

Skowronek-Gradziel, A., Kolwzan, W., Dziubek, A.M. Application of Statistical Methods of Multivariate Comparative Analysis to Evaluation of Water Supply and Sanitation in Rural Areas for Individual Voivodships in Poland in the Period 2000–2012. *Ochrona Srodowiska* 2015, Vol. 37, No. 2, pp. 27–32.

Abstract: Current level of development of technical infrastructure was diagnosed with regard to water supply and sanitation of rural areas in individual voivodships in Poland. Statistical methods of multivariate comparative analysis were applied (hierarchical agglomerative procedure, Spearman's rank correlation, principal component analysis and correspondence analysis) to analyze the data and identify trends for the period 2000–2012. It was demonstrated that there was a significant improvement with time in the environmental protection infrastructure in all the voivodships. Besides, differences across voivodships were noted to decrease continuously in the analyzed period. The quantitative and qualitative results received on the basis of statistical analysis were an important source of substantial knowledge. It could be applied for taking decisions at both local and central level with regard to the management of infrastructure development in rural areas.

Keywords: Water supply system, sewerage system, technical infrastructure, environment protection, correlation analysis.