Project summary for popular science

The project refers to the theory of sustainable development and it is assumed that the identification and valorisation of the landscape at the local level can be a tool to determine the directions of socio-economic development in the community. Methods of identification and valorisation of the landscape allow to obtain information about the nature and quality of the landscape. In recent years, more and more attention was paid to multi-criteria analysis used for indexation of the landscape. The main problem of indexation is to conduct research on a regional scale, while planning decisions with the greatest impact on the socio-economic development are adopted by the community on a local scale. The lack of methods for valorisation in the local scale and legal conditions are caused by the fact that landscape identification is required to identify in the regional level. Methods of identification and valorisation of the landscape at the local level have not been tested on scientific grounds.

The aim of the project is to develop proprietary methods for the identification and valorisation of landscape units on a local scale. Research area of the project includes 10 municipalities of Wroclaw suburban and 3 suburban districts of Bratislava. Basic research project carried out consist of three parts. The first of these is the preparation of landscape units for assessment and is based on the identification method of layering information based on geospatial data and geoprocessing. Designed process will be used to build the model. Validation of the model will be carried out in the case study area. The results will be compared with the results of research conducted by the method of layering information. If necessary, adjustments will be introduced and the re-validation of the model will be done.

The second part of basic research is to build a model for the valuation of landscape units using a tool Model Builder in ArcGIS software. Considering selected evaluation criteria and weights given to them will be designed in the process of valorisation units. After entering the data for model validation is performed in the area of development in the area of suburban Wroclaw and Bratislava. The third part of the study is to formulate guidelines for landscaping and setting up the socio-economic development for selected municipalities on the basis of research results.

A new approach to the identification and valorisation of the landscape at the local level will help to determine the directions of socio-economic for the community based on data about the state of maintenance of the landscape, social value of the landscape, environmentally and culturally, as well as their degree of variety and clarity. The test results will be analyzed in terms of location and character of the landscape units for the entire area, as well as for each of the municipalities. The result of the research will be a universal model for geoprocessing geographic data used for identification and valorisation of landscape units in the GIS environment.

Results of research firstly will help to determine the character of the landscape in the area and its assessment, secondly will be used to determine the directions of socio-economic development in the municipality, thirdly will be the basis for conducting local spatial policy. The results of the research will contribute to increase understanding of the role of landscape in contemporary society, the economy and sustainable development on a local scale.