

The results of researches of the variability of the number of deaths in populations from different historical time periods indicate that there is a close relationship between mortality and socio-economic and political situation and climate events, both extreme events, and cyclical fluctuations. The climate and the natural environment changes had possibly influence on socio-economic and political situation. We would like to trace relationship between the number of deaths of women and men in different age groups, changes in humidity and temperature, which entailed specific natural and economic consequences, including developing of diseases, epidemics, vegetation changes, famine, harvest and socio-economic and political factors in Kuyavia population from Kowal Parish (Eastern Kuyavia) lived in Congress Poland (1815-1914). We expected that unfavorable environmental conditions (eg. drought or long, cold winters, entailing economic disaster and lack of nutrients) resulted in weakening of the Kuyavian population, exposing it to increase mortality. Population was more susceptible to disease, both endemic and epidemic.

Due to analysis of the parish register of births, deaths and marriages we can reconstruct the mortality level changes of the Kowal Parish Roman-Catholic villagers in the 19<sup>th</sup> century. We can describe seasonal changes and the violent short-run disturbances in mortality (demographic crises). Further, the detailed query of the historical sources will allow the reconstruction of temperature conditions and humidity over the historical and socio-economic background. Analysis of mortality data will allow us to identify periods of negative effects in population and refer them to the time intervals and specific climatic events.

Raise of this subject is caused by lack of the holistic studies on peoples living in Kujavia at that time, their history and economics. There is no basic work presenting the political, economic and social history of this region in the 19th century. Co-authors of this research will represent various fields – sciences and humanities. They develop the methodology, which can be successfully applied in the process of demographic analysis of the other populations from different historical periods, for which there is no information about group size or that information is unreliable, allowing to compare the biodemographic phenomena observed in the different groups, irrespective of their size, level of development, industrialization, or social status, becoming an universal tool for further studies.