

Extra-urban territories as an adaptation resource in the context of a pandemic crisis

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Abstract. The article is devoted to the identification of the problem of reducing depopulation processes and improving demographic processes in rural areas in the context of a coronavirus pandemic. Cities have shown their vulnerability to the pandemic, and it has become a trigger for arousing interest in rural areas as promising from the point of view of residence security and development. According to the authors, it is rural territories that can act as an adaptation resource in the conditions of a pandemic crisis, but it is possible only if their infrastructure is actively developed and the state provides comprehensive support. The purpose of this article is to describe demographic and migration processes taking place in rural areas, as well as to substantiate the prospects for the development of rural areas as a resource for adaptation during the pandemic crisis. The diagnosis of the dispositions of the population regarding the problem of the development of the socio-demographic potential of rural areas was carried out on the basis of a sociological study conducted by the authors of the article in the Belgorod region in 2021, and included a mass questionnaire survey of the population (n = 1000), an expert interview (n = 37), and a series of focus group interviews. It is noted that the most important problems significantly affecting the demographic development of rural areas are the problems of underdevelopment of social infrastructure, unemployment, poor social security of the village. It is emphasized that the coronavirus and the crisis caused by it become an argument in favor of de-urbanisation and rural development. The necessity of taking a number of active measures to maintain the motives of citizens for de-urbanisation and rural development is justified.

1 Introduction

Currently, there are more than 36 million people living in rural areas, and therefore issues of the development of rural territories occupy one of the special places in solving problems devoted to the reducing of depopulation processes and improvement of demographic situation in the Russian Federation. Coronavirus pandemic and the crisis caused by it drew even more researchers' attention from different scientific fields (demography, sociology, political science, economics [1]) to the study of rural territories and peculiarities of their development.

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Special attention of scientists is focused on the study of the demographic potential of rural areas, the full implementation of which can reverse the depopulation trend dangerous for the long-term development of society. As N. E. Pokrovsky, A. Y. Makshanchikova, and E. A. Nikishin write in their article, “The pandemic that struck metropolises and “global cities” rapidly and noticeably destroyed the chains of social interactions and transformed the way of life of citizens is something different compared to the established patterns of everyday life. The modern “global city” – it would seem, the height of civilization progress – turned out to be not at all as comfortable and safe as it seemed to techno-optimists, it showed itself not as an impregnable bastion of progress, but as a system largely vulnerable to the effects of nature, in this case biological ones; it became a victim of the “dark side” of urbanisation. In scientific communities and the public sphere in general, the question of the possibility and prospects of designing “life after the city” is raised, in particular, the problems of reverse migration and de-urbanisation as a special direction of spatial movement of the population and the corresponding transformation of lifestyle are actualized” [2].

M. M. Teryutina notes that “today, at a time when the next wave of the Covid-19 coronavirus pandemic is beginning to unfold, it becomes clear that urban agglomerations have not only advantages, but obvious disadvantages as well: crowding and high population density, lack of open free spaces, many opportunities for the spread of infectious diseases which are extremely dangerous to the life and health of citizens negate all these advantages of the sphere of being a citizen” [3].

V. G. Zakshevsky and Z. V. Gavrilova emphasize that “the coronavirus pandemic has significantly changed the structure of the rural economy of Russia, clearly showing its negative features. Nonetheless, the positive effects of the coronavirus pandemic on the rural economy and the quality of life of rural residents can also be seen. First of all, this can be reflected in the development of domestic tourism, in short- and long-term migration growth of the population from cities to rural areas, in increasing the provision of targeted protection for the most socially vulnerable groups of the rural population, and in solving environmental issues. As a result, more active development may begin in rural areas” [4].

Thus, in conditions when cities have shown their vulnerability to the pandemic, it has become a trigger for arousing interest in rural areas as promising from the point of view of residence security and development. Today, rural areas can act as a resource for adaptation in a pandemic crisis, but only if their infrastructure is actively developed and the state provides comprehensive support.

2 Materials and Methods

The purpose of this article is to describe demographic and migration processes taking place in rural areas, as well as to substantiate the prospects for the development of rural areas as a resource for adaptation in a pandemic crisis.

The empirical basis of the article is statistical data characterizing the migration movement of the population and a sociological study “Social and demographic potential of rural areas” conducted in the Belgorod region in September and October 2021 by a team of scientists of the BelSU National Research University. The study included a mass questionnaire sociological survey with $N = 1000$, a series of focus group interviews, and an expert survey ($N=37$).

3 Results and Discussion

Currently, the processes of population loss in rural areas continue to dominate. Over the ten years from 2010 to 2021, the number of rural population in the Russian Federation decreased by 817,863 people. The reasons for this are both migration outflow and natural population decline. In the five years from 2017 to 2021, the rural population decreased by almost 1 million people as it is shown in Table 1.

Table 1. Number of rural population in the Russian Federation.

Year 2017	Year 2018	Year 2019	Year 2020	Year 2021
37662771	37440360	37256654	37052745	36790286

The results of our research allow to note that in the views of citizens and experts, the trends of rural population decline will continue. Assessing the state of fertility and mortality indicators, the majority of citizens surveyed by us living in rural settlements noted their negative dynamics (Figure 1).

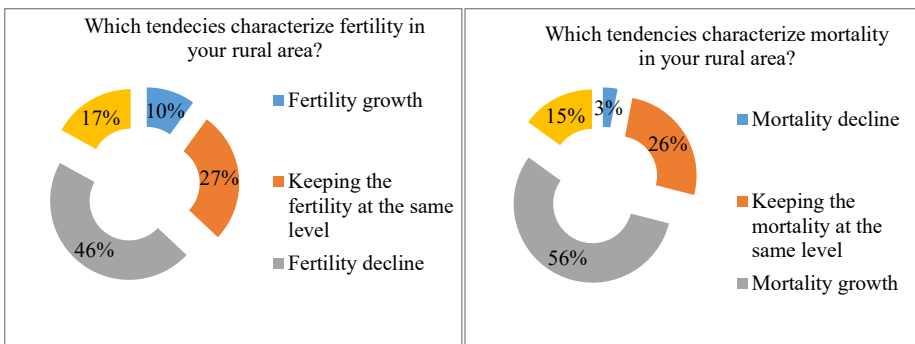


Fig. 1. Distribution of respondents’ answers to questions about trends in fertility and mortality in the territory of residence.

As it can be seen from the figures, almost every second respondent notes the trends of increasing mortality and reducing the fertility. The high percentage of those who found it difficult to answer is explained by the fact that, as a rule, citizens’ answers to such questions are intuitive in nature, and consist rather of observations. In addition, demographic data, although freely available, are not broadcast in the media or other information platforms, and it is difficult for citizens to assess the real level of these indicators.

Assessing the prospects of fertility dynamics for the next 10 years, 79.5% of the experts we interviewed indicated its decline in the future (Figure 2).

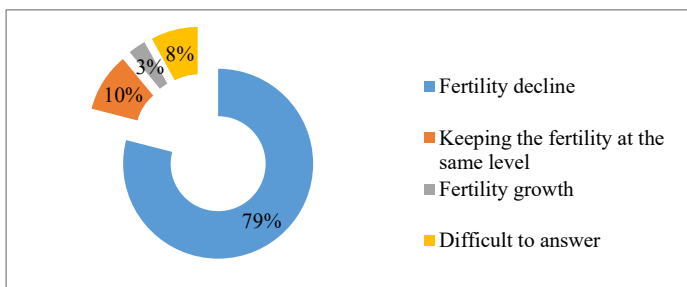


Fig. 2. Distribution of experts' answers to the question: "What do you think the trends will be characteristic of fertility in rural areas of the Central Chernozem region in the next 10 years?"

The main reasons for the decline in the birth rate, as well as the refusal of families living in rural areas of the Central Chernozem region to give birth to more children than they have, according to experts, are:

- low wages and poor material conditions (89.7%);
- weak social infrastructure of the village (insufficient kindergartens, schools, health and cultural institutions) (59.0%);
- lack of confidence in the future (48.7%);
- unsettled life, poor housing conditions (38.5%);
- lack or weakness of state support (25.6%).

As for mortality, more than half of 56.4% of experts predict its growth over the next 10 years, and one in four noted as well that it "will remain at the same level" (Figure 3).

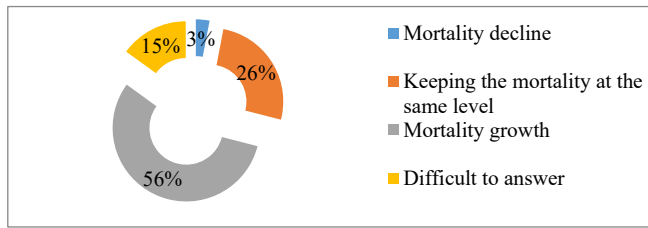


Fig. 3. Distribution of experts' answers to the question: "What do you think will be the trends in mortality in rural areas of the Central Chernozem region in the next 10 years?"

Among the factors contributing to the increase in mortality, experts believe that such factors have a special impact: poor quality of medical care (71.8%); high alcohol consumption (69.2%); low standard of living of the population; low salaries, pensions (66.7%), etc. In general, the answers of experts and the villagers interviewed by us regarding the causes leading to an increase in mortality coincide.

It should be particularly noted that in addition to the above, almost half of the surveyed citizens (42.8%) have a factor that is a logical consequence of the previous ones, namely, "a high level of stress caused by social and other reasons (unemployment, etc.)," among experts, only 30.8% indicated the significance of this factor. Increased mortality during a pandemic outbreak can also be considered as an indirect indicator of mortality from coronavirus [5, 6].

In addition to fertility and mortality rates, migration processes have a direct impact on the population of rural areas.

Assessing the migration processes in their place of residence, 43.2% of respondents indicated that "there are more people leaving our territory than coming here", and another 22.6% noted that "there are approximately equal numbers of people coming and leaving".

O.A. Boitsova notes: "Today, one of the most serious problems of the village is the mass migration outflow of young people to the cities, which is based on young people aged 18 to 35 years. The process has taken on a massive character, has serious negative demographic consequences, since it is young people who are the most able-bodied and literate part of the population, they account for three quarters of the births of children. Young people, as a rule, have a fairly high level of education, strive for professional

development, promotion, react sensitively to unsatisfactory organization, working conditions and regime, meaningless leisure” [7].

The problem of the outflow of young people from villages has been repeatedly mentioned by the interviewed citizens in formalized interviews “...*It is impossible to influence the increase in mortality since the older generation mainly lives in villages, and the young leave for the cities. Modern young people leave villages because of their inability to work, because of the lack of decent work and infrastructure. In order for the situation to change for the better, it is necessary to interest young people: to create new high-paying jobs, to develop infrastructure for life*” (husband, 59 years old, drilling foreman). “*All the younger generation, as a rule, loves the territory of the area in which they were born: starting from the estates of ancestral and national, family attachments; but the lack of a developing factor in both infrastructural features, educational development, medical development and others - forces them to move to the nearest, more or less developed. If these conditions are returned, the migration of young people can be stopped for the most part*” (husband, 57 years old, Agrobeltgororve).

Assessing the prospects for the development of migration processes in the next 10 years, experts noted that the outflow of population from rural areas will continue (77%).

The pandemic of coronavirus infection has exacerbated negative trends in rural areas. However, it should be noted that it is not a factor directly affecting demographic indicators, and this was pointed out by both residents and interviewed experts. According to the majority of the rural residents we interviewed, the current processes in the field of fertility and migration were characteristic of most rural settlements even before the pandemic. As for mortality, the opinions of citizens were divided regarding this process. Citizens find it difficult to fully assess the impact of COVID-19 on this process.

Speaking about the pandemic and its impact on social and demographic processes in rural areas, it is more appropriate to emphasize that it has exacerbated existing problems and exposed negative trends.

The results of our focus group interviews give grounds to assert that, as a rule, citizens associate changes in fertility and mortality rates not directly with the pandemic, but in the context of other problems that it has intensified. This was reflected in the course of qualitative group interviews conducted with residents of rural settlements of the Belgorod region in October 2021 (N = 30). “*The pandemic will affect mortality, because not all rural areas have medical institutions, qualified doctors, laboratories*” (woman, 50 years old, dentist). “*The increase in mortality in rural settlements is caused by the lack of employment of the rural population, unemployment, and a decrease in wages! And in 10 years with such conditions, the situation will only worsen*” (woman, 45 years old, kindergarten teacher). “*The birth rate in rural areas is at a low level and this is in no way connected with the COVID-19 pandemic.*”

It should be noted that citizens associate the reduction of mortality from the pandemic not with overcoming the virus, but with improving the social infrastructure in rural areas. “*...To build FAPs with the necessary equipment, to attract qualified medical personnel. It all depends on the state*” (women, 50 years old, dentist).

V. G. Zakshevsky writes: “The coronavirus pandemic has significantly changed the structure of the rural economy of Russia, more clearly showing its negative features (monospecialization, lack of developed diversification, and sufficient social infrastructure)” [4].

According to the FOM study “Life of villagers in a pandemic” conducted in 2020, the main consequences of the pandemic for rural residents are the poor quality of medical care, the closure of schools, kindergartens, non-food stores, the need to wear masks and gloves, as well as a decrease in the number of people on the streets (and even then not everywhere).

Thus, the answers of experts and citizens allow us to note that one of the most important problems that significantly affect the demographic development of rural areas are the problems of underdevelopment of social infrastructure, unemployment, poor social security of the village.

Negative trends continue to dominate in rural areas for a decade: population outflow, high mortality and low birth rate. At the same time, in recent years, there has been a small opportunity to support and revive rural life, based on the idea that in the conditions of a pandemic (and other biological threats), rural areas are the safest and most promising than urban ones.

Despite the fact that, according to expert estimates [8], the measures taken by the state made it possible to mitigate the impact of the pandemic, numerous sociological studies conducted in 2020-2021 by various centers recorded an increase in the motivation of citizens to move from cities to rural areas. For example, RANEPА experts, based on the study “Prospects for the development of the Russian urban environment and its adaptation to the consequences of Covid-19”, conducted in 2021, stated that “the spread of infection provoked an outflow of population from the largest cities to the suburbs, small towns and rural areas” [9]. In addition, experts noted that “the value of living in areas with a lower population density has increased in the public consciousness” [9].

The VCIOM research center has also conducted a number of studies aimed at studying the process of deurbanisation provoked by the pandemic. VCIOM CEO Valery Fyodorov notes: “the cycle of deurbanisation has begun. There was a strong request to move from the city to the suburbs and even further. A survey in autumn 2019 in 500 cities and towns of urban type in Russia showed that in the whole country a quarter of the population would like to change their place of residence. There are the least of such applicants among people over 60 years old, the most among those whose age ranges from 25 to 34 years. There are 40% of them here. This suggests that there is a potential for relocation in Russia” [10].

Thus, the coronavirus and the crisis caused by it become an argument in favor of deurbanisation and rural development. A.V. Petrikov writes that “recently there has been a trend towards deurbanisation in Russia, as evidenced by the dynamics of housing and suburban construction, changes in the nature of migration exchange between cities and villages, the growing popularity of rural and agricultural tourism and other social phenomena. At the same time, the village still lags behind the city in terms of living standards” [11].

In the conditions of a pandemic crisis, rural territories can act as an adaptation resource only in the case of gradual creation of equal conditions in the countryside with the city, in terms of infrastructure, job creation, leisure, etc.

V. G. Zakshevsky and Z. V. Gavrilova note: “Now the development of a service economy in rural areas, focused on attracting citizens to suburban areas and providing modern services to the rural population in remote areas using the latest technical achievements, including e-commerce and distance education, is becoming particularly relevant” [4].

In our opinion, now real prerequisites for the revival of rural areas have been formed and state and municipal authorities need to take a number of active measures to maintain the motives of citizens for deurbanisation and rural development. In particular:

1. It seems necessary to adjust the state policy in the field of spatial development. It is proposed to supplement the developed measures with such measures as: rural renovation programs; support for individual housing construction in rural areas; the formation of a new rural economy; the development of rural tourism and the leisure sector of the village; the development of programs to attract young people to the village.

2. In the current conditions, it seems promising to form brands of rural areas around the idea of safety and environmental friendliness of living. Currently, it is extremely important

to maintain the overdue trend of moving to rural areas as more optimal and profitable for living. It is possible to focus on the translation of such values of rural life as security, psychological comfort of living, lower cost of living.

The experts interviewed by us see prospects for the revival and development of rural areas in:

- development of health infrastructure (84.00%);
- development of education and culture infrastructure in rural areas, construction of new facilities and reconstruction of existing ones (83.00%);
- improvement of working conditions in agro-industrial production (79.00%);
- granting tax preferences to small and medium-sized enterprises operating in rural areas (72.00%).

Currently, there is a broad discussion of issues related to the prospects of rural development in the scientific discourse. Different approaches, positions and points of view dominate among scientists. Modern research is often devoted to the study of the impact of the pandemic on various private aspects of rural life [12]. For example, N. V. Badmayeva studies the impact of the pandemic on the labor migration of the rural population and notes that “the introduction of quarantine measures and non-working days led to a number of problems for labor migrants: job loss, wage reduction, change of employment, loss of a certain status and other consequences” [13].

E. V. Pesennikova and A. A. Tretyakov [14] investigate the impact of the pandemic on the health care system in rural areas. E. I. Gizun pays special attention to studying the impact of the Covid-19 pandemic on the development of rural and eco-tourism [15].

At the same time, in sociological and demographic science, there are insufficiently developed studies devoted to the study of the impact of the pandemic on the process of deurbanisation, the study of the main conditions for the development of this process. However, those researchers who somehow touch on this topic (M. M. Teryutina, V. G. Zakshevsky, Z. V. Gavrilova, etc.) agree that the pandemic has given a new impetus to the development of rural areas.

4 Conclusion

The results of our research allow us to draw several conclusions regarding the trends and prospects of development in rural areas.

Firstly, at present, the processes of population decline in rural areas continue to dominate. The reasons for this are both migration outflow and natural population decline.

Secondly, under the influence of market transformations and the pandemic of coronavirus infection, negative processes have intensified in rural areas. The pandemic has changed the structure of the local economy, showing its negative features, problems in the field of social services, healthcare, and education have worsened.

Thirdly, the rural territories of Russia, its individual regions and macro–regions, including the Central Chernozem Economic Region, have an undoubted demographic potential, the full implementation of which can reverse the depopulation trend dangerous for the long-term development of society. Moreover, in the context of a pandemic crisis, extra-urban areas can become an adaptation resource.

Fourth, the real prerequisites for the revival of rural areas have been formed, and state and municipal authorities need to take a number of active measures to maintain the motives of citizens for deurbanisation and rural development. First of all, the solution of this problem is connected with the adjustment of the state policy in the field of spatial development towards global support and renovation of rural areas.

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References

1. U. Gentilini et al., Social Protection and Jobs Responses to COVID-19 (DC, Washington, 2020)
2. N. Ye., Pokrovsky, A. Yu. Makshanchikova, E. A. Nikishin, Sociological Studies **12**, 54-64 (2020) doi: 10.31857/S013216250010726-1
3. M. M. Teryutina, Academic Bulletin of the Yakut State Agricultural Academy **8 (25)**, 5-10 (2021)
4. V. G. Zakshevskii, Z. V. Gavrilova, Scientific works of the Free Economic Society of Russia **223 (3)**, 496-501 (2020) doi: 10.38197/2072-2060-2020-223-3-496-501
5. A. Karlinsky, D. Kobak, The World Mortality Dataset: Tracking excess mortality across countries during the COVID-19 pandemic. MedRxiv (2021) doi: <https://doi.org/10.1101/2021.01.27.21250604>.
6. T. Beaney, J. M. Clarke, V. Jain, et al., Journal of the Royal Society of Medicine **113 (9)**, 329–334 (2020) doi: 10.1177/0141076820956802
7. O. A. Boitsova, Scientific Journal **2 (36)**, 48 (2019)
8. VEB.RF, Russian Economy During the COVID-19 Pandemic and Energy Market Turbulence. Moscow (2020) https://www.hse.ru/data/2020/06/29/1610612279/ISP%20HSE_COVID-19%20and%20Families%20with%20Child..ussion%20Paper%204_June%2025%202020_RUS.pdf
9. A. N. Maksimov, D. P. Sosnin, Prospects for the development of the urban environment of Russia and its adaptation to the consequences of Covid-19 (2020) URL: <https://www.ranepa.ru/documents/10-07-2020-sosnin.pdf>.
10. The pandemic has accelerated deurbanization. Will those who have already left them return to megacities? URL: <https://dom.iastr.ru/arhproekt/3659-pandemiya-uskorila-deurbanizaciyu-vernutsya-li-v-megapolis-y-te-kto-uzhe-iz-nih-uchal.html>.
11. A. V. Petrikov, Scientific works of the Free Economic Society of Russia **223 (3)**, 154-164 (2020) doi: 10.38197/2072-2060-2020-223-3-154-164
12. V. P. Babintsev, G. N. Gaidukova, Z. A. Shapoval, Laplage Em Revista. **7 (Extra-E)**, 549-555 (2020) <https://doi.org/10.24115/S2446-622020217Extra-E1234p.549-555>
13. N. V. Badmaeva, Bulletin of the Kalmyk Scientific Center of the RAS **2**, 144-155 (2021) doi: 10.22162/2587-6503-2021-2-18-144-155
14. E. V. Pesennikova, A. A. Tretyakov, Response measures to the COVID-19 pandemic, necessary to ensure guarantees of primary health care in rural areas. Scientific Progress: Questions of Theory and Practice: a Collection of Scientific Papers, 366-370, Kazan (2020)
15. E. I. Gizun, *The impact of the COVID-19 pandemic on the development of rural and ecological tourism in urbanized areas*, In Proceedings of the All-Russian Scientific and Practical Conference of Students and postgraduates, 14-15 May 2021. Kaliningrad (2021)