Despite the positive dynamics in terms of housing supply of the population resident at the territories affected by the ChNPP disaster (Figure 11), there is a dilapidated and emergency housing stock, and 61.7 (Olevsk raion) – 96.3% (Luhyny raion) of residential buildings had been built before 1970. It is also worrying that there are a small number of residential buildings located in rural areas of the radioactively contaminated areas in the Zhytomyr region, which are provided with the centralized heating, water supply, wastewater disposal and natural gas supply (Figure 12).

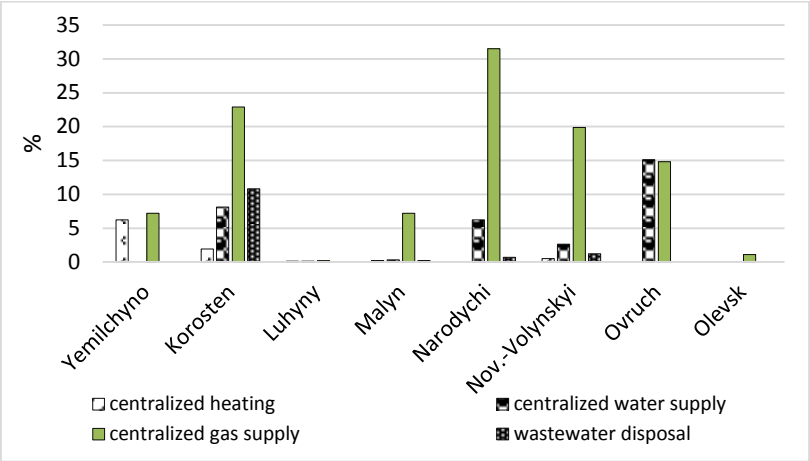

Figure 12. Assessment of residential properties in radioactively contaminated areas in Zhytomyr region as of January 01, 2018.

The conducted sociological survey among residents of radioactively contaminated areas in the Zhytomyr region, it was found that in 37% of cases, major repairs were carried out in the 1980s, in 19% in the 1990s, in 18% until 1980, in 11% between 2001 and 2010, in 14% since 2011 to this day. Thus, the living conditions of the population resident at the radioactively contaminated areas of Zhytomyr region are unsatisfactory, which is confirmed by both objective data and subjective assessments of the residents themselves It should be noted that the obtained results need further research, since a more complete and reliable picture will be obtained after next All-Ukrainian census in 2020, according to the decree of the Cabinet of Ministers of Ukraine s of April 09, 2008 No. 581-p.s In spite of the current trends, which indicate low quality of life, there is not enough attention at the state level to regional development, including the areas affected by the ChNPP accident, especially in rural areas. In order to improve the demographic situation, it is necessary to reform the state policy on rural population, as well as to develop a strategy for demographic regional development of Ukraine, providing its sufficient financial support. Fundamental changes in state policy and in the development of the demographic strategy are also emphasized in the works of Chornyi & Shevchuk (2013), Kuczabski & Michalski (2013), Yeroshkina & Derevyanko (2018). Chornyi & Shevchuk (2013) point out that without a solution to this task, one might lose the opportunity of reproduction of the rural population, rural labor potential, and as a result, the chances of effective rural development in the future.

Conclusion

The low quality of life of the population in the radioactively contaminated areas in the Zhytomyr region was formed as a result of the prolonged unfavorable effect of the environmental factor. Negative trends are manifested in depopulation (the size of population decreased by 24.7% compared to 2002), high values of mortality and natural decline rates, aging, deterioration of medical state, as well as unsatisfactory living conditions of the population resident at Yemilchyno, Malyn, Ovruch, Korosten, Narodychi, Olevsk, Luhyny Ovruch raions of Zhytomyr region.

In order to improve the quality of life of the population of radioactively contaminated territories in the Zhytomyr region, it is necessary to reform the state policy, to provide financial support for their revival and creation of normal living and reproduction conditions for the population.

References

Bonatti, G., Ivaldi, E., Soliana, R. (2017). Quality of life in Italian cities: a temporal comparison between before the crisis and after. International Journal of Social Economics, 44(4), 560–574. doi: https://doi.org/10.1108/IJSE-10-2014-0214

Cecchini, M., Cividino, S., Turco, R., Salvati, L. (2019). Population Age Structure, Complex Socio-Demographic Systems and Resilience Potential: A Spatio-Temporal, Evenness-Based Approach. Sustainability, 11(7), 2050. doi: https://doi.org/10.3390/su11072050

Chornyi, R., Shevchuk, L. (2013). Demographic situation as a major factor to develop labour potential in rural areas. Skhid, 2(122), 67–70. doi: https://doi.org/10.21847/1728-9343.2013.2(122).13460

Ćwirlej-Sozańska, A. B., Sozański, B., Wiśniowska-Szurlej, A., Wilmowska-Pietruszyńska, A. (2018). Quality of life and related factors among older people living in rural areas in south-eastern Poland. Annals of Agricultural and Environmental Medicine, 25(3), 539–545. doi: https://doi.org/10.26444/aaem/93847

Gobbens, R. J. J., van Assen, M. A. L. M. (2018). Associations of environmental factors with quality of life in older adults. The Gerontologist, 58(1), 101–110. doi: http://dx.doi.org/10.1093/geront/gnx051

Herasymchuk, L. O., Martenyuk, G. M., Valerko, R. A., Kravchuk, M. M. (2019). Demographic and onco-epidemiological situation in radioactive contaminated territory of Zhytomyr Oblast. Regulatory Mechanisms in Biosystems, 10(1), 32-38. doi: https://doi.org/10.15421/021905

Huber, M. B., Felix, J., Vogelmann, M., Leidl, R. (2017). Health-Related Quality of Life of the General German Population in 2015: Results from the EQ-5D-5L. International journal of environmental research and public health, 14(4), 426. doi: 10.3390/ijerph14040426
Johnson, K. M., Lichter, D. T. (2019). Rural Depopulation: Growth and Decline Processes over the Past Century. Rural Sociology, 84(1), 3–27. doi: https://doi.org/10.1111/ruso.12266
Keles, R. (2012). The Quality of Life and the Environment. Procedia - Social and Behavioral Sciences, 35, 23–32. doi: https://doi.org/10.1016/j.sbspro.2012.02.059
Kohler T., Elizbarashvili N., Meladze G., Svanadze D., Meessen H. (2017). The demogeographic crisis in Racha, Georgia: Depopulation in the central caucasus mountains," Mountain Research and Development, 37(4), 415–424. doi: https://doi.org/10.1659/MRD-JOURNAL-D-17-00064.1
Kuczabski, A., Michalski, T. (2013). The process of depopulation in the rural areas of Ukraine. Quaestiones Geographicae, 32(4), 81–90. doi: https://doi.org/10.2478/quageo-2013-0035
Li, S., Juhász-Horváth, L., Pedde, S., Pintér, L., Rounsevell, M. D. A., Harrison, P. A. (2017). Integrated modelling of urban spatial development under uncertain climate futures: A case study in Hungary. Environmental Modelling & Software, 96, 251–264. doi: https://doi.org/10.1016/j.envsoft.2017.07.005
Lodhi, F. S., Montarezi, A., Nedjat, S., Mahmoodi, M., Farooq, U., Yaseri, M., Kasaeian, A., Holakouie-Naieni, K. (2019). Assessing the quality of life among Pakistani general population and their associated factors by using the World Health Organization's quality of life instrument (WHOQOL-BREF): a population based cross-sectional study. Health and Quality of life Outcomes, 17(1). doi: https://doi.org/10.1186/s12955-018-1065-x
Numbeo. (2019). Quality of Life Index for Country 2019 Mid-Year. URL: https://www.numbeo.com/quality-of-life/rankings_by_country.jsp
Pereira, D. S., Nogueira, D., Silva, C. B. (2015). Quality of life and the health status of elderly persons: a population-based study in the central sertão of Ceará. Revista Brasileira de Geriatria e Gerontologia, 18(4), 893–908. doi: https://dx.doi.org/10.1590/1809-9823.2015.14123
Romanchuk, L. D. (2015). Radioekolohichna otsinka formuvannia dozovoho navantazhennia u meshkantsiv silskykh terytorii Polissia Ukrainy : monohrafiia [Radioecological evaluation of the formation of the radiation burden with the residents of rural areas in Ukrainian Polissia : monograph]. Zhytomyr National Agroecological University, Zhytomyr (in Ukrainian).
Streimikiene, D. (2014). Comparative Assessment of Environmental Indicators of Quality of Life in Romania and Lithuania. Economics and Sociology, 7(1), 11–21. doi: 10.14254/2071-789X.2014/7-1/2
Theofilou, P. (2013). Quality of Life: Definition and Measurement. Europe's Journal of Psychology, 2013, Vol. 9(1), 150–162. doi: https://doi.org/10.5964/ejop.v9i1.337
Tiran, J. (2016). Measuring urban quality of life: case study of Ljubljana. Acta Geographica Slovenica, 56(1), 57–73. doi: https://doi.org/10.3986/ags.828
Ubarevičienė, R., van Ham, M. (2017). Population decline in Lithuania: who lives in declining regions and who leaves? Regional Studies, Regional Science, 4(1), 57–79. doi: 10.1080/21681376.2017.1313127
United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019: Highlights. URL: https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf
Vogelsang, E. M., Raymo, J. M. (2014). Local-Area Age Structure and Population Composition: Implications for Elderly Health in Japan. Journal of Aging and Health, 26(2), 155–177. doi: https://doi.org/10.1177/0898264313504456
Yeroshkina, T. V., Derevyanko, D. V. (2018). Medical-demographic problems of Ukraine and some ways of their overcoming. Medicni perspektivi, 23(3), 104–109. doi: http://doi.org/10.26641/2307-0404.2018.3.147966

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