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Small and Medium-Sized Towns in the Settlement System of the Russian North: 1939–2020 *

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Abstract. The article examines the settlement system of the Russian North, which was previously determined by decisions of ministries and departments, and now it is changing under the influence of resource corporations' activities. The focus is on small and medium-sized towns that are part of the supporting framework of settlement, ensuring connectivity of the northern territories. The authors analyze the dynamics of population, including urban one, and the population of small and medium-sized cities. The study identifies periods of upward and downward dynamics for each population group and settlements. If the country is drawing the population to the west, then in the North it is concentrated in the Asian part. The article shows that urban settlements were created multifunctional, with the monopoly of a city-forming enterprise, which, on the one hand, made them economically vulnerable, and on the other hand — more adaptable to external conditions. According to the author's methodology, small and medium towns are ranked according to the share of the population of these cities in the total population of the region. The authors have identified four groups of regions that have an insufficient, medium, high and excessive share of the population of small and medium towns; the optimal boundaries of this share are proposed. The authors have identified four groups of regions that have an insufficient, medium, high and excess share of the population of small and medium towns; the optimal boundaries of this share are proposed. The study revealed the similarity (concentration of the population in large cities) and the difference in the structure of settlements in the North (the share of the population living in small and medium urban settlements, is lower in the countryside). The research results will be applied in the development of strategic documents for the development of northern towns.

Keywords: *Russian North, population, settlement system, small and medium towns, ranking of cities.*

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Introduction

The majority of the world's population now lives in cities. In 2020, the global population was 7.8 billion people, of which 56% live in cities¹. According to forecasts, in 2050 it is projected that approximately 68% of total population will be urban². However, despite the fact that the rapid growth of cities is observed in almost all countries of the world, the levels of urbanization varies greatly by geography. While most of the countries of Latin America are urbanized to the same extent as the countries of Europe, the countries of South and East Asia, Central Africa remain predominantly agricultural. The Nordic countries have a very high level of urbanization: Denmark — 88%, Sweden — 88%, Norway — 82%, Canada — 81% and Russia — 74%³.

The Russian North is just as urbanised as the Nordic countries — 81.3%. The number of urban settlements is 290, of which 6 are large cities, 9 are big cities, 10 are medium-sized cities, 92 are small towns and 173 are small villages. The share of the urban population in the Arctic is even higher — 88.0% (2020).

Large and big cities provide fertile ground for innovation and contribute to job creation and economic growth, they “have the resources of the agglomeration economy and the benefits of economies of scale” [1, Duranton G., Puga D., p. 2063–2117]. In small and medium-sized cities, on the contrary, “other things being equal, the probability of their socio-demographic depression is higher, the relative population losses in the course of outflow and depopulation are greater. And according to a number of features (unprofitability of city-forming enterprises, unemployment of able-bodied citizens, low wages or their absence, etc.) in the early 2010s, 2/3 of small towns and 1/5 of medium towns could be referred to depressed ones” [2, Nefedova T.G., Treyvish A.I., p. 17].

Small and medium-sized towns of the Russian North are mainly new resource towns created in the 20th century. Quite often, their life cycle depends on explored reserves of raw materials and consumer demand. The example of problematic towns in the Komi Republic is a vivid confirmation of this: Vuktyl (1984) is on the verge of closure due to the depletion of gas reserves, Inta (1954) is no longer a coal mining town after the liquidation of the last Intinskaya Mine in 2018. The future of many single-industry settlements is unpromising [3, Fauzer V.V., Klimashevskaya E.V.].

The increased interest in small and medium-sized towns is also due to the fact that if large and big cities, megalopolises received significant bonuses during the transition to new socio-economic conditions, “then small towns located far from the regional or federal capital turned out to be abandoned periphery with lots of economic and social problems among residents” [4, Korchagina I.I., Migranova L.A., p. 66]. The market economy gave an impetus to the development of large cities, but at the same time caused the stagnation of small and single-industry towns [5,

¹ Demoscope Weekly. № 879-880. URL: http://www.demoscope.ru/weekly/app/world2020_0.php (accessed 10 December 2020).

² Chislennost' naseleniya Zemli dostigla v 2019 g. 7,7 mlrd chelovek [The world's population reached 7.7 billion people in 2019]. INTERFAX.RU. URL: <https://www.interfax.ru/world/656715> (accessed 07 December 2020).

³ Demoscope Weekly. № 879-880. URL: http://www.demoscope.ru/weekly/app/world2020_0.php (accessed 10 December 2020).

Rastvortseva S.N., Manaeva I.V., p. 24–25]. A significant part of the enterprises put into operation during the Soviet era became economically unstable [6, Gavrilyeva T.N., Arkhangelskaya E.A., p. 76]. While the cities, economies of which were built on such enterprises, turned out to be uncompetitive. However, “unlike a non-competitive company, a non-competitive town cannot leave the market and cease to exist” [7, Korotich M.V., p. 130].

Small and medium-sized towns are also important for the North because in 2020 they contained 37.5% of urban residents (in Russia — 23.9%). They, along with the urban settlements, form the main settlement framework, contribute to the settlement of the territory. In general, it can be noted that the proportions of urban systems were determined by the history of development of territories, their sectoral specialization and the network of transport infrastructure [8, Kolomak E.A., p. 61].

The goal is to assess the extent to which the North of Russia is “saturated and provided” with small and medium-sized cities that constitute the supporting framework of settlement, providing connectivity and population density of the northern territories.

The focus is on 13 regions of Russia, the territory of which fully belongs to the Far North and equated areas.

Settlement system of the Russian North

The development of the settlement system in the Russian North was determined by the peculiarities of industrial development and was characterized by bringing production closer to the sources of raw materials, giving a special role to small towns and stimulating their development outside the influence of large cities, creation of urban-type settlements [9, Kuznetsova T.E., p. 106].

Historically, two forms of settlement have been developed: belt and focal. In the belt type, settlements are located along rivers or transport arteries. During the period of industrial development, the settlement system is predominantly of a local nature, settlements arise in the area of mineral deposits. In the case of focal settlement, cities and rural communities are separated by hundreds and thousands of kilometers of uninhabited space, and objects of the economy and social sphere are concentrated in very limited areas of an exclusively local level [10, Glezer O.B., Vainberg E.I., p. 23, 25].

The formation of the settlement system in the North of Russia proceeded in two ways. *Natural way*: when the functioning of existing settlements and the creation of new ones, as well as the establishment of inter-settlement ties became the result of the action of more or less “objective economic laws”. *Regulatory way*: it was determined by administrative decisions on the implementation of large state-organized and supported projects for the economic development of new territories [11, Leksin V.N., p. 62].

The specificity of the settlement network being formed, mainly by cities in the North and Siberia, is due to the fact that the formed urban settlements performed many functions, but the

main idea was that the creation of a network of supporting cities secured Russia's right to these lands [12, Okladnikov A.P., p. 6–23; 13, Fauzer V.V., Smirnov A.V.]. In addition, the North was of interest as a source of various minerals, agriculture and reindeer husbandries were not priorities. Therefore, the main direction of settlement policy was the creation of multifunctional cities [14, Smidovich S.G., p. 35].

Still, the Northern cities, all other things being equal, have a wider specialization: being remote from the main economic centres, they have to develop the whole range of basic services they need. This circumstance can be considered as a factor that increases the cost of living in the northern regions [15, Huskey L.; 16, Berman M., Howe L.], but it can also be considered as the basis of vitality, resistance to economic cataclysms [17, Zamyatina N.Yu., Goncharov R.V., p. 169].

In Soviet times, the centers of urban development were enterprises that provide a variety of life benefits: apartments, furniture, scarce food, children's institutions, vacation packages and much more. Enterprises became centers of social development of cities: they planned, created and operated social infrastructure. Settlements were created — conglomerates “factory - person - city”, in which the factory played a major role in people's lives. Big cities differed from small ones only in the fact that they were divided into factory microdistricts [18, Matovykh Ye.A., p. 188]. In 1930–1950, in the country and especially in the North, with the involvement of significant financial, material and human resources, large enterprises were built, and urban settlements, a kind of city-factories, arose around them. Some of the previously created cities also changed their profile and became industrial [11, Leksin V.N., p. 63].

Until the 1990s, the main economic effects in new development areas were ensured by economies of scale in the activities of giant plants. Today, an increasing return is provided by the ultimate compactness, island isolation of new development objects, which mitigate the effect of northern increases in prices, transport and energy costs [19, Pilyasov A.N., Zamyatina N.Yu., p. 62].

The new thing in the settlement system is that if earlier the specific territorial configuration of the new development process was determined by the decisions of metropolitan departments, regional super-organizations, now it is formed as a part of the spatial structure of resource corporations. Its style is created under the influence of the internal institutional and organizational structure of the company [20, Dunning J.H.].

In the early 1990s, foreign studies predicted significant changes in the spatial model of Russia's development as a result of the abandonment of state regulation of the institution of “residence permit” and northern subsidies, the absence of a migration policy in the regulation of migration flows [21, Clayton E., Richardson T.; 22, Hill F., Gaddy C.]. Based on the idea of a plurality of spatial equilibrium, an increase in long-term socio-economic and demographic problems in the industrial regions of the peripheral parts of the country was predicted [23, Combes P.-P., Mayer T., Thisse J.-F.].

For the Russian North, the vector of population settlement in the long-term perspective is determined by the “General Scheme of Settlement”. It proposes “not to form permanent settle-

ments in places with unfavorable medico-geographic conditions, in this connection *it is offered to pass from a policy of residence to a policy of stay of non-indigenous people*, to develop large urban settlements — basic centers of population residence, to concentrate the population in promising settlements with a stable socio-economic base, not to create new small settlements, to introduce more broadly the rotational method of organizing labor; it is recommended to limit the growth of cities as much as possible; the growing stagnation of small and medium-sized urban settlements, which determine the economic and social life of the surrounding rural areas, has to be overcome”⁴.

Today there is no “uniform view of the settlement model. However, the majority of experts agree that Russia should develop and colonize the northern territories. Otherwise, it is possible to lose access to resources and political advantage, that huge scientific, military-technical, human and infrastructural potential, which was accumulated throughout the last century” [24, Blagodeteleva O.M., p. 6]. It is also necessary to take into account that Russia is a huge space, in the organization of which an acute shortage of human and financial resources is experienced, and the compression of the inhabited and economic space that is taking place against the background of depopulation is typical for the country. Consequently, the models of economic compression are urgently needed today [25, Vainberg E.I., p. 38].

The preservation of the network of small and medium-sized towns is possible with the transition to the principles of sustainable development, this should become a universal task and be implemented at an accelerated pace [26, Lokken G., Haggard M.; 27, Pressman N.; 28, Puga D.]. Sustainable development predetermines the formation of settlement according to the principle of “base city — intraregional shift”, when there is an interaction of stationary base cities with a full-value infrastructure and multifunctional purpose, where the working contingent with families permanently resides, and small mobile settlements at the fields [29, Storey K., Shrimpton M.]. In order to preserve small and medium-sized cities, an alternative version of their development is proposed, based on the implementation of the concept of “slow cities” (“Cittaslow”), which is actively being introduced in many countries of the world [30, Wirth P., Elis V., Mueller B. et al , p. 62–75].

The resettlement of the population as a process can be quantitatively measured by a number of indicators: the dynamics of the population, the proportion of the urban population, the number of urban settlements, the population density of urban settlements, the population density [31, Fauzer V.V., Lytkina T.S., Fauzer G.N., p. 43]. Let us consider the settlement system of the Russian North for 1939–2020.

In 1939, there were 71 urban settlements in the North, of which large and big cities accounted for 2.8%, medium — 2.8%, small — 39.4%, urban settlement — 55.0%. The number of settlements reached its peak in 1989 — 460, mainly due to urban settlements, their share was

⁴ General scheme of settlement on the territory of the Russian Federation (approved by the Government of the Russian Federation, minutes of December 15, 1994 No. 31).

77.2%, the share of small towns decreased to 16.7%, large and big cities — remained at the level of 1939, and medium — increased to 3.3%. Small towns showed growth until 2002 — 96, by 2020 their number decreased to 92. As one can see, the backbone of the settlement system was formed by urban settlements and small towns, which “remain among the entire mass of urban settlements precisely because production conditions often do not require a higher concentration of population” [32, Pokshishevskiy V.V., p. 103].

In 1939, the North was relatively agrarian, the share of rural residents was 64.5%; by 2020 it dropped to 18.7%. Most of the population in 2020 was living in towns: in large — 24.3, big — 17.6, medium — 8.2, and small — 22.0%. The residents of the urban-type settlement accounted for 9.2%. (Table 1).

Table 1

Main indicators of the settlement system of the Russian North, 1939-2020⁵

Indicators	1939 ⁶	1959	1970	1979	1989	2002	2010	2020
The number of urban settlements, units								
large cities	1	1	2	2	6	4	6	6
big cities	1	2	6	10	7	9	8	9
middle cities	2	8	6	9	15	12	10	10
small towns	28	61	70	69	77	96	94	92
urban-type settlement	39	245	295	336	355	261	185	173
Population, people								
whole population	3 121 519	5 253 270	6 380 935	7 618 100	9 692 919	8 300 687	7 916 951	7 822 685
urban population	1 107 301	3 290 617	4 349 189	5 657 325	7 654 695	6 588 364	6 314 228	6 360 921
large cities	284 570	391 565	835 713	999 948	1 936 097	1 243 375	1 745 997	1 897 136
big cities	117 069	221 874	637 102	1 312 961	1 200 158	1 569 636	1 236 367	1 379 718
middle cities	122 605	559 041	402 292	538 065	1 067 266	835 807	691 384	643 928
small towns	394 340	940 722	1 193 495	1 245 849	1 641 009	1 911 214	1 853 625	1 722 916
urban-type settlement	188 717	1 177 415	1 280 587	1 560 502	1 810 165	1 028 332	786 855	717 223
rural population	2 014 218	1 962 653	2 031 746	1 960 775	2 038 224	1 712 323	1 602 723	1 461 764
Average population of settlements, people								
large cities	284 570	391 565	417 857	499 974	322 683	310 844	291 000	316 189
big cities	117 069	110 937	106 184	131 296	171 451	174 404	154 546	153 302
middle cities	61 303	69 880	67 049	59 785	71 151	69 651	69 138	64 393
small towns	14 084	15 422	17 050	18 056	21 312	19 908	19 719	18 727
urban-type settlement	4 839	4 806	4 341	4 644	5 099	3 940	4 253	4 146
Population density, people per 1 sq. km	0.41	0.69	0.84	1.00	1.27	1.09	1.04	1.03
The measure of territorial concentration of the population	-	1.186	1.099	0.994	0.939	0.985	0.971	0.962

The density of the population can be used to determine whether an area is populated or developed. Population growth until 1989 increased the density from 0.41 to 1.27 people per sq. km, the population decline reduced it to 1.03. It can also be noted that the density of urban set-

⁵ According to the censuses: 1939–1979 — the actual population, 1989–2010 — the permanent population; 2020 — at the beginning of the year.

⁶ The data for 1939 does not include territories that were not part of the USSR.

tlements per 1 million sq. km in the North is 3.5 times lower than the national average: 38.0 and 133.9, respectively. For comparison: in the Moscow Oblast, it is 3182.8; in the Northwestern Federal Okrug — 168.9 and in the Far Eastern Federal Okrug — 39.8. Another informative indicator, used to assess the degree of uniformity of the population distribution, is the measure of territorial concentration of population [33, Venetskiy I.G., p. 141]. It shows that from 1959 to 1989, it was decreasing in the process of population dispersal as a result of the development of the Far North. The value of the indicator varied from a decrease in the specific weight of the Arkhangelsk Oblast, and then the growth of the Khanty-Mansi Autonomous Okrug and a high migration loss in the Magadan Oblast. According to the scale, proposed by Yu.V. Porosenkov [34, p. 27–28], the distribution of the urban population in the North of Russia is sharply uneven (1.003). However, for small and medium-sized towns, the value of the indicator is lower, which makes it possible to classify their location as significantly uneven (0.98). The distribution of the rural population of the North (0.78) also belongs to this category (Fig. 1).

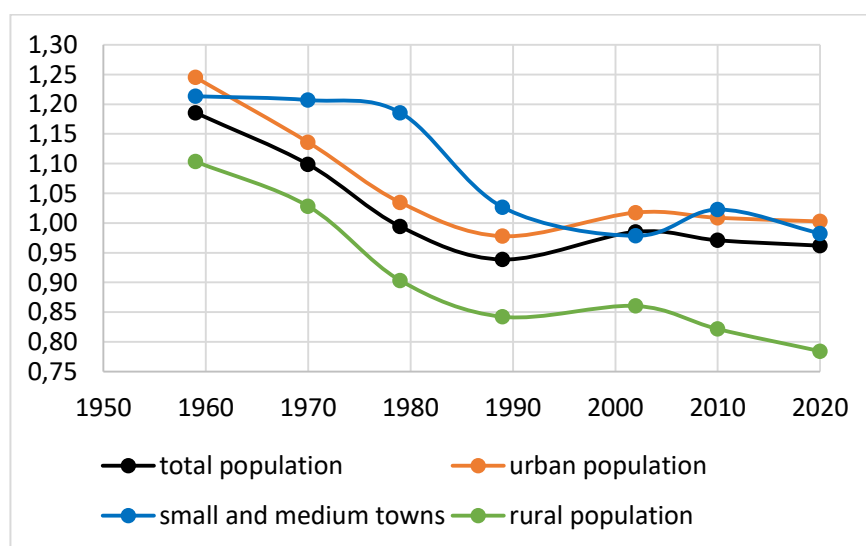


Fig. 1. Measure of spatial concentration of the population in the Russian North, 1959–2020.

Concluding the section on the resettlement of the population of the Russian North and determining its future, it is necessary to give some explanations. In the practice of Russian zoning, for the first time in 1886, the “List of remote areas” was defined⁷. In 1932, the Far North was separated from remote areas. In 1945, two concepts appeared: “Far North” and “areas equated to the Far North”. The northern borders have changed several times, significantly — between 1983 and 2012. The beginning of a new stage in the zoning of the Russian North can be considered on May 2, 2014, when the Decree of the President of the Russian Federation “On the land territories of the Arctic zone of the Russian Federation” No. 296 was issued, which determined the List of land territories of the Russian Arctic. The composition of the Arctic territories has also changed several

⁷ Polozhenie ob osobykh preimushchestvakh grazhdanskoj sluzhby v otdalennykh mestnostyakh, a takzhe v guberniyakh Zapadnykh i Tsarstva Pol'skogo (1886 god) [Regulations on the special advantages of civil service in remote areas, as well as in the Western provinces and the Kingdom of Poland (1886)]. Svod zakonov Rossiyskoj imperii v 16-ti tomakh [Code of laws of the Russian Empire in 16 volumes]. SPb., Russian Book Association “Deyatel”, 1912, vol. 3, p. 330–343.

times⁸. If one looks at the map of the North, one can see that the Arctic covers the North with its “blanket” and divides it into two parts (Fig. 2). This trend can be expected to continue in the future. Regional leaders are tempted to include most of their territories in the Arctic. This is also facilitated by the course of state policy towards the development of the Arctic. In the Strategy for the Spatial Development of Russia up to 2025, the Arctic zone of the Russian Federation is assigned to the priority geostrategic territories⁹, while the other parts of the Russian North are given little attention in the document.

⁸ Ukaz Prezidenta RF «O sukhoputnykh territoriyakh Arkticheskoy zony Rossiyskoy Federatsii» ot 2 maya 2014 g. № 296 (red. ot 5 marta 2020 g.) [Decree of the President of the Russian Federation "On the land territories of the Arctic zone of the Russian Federation" dated May 2, 2014 No. 296 (as amended on March 5, 2020)].

⁹ Rasporyazhenie Pravitel'stva Rossiyskoy Federatsii ot 13 fevralya 2019 g. № 207-r «Ob utverzhdenii Strategii prostanstvennogo razvitiya Rossiyskoy Federatsii na period do 2025 goda» [Order of the Government of the Russian Federation of February 13, 2019 No. 207-r "On approval of the Strategy for the spatial development of the Russian Federation for the period up to 2025"].

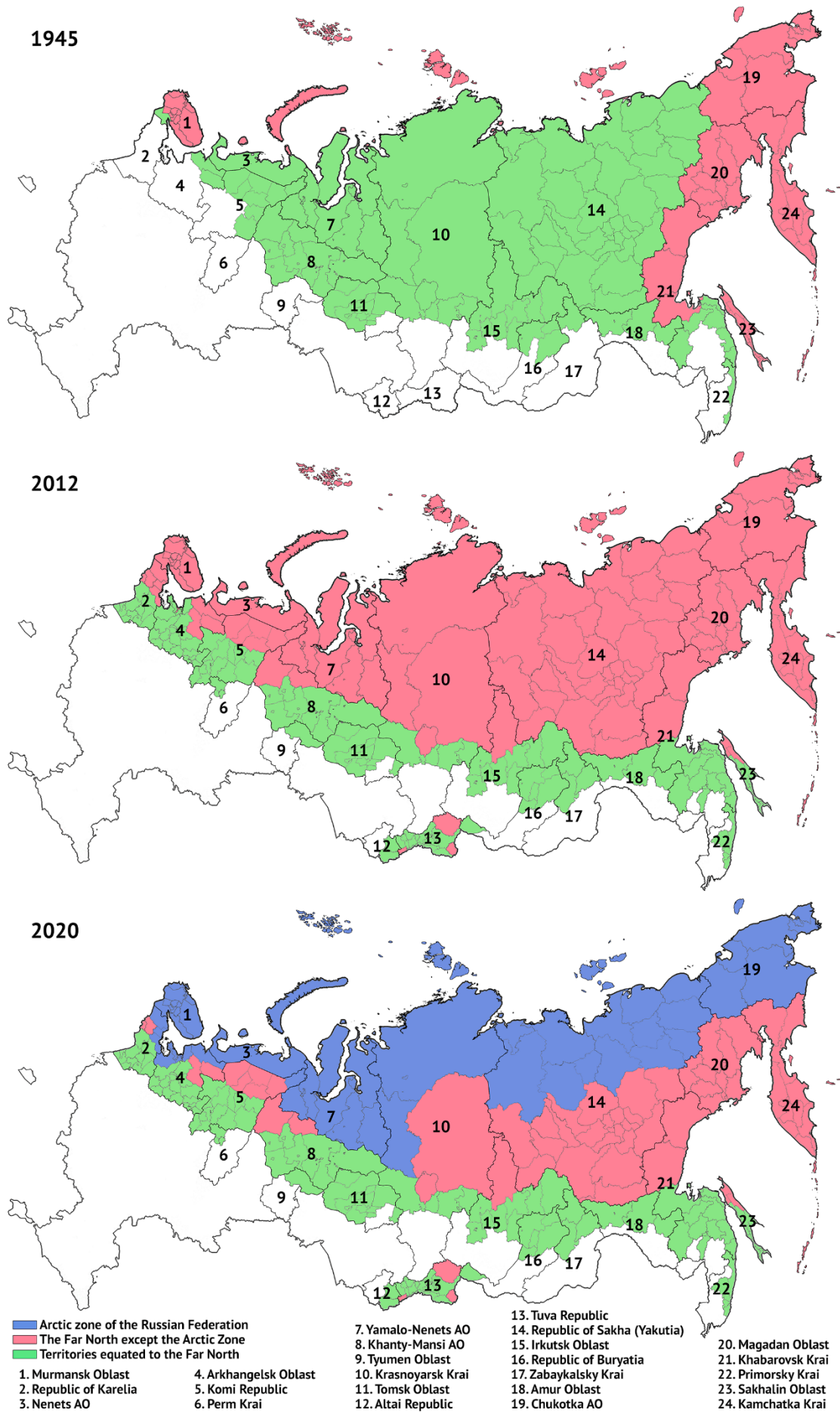


Fig. 2. Zoning of the Russian North and the Arctic, 1945, 2012, 2020.

Population of the Russian North

From 1939 to 1989, the population of the Russian North increased 3.1 times, including the European — 2.2 times and the Asian North — 5.3 times. Significant growth was recorded in the Khanty-Mansiysk (13.7), Yamalo-Nenets (10.8) and Chukotka (7.6) Autonomous Okrugs, Sakhalin Oblast (7.1 times) [35, Fauzer V.V., p. 7–28]. In the following years, up to 2020, the population was constantly decreasing. The exceptions are the Khanty-Mansi and Yamalo-Nenets Autonomous Okrugs, which have been demonstrating positive dynamics throughout the years, as well as the Nenets Autonomous Okrug and the Sakha (Yakutia) and Tyva republics since 2002. Until the end of 1970, the European North dominated in terms of population, in 1979 this advantage was 955.8 thousand people. Starting in 1989, the population of the Asian North began to exceed the European part, at first by 142.4 thousand people, and in 2020 by 1 million 197.7 thousand people. It can be noted that, while at the national level, the population was pulled westwards and concentrated in half a dozen regions [25, Vainberg E.I., p. 32], in the North the population was concentrated in the Asian part.

In 1939, the only northern region with the population of over 1 million people was the Arkhangelsk Oblast, in 1979 the Republic of Komi became the “millionaire”, in 1989 — the Murmansk Region, the Republic of Sakha (Yakutia), and the Khanty-Mansi Autonomous Okrug. Then the reverse process began. By 2002, Murmansk Oblast and the Republic of Sakha (Yakutia) lost this status, by 2010 — the Republic of Komi. Today, five regions have a population of 500 thousand to one million people: the republics of Karelia, Komi and Sakha (Yakutia), Murmansk Oblast and Yamalo-Nenets Autonomous Okrug (Table 2).

Table 2

Population of northern regions, 1939–2020, people¹⁰

Region	1939	1959	1970	1979	1989	2002	2010	2020
Russian Federation (thousand people)	108 378.8	117 534.3	130 079.2	137 551.0	147 021.9	145 166.7	142 856.5	146 748.6
Russian North	3 121 519	5 253 270	6 380 935	7 618 100	9 692 919	8 300 687	7 916 951	7 822 685
European part	2 186 771	3 302 003	3 879 069	4 286 974	4 775 262	3 964 028	3 567 772	3 312 476
Republic of Karelia	468 898	651 346	713 451	736 022	790 150	716 281	643 548	614 064
Komi Republic	318 996	815 799	964 802	1 118 421	1 250 847	1 018 674	901 189	820 473
Arkhangelsk Oblast	1 107 699	1 267 186	1 401 289	1 467 069	1 569 679	1 336 539	1 227 626	1 136 535
Nenets AO	47 617	36 881	39 119	47 001	53 912	41 546	42 090	44 111
Murmansk Oblast	291 178	567 672	799 527	965 462	1 164 586	892 534	795 409	741 404
Asian part	934 748	1 951 267	2 501 866	3 331 126	4 917 657	4 336 659	4 349 179	4 510 209
Republic of Sakha (Yakutia)	413 198	487 343	664 123	838 808	1 094 065	949 280	958 528	971 996
Tuva Republic	0	171 928	230 864	266 453	308 557	305 510	307 930	327 383
Kamchatka Krai	111 275	220 753	287 612	378 491	471 932	358 801	322 079	313 016
Magadan Oblast	149 712	188 889	251 297	332 845	391 687	182 726	156 996	140 149
Sakhalin Oblast	99 925	649 405	615 652	654 915	710 242	546 695	497 973	488 257
Khanty-Mansi AO –	93 274	123 926	271 157	569 139	1 282 396	1 432 817	1 532 243	1 674 676

¹⁰ Census data: 1939–1979 — current population, 1989–2010 — permanent population; 2020 — at the beginning of the year.

Yugra								
Yamalo-Nenets AO	45 840	62 334	79 977	157 616	494 844	507 006	522 904	544 444
Chukotka AO	21 524	46 689	101 184	132 859	163 934	53 824	50 526	50 288

Urban population of the Russian North

Industrialization gave a strong impetus to the urbanisation of the northern territories. The agrarian economy was actively replaced by the industrial one. The construction of factories, mines and the harvesting and processing of timber in the periphery territories required a large workforce. The local population, being too small, could not satisfy the growing needs of the nascent industry. In order to solve the personnel problem, the country's leaders put forward the idea of colonization and development of natural resources of the North, Siberia and the Far East by creating a system of correctional labor camps and special settlements, for the management of which the Main Administration of Camps (GULAG) was created in 1930 [36, Zherebtsov I.L.; 37, Lytkina T.S., Fauzer V.V., p. 92–93; 38, Fauzer V.V., Lytkina T.S., Fauzer G.N., p. 154].

The development of natural resources was accompanied by the construction of workers' settlements near the places of employment, which quickly turned into small cities. From the second half of the 1930s, the construction of full-fledged cities in the North began. Along with the objective processes of the urban settlements formation, there was a political motive: to turn the country from an agrarian into an industrial one [9, Kuznetsova T.E., p. 107] by relocating industrial enterprises to the North and Siberia during the Great Patriotic War. In subsequent years, the model of urbanization of the North was maintained, based on the predominance of stationary cities with a permanent population, which were provided with various kinds of preferences [24, Blagodeteleva O.M., p. 17; 39, Fauzer V.V., Lytkina T.S., Fauzer G.N.]. The formation of permanent settlements solved a number of problems: the formation of permanent staff required for labor-intensive technologies; the arriving population considered themselves “conquerors of the North”, involved in grandiose construction projects; the North gave many people the opportunity to improve social conditions and make a career; due to the poor development of the transport system, the rotational method was extremely costly; many cities have become symbols of the country's development (Vorkuta, Norilsk, Magadan) [40, Trunova N., p. 34].

The extensive economic development of the Russian North has led to a rapid increase in the urban population. From 1939 to 1959, it increased from 1 million 107.3 thousand people to 3 million 290.6 thousand people. The urbanization of the North proceeded at a faster pace: while the number of urban residents in Russia increased 1.7 times, it increased 3.0 times in the North, including 2.5 times in the European North and 4.8 times in the Asian North. The leaders in urban population growth were: the Komi Republic — 16.6 times, the Sakhalin region — 9.8, Chukotka Autonomous Okrug — 8.7, Magadan Oblast — 6.0 and Khanty-Mansi Autonomous Okrug — 5.0 times.

In the intercensal periods from 1959 to 1989, the population increased steadily by 1.3 times in the first two decades and by 1.4 times in the next 10 years, the absolute increase over 30

years amounted to 4 million 364.1 thousand people. From 1989 to 2002, there was a noticeable decrease in the urban population by 1 million 66.3 thousand people. Along with migration, to a large extent, this is due to the administrative-territorial transformations of urban settlements into rural settlements. Out of 355 northern towns, 78 became rural (22.0%). Large-scale reductions affected the Republic of Karelia, where 33 out of 44 urban settlements were transferred to the category of rural ones (75.0%), which reduced the share of the urban population by 6.4 percentage points. From 2002 to 2010, the population continued to decline, but not so significantly — by 274.1 thousand people. The next 10 years gave an increase of 46.7 thousand people. In terms of constituent entities, it can be noted that the Republic of Tyva, Khanty-Mansi and Yamalo-Nenets Autonomous Okrug had a positive population growth all years, the Republic of Sakha (Yakutia) and Nenets Autonomous Okrug — since 2002, Chukotka Autonomous Okrug — since 2010.

Until the early 1980s, the old-inhabited European North exceeded the assimilated Asian North in terms of urban population; in 1979, the excess was 918.1 thousand people. The development of oil and gas fields in Western Siberia led to the Asian North having a population of 33.8 thousand people in 1989, and in 2020 the difference increased 27.5 times (the entire population — 8.4 times) and amounted to 929.4 thousand people. This trend is likely to continue in the coming years.

More than 1 million urban residents have been living in the Khanty-Mansi Autonomous Okrug since 1989. In four other regions the urban population exceeds 500 thousand people: Arkhangelsk and Murmansk oblasts, the republics of Komi and Sakha (Yakutia) (Table 3).

Table 3

Urban population of the northern regions, 1939–2020, people¹¹

Region	1939	1959	1970	1979	1989	2002	2010	2020
Russian Federation (thousand people)	36 295.6	61 611.1	80 981.1	95 373.9	107 959.0	106 429.0	105 313.8	109 562.5
Russian North	1 107 301	3 290 617	4 349 189	5 657 325	7 654 695	6 588 364	6 314 228	6 360 921
European part	859 296	2 112 197	2 717 240	3 287 708	3 810 448	3 126 788	2 863 008	2 715 771
Republic of Karelia	150 335	415 918	490 516	573 172	643 496	537 395	502 217	497 337
Komi Republic	29 159	484 039	597 416	793 441	944 423	766 587	693 436	641 721
Arkhangelsk Oblast	434 438	680 654	920 743	1 057 818	1 151 559	999 591	928 973	893 306
Nenets AO	13 670	16 820	21 380	27 656	34 336	26 242	28 539	32 538
Murmansk Oblast	245 364	531 586	708 565	863 277	1 070 970	823 215	738 382	683 407
Asian part	248 005	1 178 420	1 631 949	2 369 617	3 844 247	3 461 576	3 451 220	3 645 150
Republic of Sakha (Yakutia)	111 548	239 411	374 533	514 212	731 963	609 999	614 545	642 708
Tuva Republic	0	56 759	86 991	113 265	144 310	157 299	163 402	177 765
Kamchatka Krai	35 373	140 515	218 986	312 671	384 469	290 811	249 150	245 607
Magadan Oblast	27 313	164 176	193 540	271 578	328 293	168 725	149 811	134 641
Sakhalin Oblast	50 175	489 429	483 059	539 707	584 273	474 123	397 106	402 063
Khanty-Mansi AO – Yugra	7 488	37 298	170 625	445 675	1 166 339	1 301 924	1 401 429	1 549 313
Yamalo-Nenets AO	12 764	21 787	34 247	79 708	385 614	422 826	443 043	457 079

¹¹ Census data: 1939–1979 — current population, 1989–2010 — permanent population; 2020 — at the beginning of the year.

Chukotka AO	3 344	29 045	69 968	92 801	118 986	35 869	32 734	35 974
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In 1939, the share of the urban population of the North was 35.5%, slightly higher than the Russian figure of 33.5%. The Murmansk Oblast was characterized by a high share of urban residents — 84.3%, but this share was low in the Khanty-Mansi Autonomous Okrug — 8.0% and the Komi Republic — 9.1%. By 2020, the urban population increased to 81.3%, the growth amounted to 45.8 percentage points. The following regions were highly urbanized: Magadan Oblast — 96.1%, Khanty-Mansi Autonomous Okrug — 92.5%, Yamalo-Nenets Autonomous Okrug — 84.0% and Sakhalin Oblast — 82.3%; Murmansk Oblast maintained a high level of urbanization — 92.2%. The republics of Tuva and Sakha (Yakutia) remain low urbanised at 54.3% and 66.1%, where agriculture is successfully developing. Speaking about the maximum share of the urban population, it is limited by the size of the entire population [41, Khorev B.S., p. 5], and in the northern regions — by the number of indigenous peoples of the North.

Cities of the Russian North

Despite the constant growth in the number of cities (574 in 1939, 1116 in 2020), Russia is experiencing a shortage of them. Currently, there are not enough cities to serve even the inhabited territory of the country, in terms of neither quantity, nor population size, nor location. A particular problem is the inaccessibility of settlements in the North and in the eastern regions of the country [10, Glezer O.B., Vainberg E.I., p. 26–27]. At the same time, cities play the role of nodal elements of the supporting frame of the territory, centers of development and service of the surrounding territory [25, Vainberg E.I., p. 31].

Northern cities have peculiarities: remoteness from the main settlement zone and the largest cities of the country; strong seasonal fluctuations in weather conditions (snowy frosty winters) and a short growing season, which impedes the development of agriculture in the city vicinity; close relationship between the history of development and modern economic activity with the development of the surrounding area resources [42, Zamyatina N.Yu., p. 5–6].

According to the set of rules “Urban planning. Planning and development of urban and rural settlements” of the Ministry of Construction of the Russian Federation, cities are classified as follows: *small* — up to 50 thousand people; *medium* — from 50 to 100 thousand people; *big* — from 100 to 250 thousand people; *large* — from 250 thousand to 1 million people; *major* — with a population of over 1 million people¹².

The existing settlement network in the Russian North includes the first four groups of cities, there are no major ones. In 1939, there was one large city — Arkhangelsk, one big — Murmansk, two medium — Petrozavodsk and Yakutsk and 28 small cities. In the pre-Soviet period, 19 cities were created, in the Soviet period — 13. Of the cities’ structure of 1939, by 2020, there were

¹² Svod pravil «Gradostroitel'stvo. Planirovka i zastroyka gorodskikh i sel'skikh poseleniy». SP 42.13330.2016. Aktualizirovannaya redaktsiya SNIp 2.07.01-89 [The set of rules “Urban planning. Planning and development of urban and rural settlements”. SP 42.13330.2016. Updated edition of Building Codes and Regulations 2.07.01-89]. URL: <http://docs.cntd.ru/document/456054209>

4 large, 3 big, 3 medium and 22 small cities. It can also be noted that in different years 12 cities from the above list crossed the border of medium-sized ones (Table 4).

Table 4
*Year of formation and population of towns and cities in the Russian North as of January 17, 1939*¹³

City / town	Year of formation	Population	City / town	Year of formation	Population
Arkhangelsk	1584	284 570	Aldan	1932	14 022
Murmansk	1916	117 069	Naryan-Mar	1929	13 670
Petrozavodsk	1777	69 723	Kondopoga	1938	13 374
Yakutsk	1643	52 882	Salekhard	1938	12 764
Petropavlovsk-Kamchatskiy	1812	35 373	Belomorsk	1938	12 238
Monchegorsk	1937	28 450	Medvezhyegorsk	1938	12 108
Magadan	1939	27 313	Velsk	1780	6 712
Syktyvkar	1780	25 281	Kargopol	1784	6 338
Alexandrovsk-Sakhalinskiy	1917	24 905	Olyokminsk	1783	5 182
Kirovsk	1931	22 542	Shenkursk	1780	4 878
Kandalaksha	1938	22 172	Mezen	1780	3 874
Severodvinsk	1938	21 304	Vilyuysk	1783	3 147
Okha	1938	19 601	Solvychegodsk	1796	3 018
Kotlas	1917	17 265	Tommot	1923	2 804
Kem	1785	16 624	Srednekolymsk	1775	2 029
Onega	1780	15 783	Verkhoyansk	1817	1 569

In Russian practice, a special place is occupied by 173 cities with a population of over 100 thousand people and regional “capitals”, in which the majority of the population lives. These cities concentrate the resource potential of the territories: financial, industrial, intellectual, demographic, infrastructural and administrative. Such cities perform a number of specific functions: most of them are transit transport hubs, trade and service centers, centers of medicine, education and culture [43, Belkina T.D., Minchenko M.M., Nozdrina N.N. et al, p. 85]. This fully applies to nine northern regional centers: Arkhangelsk, Yakutsk, Murmansk and Petrozavodsk have a population of over 250 thousand people; Syktyvkar, Yuzhno-Sakhalinsk, Petropavlovsk-Kamchatskiy, Kyzyl and Khanty-Mansiysk — from 100 to 250 thousand. Four centers have a smaller population: Magadan and Salekhard — from 50 to 100 thousand, Anadyr and Naryan-Mar — less than 50 thousand people.

In total, there are 15 cities in the North with a population over 100 thousand people. Only three regions have more than one of such cities: the Khanty-Mansi Autonomous Okrug — 4, the Yamalo-Nenets Autonomous Okrug — 2 and the Arkhangelsk Oblast — 2. Therefore, it is so important for the Russian North to preserve and develop a network of small and medium-sized cities (SMC). In 2020, there were 10 medium and 92 small towns in the North (Fig. 3).

¹³ Ranked by population.

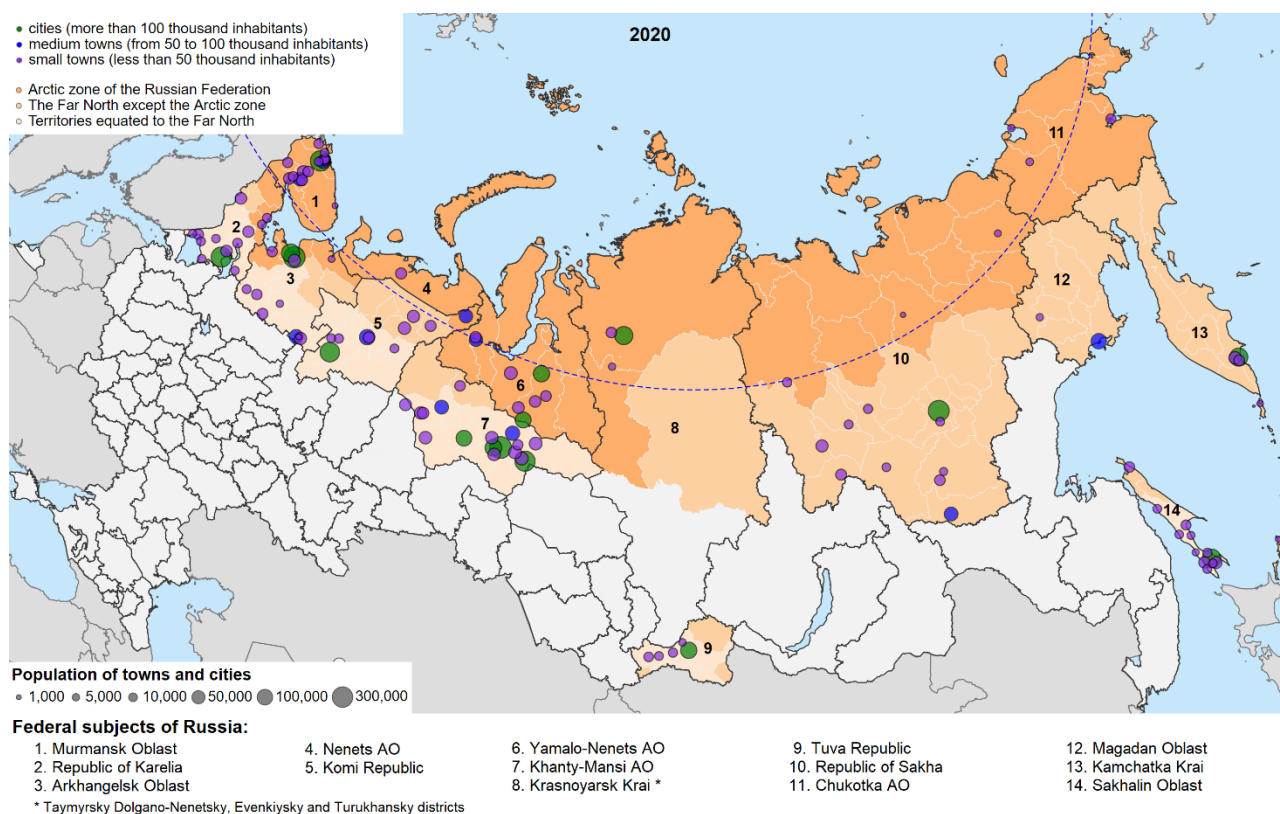


Fig. 3. Towns and cities of the Russian North at the beginning of 2020.

Let us consider the cities that had the status of “medium” in different years. There are only 16 such cities, 10 of them remained medium-sized and 6 — have become small-sized. From the moment of formation to 2020, in 2 cities — in Salekhard and Kogalym — a constant population growth was noted, in 14 cities there was an increase in population until 1989 and its decline (excluding Nadym, there was a population growth in 2010). At the same time, from 2010 to 2020, the population increased in three cities: Kotlas, Nyagan, Severomorsk. In 1989–2020 six medium-sized cities moved into the category of small towns: Nadym, Monchegorsk, Pechora, Kandalaksha, Kholmok and Inta; two small towns became medium-sized: Salekhard and Kogalym (Table 5).

Table 5

Population of towns and cities in the Russian North with a population of 50-100 thousand people, 1939–2020, people¹⁴

City / town	Year of formation	1939	1959	1970	1979	1989	2002	2010	2020
Ukhta	1943	-	36 154	62 923	87 467	112 876	103 340	99 591	93 716
Magadan	1939	27 313	62 225	92 105	121 250	151 520	99 399	95 982	92 052
Kogalym	1985	-	-	-	-	44 606	55 367	58 181	67 727
Kotlas	1917	17 265	52 608	55 661	61 454	67 899	60 647	60 562	61 990
Nyagan	1985	-	-	-	-	55 029	52 610	54 890	58 565
Neryungri	1975	-	-	-	22 647	74 201	66 269	61 747	57 934
Apatity	1966	-	-	45 627	62 010	88 066	64 405	59 672	54 667
Severomorsk	1951	-	28 116	40 919	50 090	63 495	55 102	50 060	53 525
Vorkuta	1943	-	55 668	89 742	100 210	115 329	84 917	70 548	52 776
Salekhard	1938	12 764	16 567	21 929	24 935	33 207	36 827	42 544	50 976
Nadym	1972	-	-	-	26 058	53 659	45 943	46 611	44 830

¹⁴ Census data: 1939–1979 — current population, 1989–2010 — permanent population; 2020 — at the beginning of the year.

Monchegorsk	1937	28 450	45 523	45 980	51 401	70 856	52 242	45 361	41 145
Pechora	1949	-	30 586	37 803	56 361	65 666	48 700	43 105	38 229
Kandalaksha	1938	22 172	38 222	42 656	45 430	54 246	40 564	35 654	30 379
Kholmok	1922	- ¹⁵	31 541	37 412	45 158	51 553	35 141	30 937	27 148
Inta	1954	-	45 136	50 178	50 862	61 798	41 217	32 080	24 121

Small and medium-sized cities of the Russian North

Small and medium-sized towns occupy a special place in the settlement network of the North because they are the most numerous. In 1939, 30 out of 32 cities were small and medium-sized, 18 of which were in the European North and 12 — in the Asian North. These settlements reached their peak in 2002, with 108 settlements (47 in the European North and 61 in the Asian North). By 2020, their number decreased to 102. In 2020, the number of SMCs was the largest in Murmansk — 15, Sakhalin Oblast — 13, in the Arkhangelsk region, in the republics of Karelia and Sakha (Yakutia), in the Khanty-Mansi Autonomous Okrug – Yugra — 12 in each entity.

In contrast to the dynamics of the population in general and urban in particular (growth until 1989), the population of small and medium-sized cities increased until 2002 (Fig. 4). The population growth since 1939 amounted to 2 million 230.1 thousand people, followed by a decrease in the population by 380.2 thousand people. The population decline occurred everywhere, except for the Nenets and Chukotka Autonomous Okrugs. This can be explained by the fact that “due to the decline in the well-being of the population, the reduction in employment, the lack of favorable conditions for doing business and other negative socio-economic processes, small towns are becoming more and more unattractive not only for investors, but also for the population” [7, Korotich M.V., p. 131]. In most regions, the dynamics of the urban population corresponds to the dynamics of the entire population, according to the SMCs, it remains only in two regions — the Republic of Karelia and the Murmansk Oblast, the multidirectionality is explained by fluctuations in the size of cities with a subsequent change in their status.

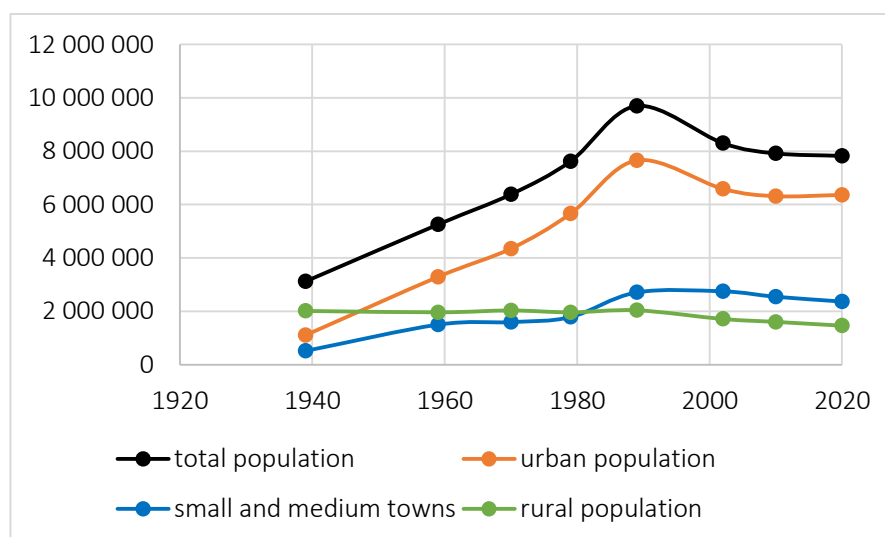


Fig. 4. Distribution of the population of the Russian North by types of settlements, 1939–2020.

¹⁵ In 1905–1945 — as part of Japan, received the USSR city status in 1946.

In 1939, the Republic of Karelia alone had a population of over 100 thousand of small and medium-sized towns. By 2020, there were eight of them, and in six subjects the population began to exceed 200 thousand people: in the Khanty-Mansi Autonomous Okrug – Yugra — 487.5, in the Murmansk Oblast — 335.3, in Komi Republic — 303.7, in Arkhangelsk Oblast — 273.1, in the Yamalo-Nenets Autonomous Okrug — 204.3 and in the Republic of Sakha (Yakutia) — 200.1 thousand people (Table 6).

Table 6
*Population of towns (less than 100 thousand people) in the northern regions, 1939–2020*¹⁶

Region	1939	1959	1970	1979	1989	2002	2010	2020
Russian Federation (thousand people)	12 638.1	20 479.6	23 451.7	24 504.1	27 088.8	27 705.8	27 298.4	26 244.5
Russian North	516 945	1 499 763	1 595 787	1 783 914	2 708 275	2 747 021	2 545 009	2 366 844
European part	315 354	794 493	918 873	1 024 587	1 238 749	1 201 230	1 188 759	1 092 269
Republic of Karelia	124 067	134 868	177 337	205 552	241 448	219 530	197 852	180 165
Komi Republic	25 281	259 151	275 723	233 037	255 221	292 670	351 564	303 654
Arkhangelsk Oblast	92 842	226 102	168 785	231 478	284 705	292 293	282 307	273 122
Nenets AO	13 670	13 222	16 864	23 435	20 012	18 611	21 658	25 151
Murmansk Oblast	73 164	174 372	297 028	354 520	457 375	396 737	357 036	335 328
Asian part	201 591	705 270	676 914	759 327	1 469 526	1 545 791	1 356 250	1 274 575
Republic of Sakha (Yakutia)	81 635	113 980	87 720	126 289	227 302	225 454	210 062	200 060
Tuva Republic	0	48 972	77 936	98 822	125 371	39 025	38 440	39 045
Kamchatka Krai	35 373	85 582	0	36 210	58 465	72 772	62 474	61 568
Magadan Oblast	27 313	62 225	104 748	16 025	16 895	107 232	101 837	96 407
Sakhalin Oblast	44 506	357 267	270 525	287 842	310 437	225 893	181 816	159 834
Khanty-Mansi AO – Yugra	0	20 677	95 825	102 178	398 502	495 687	545 693	487 508
Yamalo-Nenets AO	12 764	16 567	21 929	68 660	301 595	357 303	193 215	204 324
Chukotka AO	0	0	18 231	23 301	30 959	22 425	22 713	25 829

The population of small and medium-sized cities is extremely unevenly distributed in the northern regions. In 1939, the share of the population living in small and medium-sized cities of the constituent entities in the total population of small and medium-sized cities of the Russian North (over 10%) was equal to 24.0% in the Republic of Karelia, 18.0% in the Arkhangelsk Oblast, 18.0% in the Republic of Sakha (Yakutia), 14.2% in the Murmansk Oblast. In 1989, there were already five such subjects: the Murmansk Oblast — 16.9%, the Khanty-Mansi Autonomous Okrug — 14.7%, the Sakhalin Oblast — 11.5%, the Yamalo-Nenets Autonomous Okrug — 11.1% and the Arkhangelsk Oblast — 10.5%. By 2020, due to the extensive development of oil and gas fields in Siberia, the Khanty-Mansi Autonomous Okrug came out on top — 20.6%, followed by the Murmansk Oblast — 14.2%, the Komi Republic — 12.8%; the Arkhangelsk Oblast retained its position — 11.5%.

Ranking of northern subjects by the share of the population of small and medium-sized cities in the total population of the region

The analysis of the population dynamics was conducted in the following sequence: the settlement system of the Russian North — the entire population — the urban population — cities —

¹⁶ Census data: 1939–1979 — current population, 1989–2010 — permanent population; 2020 — at the beginning of the year.

small and medium-sized cities of the Russian North. It led us to the need to answer the main question posed or the stated goal — to what extent the North Russia is “saturated and provided” with small and medium-sized cities, which constitute the backbone of settlement, providing connectivity and population of the northern territories. In order to answer this question, it was necessary to propose a methodological tools to assess the degree of “saturation and provision” of the northern territories with small and medium-sized cities. Using the experience of similar work [44, Fauzer V.V., Lytkina T.S., Smirnov A.V.; 45, Fauzer V.V., Smirnov A.V., Lytkina T.S., Fauzer G.N.], we have put forward our own vision of the solution to this problem.

Let us describe the sequence of solving the problem. In order to rank the northern subjects by the share of the population of small and medium-sized cities in the total population of the region, the following iterations were performed. The first step involved selecting the boundaries of the development of the Russian North: 1939 — the “Gulag” period of the development of the North, 1959 — the transition from various forms of coercion to economic incentives, 1989 — changes in the social system and state paradigm in relation to the northern territories: settlement to habitation, and 2020 — the result of the development of small and medium-sized cities in the urban space of the North.

The second step identifies the minimum and maximum value of the share of small and medium-sized cities in the total population of the region. The range of their variation was determined as the difference between the largest and the smallest value of the indicator in the studied population for four years. The difference between the polar values (0.0–68.8) was divided into four equal intervals, which gave a variation step of 17. It was used to identify four groups of territories. At the third step, all Northern regions were ranked in terms of the proportion of population in small and medium-sized cities into groups that had insufficient (0–17), medium (18–34), high (35–51) and excess (52–69) share of the population of small and medium-sized cities.

According to the proposed scale, in 1939–1959, Russia had an insufficient share of the population living in small and medium-sized cities; in subsequent years, this share increased to an average value. The North of Russia started with an insufficient share of the population of small and medium-sized cities, in subsequent years (1959–2020) it remained in the middle group. In terms of regions, the Republics of Karelia and Sakha were consistently in the middle group. A stable increase in the share of SMC’s population was shown by 6 regions: the Republic of Komi, the Arkhangelsk and Murmansk oblasts, the Nenets, Khanty-Mansi and Chukotka autonomous okrugs. In the Republic of Tyva and the Yamalo-Nenets Autonomous Okrug, there was an increase until 1989, and then there was a transition to lower groups. Kamchatka Territory and Magadan Oblast moved from a higher group to an insufficient one in 1989, but later improved their position. Sakhalin Oblast, which had high indicator in 1939–1959, lost its position. The movement of each subject over the years when changing the group is shown by arrows (Table 7).

Table 7

Grouping of northern regions by the share of the population of towns (less than 100 thousand people) in the total population, 1939, 1959, 1989, 2020

Share of the population, %	1939	1959	1989	2020
Excessive from 52 to 69		↑ Sakhalin Oblast	↑↑ Yamalo-Nenets AO	↑↑↑ Magadan Oblast ↑ Nenets AO
High from 35 to 51	Sakhalin Oblast	↑ Kamchatka Krai ↑ Nenets AO	Nenets AO ↑ Tuva Republic ↑ Murmansk Oblast ↓ Sakhalin Oblast	Murmansk Oblast ↑ Komi Republic ↑ Chukotka AO ↓ Yamalo-Nenets AO
Middle from 18 to 34	Republic of Karelia Republic of Sakha Kamchatka Krai Magadan Oblast Murmansk Oblast Nenets AO Yamalo-Nenets AO	Republic of Karelia Republic of Sakha Tuva Republic Magadan Oblast Murmansk Oblast Yamalo-Nenets AO ↑ Russian North ↑ Komi Republic ↑ Arkhangelsk Oblast	Russian North Republic of Karelia Komi Republic Republic of Sakha Arkhangelsk Oblast ↑ Russian Federation ↑ Chukotka AO ↑ Khanty-Mansi AO	Russian Federation Russian North Republic of Karelia Republic of Sakha Arkhangelsk Oblast Khanty-Mansi AO ↑ Kamchatka Krai ↓ Sakhalin Oblast
Insufficient from 0 to 17	Russian Federation Russian North Komi Republic Arkhangelsk Oblast Khanty-Mansi AO Chukotka AO	Russian Federation Khanty-Mansi AO Chukotka AO	↓↓ Kamchatka Krai ↓ Magadan Oblast	↓↓ Tuva Republic

After analyzing the distribution of the northern regions from 1939 to 2020 by groups of “saturation and provision” with small and medium-sized cities, we have obtained an assessment of the contribution of small and medium-sized cities to the settlement systems of the northern regions. This information only indicates the place of the region in a certain historical period, but it was not enough to develop and optimize the settlement system of the regions. This led to the decision to quantify the acceptable / sufficient share of the population of small and medium-sized cities in the total population of the region. The following algorithm was proposed. The median value of the share of the population of small and medium-sized cities — 34.4 — is superimposed with a variation step of 17, 8.5 in each direction. The result is a “corridor” equal to 25.9–42.9%. Although it’s worth mentioning that “golden middles, like beautiful extremes, do not exist at all” [2, Nefedova T.G., Treyvish A.I., p. 22]. The practical significance of the “corridor” is that if the share of the population of small and medium-sized cities is insignificant, then the territory has low connectivity and population density, and its surplus shows that there are few large and big cities with innovative potential in the region, which are the points of economic growth. Location of regions by acceptable / sufficient share of the population of small and medium-sized cities for 1939–2020 is presented in table 8.

Table 8

Grouping of northern regions by the share of the population of towns (less than 100 thousand people) in the total population (25.9-42.9%), 1939–2020

1939	1959	1989	2002	2020
	Russian North	Russian North	Russian North	Russian North
Republic of Karelia		Republic of Karelia	Republic of Karelia	Republic of Karelia

	<i>Komi Republic</i>		<i>Komi Republic</i>	Komi Republic
	<i>Tuva Republic</i>	Tuva Republic		
Kamchatka Krai	Kamchatka Krai			
	<i>Magadan Oblast</i>			
	<i>Murmansk Oblast</i>	Murmansk Oblast		
			<i>Sakhalin Oblast</i>	Sakhalin Oblast
Nenets AO	Nenets AO	Nenets AO		
		<i>Khanty-Mansi AO</i>	Khanty-Mansi AO	Khanty-Mansi AO
			<i>Chukotka AO</i>	
Yamalo-Nenets AO	Yamalo-Nenets AO			<i>Yamalo-Nenets AO</i>

Italics indicate subjects that were not included in the interval in the previous year.

The results of the evaluation of the “saturation and provision” of the northern territories with small and medium-sized cities for 1939–2020 allow to study this process both statically and dynamically (Tables 7–8). The proposed methodological tool for assessing the “saturation and provision” of the northern territories with small and medium-sized cities can be used in other territorial entities.

Conclusion

The territory of Russia is 17 125.2 thousand square km, its northern regions — 7 623.7 km (44.5%). There are 2293 urban settlements in Russia, of which 290 (12.7%) are located in the North. The urban network of the Russian North is represented mainly by small and medium-sized cities, of 117 cities they account for 102 (87.2%). The average population size of small towns is 18.727, of medium-sized cities — 64.393 people, which is higher than in the Russian Arctic, but lower than Russian indicators. The low population density of northern settlements reduces their competitiveness, provokes an outflow of the population, which aggravates an already difficult situation. Density of urban settlements per 1 million sq. km in the North is 3.5 times lower than the national average, 38.0 and 133.9, respectively.

Each period of development of the economy and society has its own distribution system. From 1959 to 2020, there was a tendency for the concentration of the urban population in large and big cities, their share increased from 12.5 to 51.5%. The share of the population of small and medium-sized cities varied from the maximum (46.7%) in 1939 to the minimum (31.5%) in 1979 and amounted to 37.2% in 2020, which is significantly higher than the Russian indicators (34.8, 25.7 and 23.9% respectively). The number of the urban population changed the most: in 1939 — 188.7 thousand people, in 1989 — 1810.2 thousand people (increase of 9.6 times) and in 2020 — 717.2 thousand people (decrease — 1 million 93 thousand people). In terms of number, small and medium-sized cities show relative stability, which indicates good adaptation to external environmental conditions. Consequently, the preservation and development of small and medium-sized towns, urban settlements is relevant today and in the foreseeable future, since they constitute the supporting frame of settlement, ensure the connectivity and population of the northern territories.

The ranking of northern subjects by the share of the population of small and medium-sized cities in the total population of the region made it possible to determine the optimal boundaries — the lower and upper values of this share (25.9–42.9). In 2020, the North of Russia as a whole, the Republics of Karelia and Komi, the Sakhalin Oblast, the Khanty-Mansiysk and Yamalo-Nenets Autonomous Okrugs had an acceptable / sufficient share of the population of small and medium-sized cities. The proposed “corridor” indicates an insufficient or excessive share of the population of small and medium-sized cities in the Russian North.

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