

## **Summary of the doctoral dissertation**

### **Reasons and effects of the diversification of the spatial development character of small towns.**

#### **Case study - Bychawa and Łęczna**

The main purpose of the work was to compare the nature, pace and directions of spatial development of Bychawa and Łęczna, resulting from various socio-economic conditions against the background of natural conditions in the years 1960-2017. Understanding the mechanisms that shaped the spatial transformations of the examined towns and the effects of spatial changes required the formulation of specific objectives. The first one made it possible to identify the most important conditions that influenced the spatial development of Bychawa and Łęczna in the analyzed period. Comparing the nature of spatial transformations required establishing further specific objectives, which include:

- determination of the level of permanent investment and its changes in Bychawa and Łęczna in the years 1960-2017,
- determination of the main directions of spatial development of Bychawa and Łęczna in the years 1960-2017,
- determining the sequence of creating elements of permanent investment in Bychawa and Łęczna in the years 1960-2017,
- determination of the basic features of the spatial development (number of storeys, length and diameter of the technical infrastructure network) in Bychawa and Łęczna in 1960-2017,
- valorization of the value of the spatial development in Bychawa and Łęczna in the years 1960-2017,
- identifying key periods of spatial development in Bychawa and Łęczna on the basis of an analysis of the pace and nature of spatial changes in 1960-2017,
- recognition of changes in the functional and spatial structures of Bychawa and Łęczna in the years 1960-2017.

Understanding the mechanisms shaping spatial changes required a multi-stage research process. The following methods were used in the work: cartographic, retrogression and photointerpretation. The full explanation of the level of diversification of the pace of spatial development and the value of the spatial development created also required the development of an original research method. The aforementioned (multi-stage) method made it possible to valorize the value of selected elements of spatial development in both analyzed towns. The valorization covered selected technical infrastructure networks, road network and buildings. The proprietary research method made it possible to estimate the general value of land development, as well as to indicate the directions of development of land development and to estimate the pace of spatial changes.

The research began with an analysis of the history of spatial and demographic development of Bychawa and Łęczna. The next stage of the research involved restoring the state of spatial development, demographic potential and the state of the economic base of both towns in 1960. The dissertation analyzes the influence of factors shaping spatial changes in both analyzed towns. Of the above-mentioned factors, the greatest emphasis was put on: spatial development planning (at the supra-local and local level), the impact of internal and external economic stimuli, demographic changes and natural conditions. The work also takes into account the influence of various economic mechanisms on the development of spatial development, such as, for example, the investment multiplier.

The conducted analyzes made it possible to recreate the stages of spatial development in Bychawa and Łęczna, taking into account the nature of transformations in spatial development and directions of changes in functional and spatial structures. The relationship between the influence of a strong exogenous development stimulus and the character of spatial and demographic transformations of the town has also been demonstrated. The main differences in the character of urban development appeared during the intensive influence of a significant growth pole stimulating the development of one of the examined towns. The differences in development concerned, inter alia, the characteristics of the spatial development, directions of spatial changes or the pace and scale of transformations of functional and spatial structures. At the same time, the research made it possible to indicate the regularities which characterize the spatial development of a town not subjected to and subjected to the action of a strong exogenous development factor.

**Keywords:** spatial development, city spatial structure, barriers to spatial development, spatial policy, spatial planning.