

FOREWORD

The present issue of the quarterly journal *Geomatics, Landmanagement and Landscape*, published by the Publishing House of the Agricultural University in Kraków, contains seven research papers. The covered topics fit into the profile of research problems usually featured in the GLL. The topics of the individual papers reflect the broad spectrum of work carried out by the individual authors.

The first paper describes the process of investigating groundwater in Saharan lands using statistical methods and stable isotopes. The quality and age of groundwater in the desert landscape of El Golea province, located south of Algiers were analysed. Phreatic and deep continental aquifers are part of the Northern Sahara water system. The unconfined aquifer is a special case of a mixture of ancient waters from the deep horizons and recent highly enriched waters from the shallow horizon area. This paper is interesting due to its research methodology. It provides important knowledge for the Polish reader who knows that Poland is very poor in water resources.

The second paper presents a technology for integrating terrestrial laser scanning and UAV-based photogrammetry for heritage building information modelling. The author noted that the HBIM (Heritage Building Information Modelling) model is not only used for inventory purposes but also as a tool for visualising the restored state of a historic building that is being prepared for conservation and repair work. An old manor house was chosen as the research object.

Currently, Poland is undergoing extensive work on the construction of highways, motorways, municipal roads and city bypasses. The authors of the third paper assessed the impact of the construction of the Tomaszów Lubelski bypass on the spatial structure of rural areas. Only those factors that unfavourably transform the space of rural areas were analysed. The conclusions drawn by the authors can be applied to some other road investments which run through rural areas.

The aim of the fourth paper was to present “mapping” as a tool to support the “management” of a pandemic. Let us emphasise that the author was quite right to use the term “management” of a pandemic that has taken millions of lives on Earth between 2020 and 2022. In the research, the author used the cartogram method with the spatial structure analysis methodology and a modified Morgan model. The research showed that the development of a pandemic, i.e. an increase in infection among the population, is influenced by population density, and economic, social, educational and

transport links. The paper proves that a simplified analysis with statistically significant probability makes it possible to identify counties in our country that could potentially become the site of uncontrolled transmission of the SARS-CoV-2 virus in areas of high population density in coincidence with their mobility.

The fifth, exploratory paper outlines the extent to which the Lipnica Wielka municipality has used EU funds in the period 2007–2013. The main emphasis in the Local Development Plan of the municipality was placed on developed organic farming, a well-developed recreational and tourist base, and agrotourism. The largest investment was the expansion of the sewerage system and sewage treatment plant. Only 3% of the total funds received by the municipality were allocated to the development of tourism and agrotourism. The objectives of the Development Plan have not been achieved.

The sixth paper discusses the new technologies that are useful in real estate market analysis. These technologies include the use of GIS tools in combination with vector data representing registered parcels and raster data acquired using LiDAR technology. It concludes that finding a way to integrate data obtained from government entities with modern geographic information systems (GIS) would improve the work not only of valuers, but also of many other real estate professionals such as brokers, developers and banking analysts.

The fact that “spatial planning” does not function in the space of the whole country is not only known among architects, urban planners, planners, and landscape architects but also by the general public. The planning crisis is perennial, as can be noticed in the implementations of investment in urban and rural areas. That is why the seventh paper draws attention to the “Draft of the Zamość Development Plan of 1939”, which is an example of a professionally executed plan. In this outstanding planning work, its designers, architect Jan Zachwatowicz and historian and urbanist Władysław Wieczorkiewicz, focused on those elements that are missing in contemporary urban development plans of the town. It should be noted that the Zamość Development Plan of 1939 set the framework for drawing up plans for “historic” towns and Zamość is undoubtedly such a town.

It is with satisfaction that I point out that the GLL quarterly is gaining increasing recognition beyond just the community of Polish scholars.

Prof. dr hab. inż. Wojciech Przegon
The Department of Agricultural Surveying, Cadastre and Photogrammetry
University of Agriculture in Krakow