

Summary

The impact of the city on the environment is presently linked to the increase in population mobility, the development of suburbanisation processes and transport systems and the intensification of commuting to work. As a result of the provisions of the *Koncepcja Przestrzennego Zagospodarowania Kraju* (Concept of Spatial Planning Development) 2030, the Urban Functional Areas have been delimited, whose strategic purpose is to create development policy in coherent areas in terms of organization and functioning of socio-economic systems. The urban functional area - according to KPZK 2030, is a spatially-resident settlement system consisting of separate administrative units (urban, rural and urban-rural municipalities), consisting of a compact urban area (core) and a functionally connected urban area (outer zone).

1. Research project objectives/Research hypothesis

The purpose of the research is to identify the structures and demographic processes taking place in cities and their outer zones, Urban Functional Areas (FUA). All FUAs designated in Poland were included in the study, taking into account their distribution into four hierarchical levels: voivodship, regional, subregional and local. An important objective of the study was also to show the dynamics of demographic development in the FUA in the core and outer zones.

Preliminary studies have shown that Urban Functional Areas are characterized by favorable demographic conditions in the rest of the country and vary according to their level of impact, as well as in the core-outer zone.

2. Test method / method used

According to the delimitation carried out by Śleszyński, the 151 Urban Functional Areas, including 928 municipalities (including 225 core and 698 located in the outer zones), were included in the analysis. The population, age structure and selected indicators of natural and migratory populations will be analyzed. In addition, the typology of Urban Function Areas will be created based on their size (impact level) based on the k-means and spatial autocorrelation using GIS.

3. The impact of expected results on the development of science

Much of the work so far has described the depopulation processes of cities within their border areas, both large and small. These studies are to show that cities should not be taken apart from their surroundings that they are a daily urban system, being functionally linked. FUA studies will help to understand the transformations of urban regions in post-socialist countries after the 1990s socio-economic transition and after accession to the European Union. An important contribution to the research of development of urbanization processes in these newly designed spatial units will be the analysis of demographic changes depending on the scale of influence of FUA (voivodship, regional, subregional and local). In addition, research will be conducted on the theory of the second demographic transition in the aspect of low-fertility diffusion resulting from lifestyle changes from cores to outer zones. Comprehensive analysis of the new spatial units identified in the KPZK 2030 and identification of demographic processes in the country and in the core-outer zone will make it possible to compare the results with functional urban areas in other EU countries already in operation. This will allow you to see how urban functional areas fit into contemporary concepts related to the demographic development of these areas in Europe and in the world.