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Economic Transformation and Spatial Shrinking: The Case of Chukotka

Konstantin A. Chernyshev

Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences

ABSTRACT

This study examines the relationship between shifts in economic models and spatial organization in extreme Arctic conditions through the case of the Chukotka Autonomous Okrug. Using retrospective geoinformational analysis of data from 160 settlements between 1959 and 2021, three distinct stages of socio-economic and demographic dynamics in the region have been identified and analyzed. The first stage (1959-1989) was characterized by extensive industrial growth and a dispersed settlement pattern, supported by state paternalism and a planned economy. The second stage (the 1990s) was marked by abrupt shrinking triggered by the transition to a market economy, which led to mass closures of unprofitable enterprises and population outflow. The third, contemporary stage (2000s to present) is distinguished by stabilization and concentration of the remaining population and economic activity in a limited number of key centers, such as Anadyr. The research results quantitatively demonstrate the consequences of this transformation: by 2021, the settlement network had shrunk 2.5 times compared to 1970. Meanwhile, the indicator of territorial population concentration, after a decline in the 1980s-1990s, returned to the level of the 1970s, indicating a fundamental restructuring of the spatial structure. It is concluded that a new, more compact and concentrated settlement pattern has emerged as an adaptive response to market reality challenges. The findings have practical significance for developing spatial development strategies and adapting settlement systems in other Arctic regions of Russia. The study was supported by grant No. 25-78-30004 from the Russian Science Foundation, <https://rscf.ru/project/25-78-30004>

Keywords: arctic settlements; demographic dynamics; post-Soviet transition; Chukotka