

Title of the work

Adaptation of Qualitative Research Methods of Urban Space for the Restoration of Utility Functions of Post-Mining Areas

The dissertation deals with the issue of the impact of post-mining areas, not subjected to reclamation, in the terms of national legal regulations (provisions of the Law on Protection of Agricultural and Forestry Land and the Geological and Mining Law) on urban space management policy.

The selection of scientific issues and implementation objectives was based on pragmatic considerations related to the scarcity of space and the need to develop urban functions based on the resource of post-industrial, including post-mining sites.

The work was carried out from the perspective of geological administration due to, the fundamental importance of geological and related information, in the development of land transformed by mining activities.

The introduction to the research part of the dissertation included an analysis of the burden of the effects of mining on Polish territory and an assessment of the effectiveness of the administration's activities related to restoring their functionality. Based on data from more than 190 counties, the widespread presence of objects of historical mining, on the territory of all voivodships of Poland, and the lack of a strategy for their development was confirmed.

In the main part of the dissertation, an attempt was made to construct, for the purpose of planning revitalization activities, a multi-level matrix of study, the impact of the post-mining environment on users.

For this purpose, the method of research of the built environment - Post Occupancy Evaluation (hereinafter POE), commonly used in architecture, was used.

The research work, within the framework of the dissertation, was carried out, in 2019-2022 in Poland, Austria, Germany and Hungary, where the research material necessary for modifying the POE method and constructing tools for auditing the post-occupancy space was acquired. The transfer of geological archival data and data obtained during expert field studies, to the ground of architectural design, allowed a comprehensive diagnosis of the environment (including geological-engineering, hydrogeological, geochemical and paleoenvironmental studies).

A practical test of the modified POE method was conducted at the Sadowa Gora quarry site in Jaworzno. Implementation in the form of a functional-utility study confirmed the effectiveness of the developed method and the tools that support it, enabling analysis of the environment at the level of form, structure and composition of individual elements in terms of technical, functional and behavioural quality.

The results of the completed research and implementation work are in line with the ideas of the closed-loop economy and the New European Bauhaus, and, above all, offer concrete benefits in the areas of economics, ecology and the image of the city of Jaworzno, and can also be popularized and commercialized.

Keywords:

Closed-loop economy, sustainable development, New Bauhaus, revitalization of post-mining areas, urban quarries.