belarus, Minsk, 1999. and Russian statistical yearbook 2000, Moscow, Goscomstat, 2000).

<sup>3</sup> See POLSKY S.A. & MEDVEDEV V.F. Problems of planning and large cities' growth moderation (on the example of Byelorussian SSR)/Problems of urbanization in the USSR. Ed. D.I. Valentej, Moscow, 1971, p.88-89.

<sup>4</sup> STATISTICAL YEARBOOK OF THE REPUBLIC OF BELARUS 2001. Ministry of the statistic and analyze of the Republic of Belarus, Minsk, 2001.

<sup>5</sup> It is necessary to note that there are two types of urban settlements officially listed in Byelorussian statistics: cities proper (109) and towns or settlements of an urban type (104). As a general rule, cities have a population of more than 12,000 and settlements of an urban type -- below 12,000 although this classification depends on the function as well as the size.

<sup>6</sup> STATISTICAL YEARBOOK OF THE REPUBLIC OF BELARUS 2001. Ministry of the statistic and analyze of the Republic of Belarus, Minsk, 2001.

<sup>7</sup> 20% of Byelorussian territories were contaminated. Gomel Region (70%) suffered most of all (See BELARUS 2015. Summary of National Plan of Spatial Development, Minsk, 2001).

<sup>8</sup> BELARUS: RETROSPECTIVE AND PERSPECTIVE/ National report on human development 1999, Minsk, 1999.

<sup>9</sup> SHACHOTKO L.P. Population of the Republic of Belarus at the end of 20 century. Minsk, 1996.

<sup>10</sup> The urbanised structure of Belarus is based on the cities of NSS and main transport corridors.

<sup>11</sup> GIBBS, J. The evolution of population. Econ. Geogr. 1963, No.2P.85-99.

<sup>12</sup> SHACHOTKO L.P. Urbanization of the Republic of Belarus/ Actual statistic 2000, p. 69-86, Minsk, 2000..

<sup>13</sup> ALEKSEEV A.I.& SIMAGIN Y. Agricultural character of Russian mentality and reforms in rural areas in Russia. Russian regions in new economic conditions. Publication of Lipets Y.G., Moscow, 1996 p.120-126.

<sup>14</sup> See BRADE I., PERTSIK E.N.& PITERSKI D.S. Regional planning and schemes of settlement systems. Experiences and prospects. Moscow, 2000, also PITERSKI D. The cities of Russia: some recent trends and experience of regional and urban planning. In: GeoJournal, 1997, vol.43, no.4, p. 385-388.

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<sup>15</sup> See PITERSKI, D. & I- BRADE. City development in contemporary Russia: regional, physical and urban planning under new societal conditions. In: Russian and Euro-Asian Bulletin, 1999, Nr. 8, Vol. 8.

<sup>16</sup> Lowland in Pripyat, Dnepr and Desna basin. It is characterized by damp sand spaces crossed by dense river network; a lot of lakes and backwaters. The forests occupy about 1/3 of territory.

<sup>17</sup> Cabinet of Ministers of the Republic of Belarus adopted the act "On further using of military towns" in December, 1994.

<sup>18</sup> Government of Belarus adopted act "On international project on military towns' conversion into zones of employment, business and energy supply" in May, 1994.

<sup>19</sup> There were built seven towns from the eight provided by plan. According to organizational reasons the realization of the eighth project was transferred to Russia.

<sup>20</sup> The town of Ross. Byelorussian Union of Architects. Minsk, 1998.