

The project is devoted to the green infrastructure of small (less than 20,000 inhabitants) and medium (up to 100,000 inhabitants) cities. The term 'green infrastructure' (GI) refers to urban areas covered with vegetation and water (e.g. parks, arable lands, forests, wastelands, rivers, canals, reservoirs) as well as architectural surfaces and devices covered with vegetation (e.g. for retaining rainwater). It is increasingly used in the world to indicate the active role of these areas in supporting the life of settlements, cities, regions and countries, as does the technical infrastructure, i.e. "gray infrastructure". In Poland, this term probably does not yet exist in documents of development planning and management of the cities studied. Rather, problems of shaping green areas or open areas appears. Referring to the idea of GI in our project is to emphasize that the way of identification, and especially the assessment of the participation, distribution, natural and social significance of the studied areas will refer to the main principles of GI. It is especially about their arrangement that they not only create conditions for recreation, but also bring many other benefits: protection of natural values, mitigation of the effects of climate change, improvement of air and water quality, development of economic functions (e.g. tourism), attractiveness of city landscape and improving its image.

We want to take care of small and medium-sized cities for two main reasons. First of all, these cities are currently in the center of interest of both researchers and politicians in Poland. It results from the fact that in the network of Polish cities, they constitute important administrative, social and often economic links, but their existence is threatened because the number of people living in them decreases and they often lose their functions of economic and administrative centers. The second reason is a clear gap in the research on the GI of such cities, compared to the numerous studies conducted in large cities with over 100,000 inhabitants.

The purpose of our research is therefore to examine what resources of GI are available in small and medium-sized cities, and what importance its resources have for their development and quality of life for residents. We are also interested in whether the authorities and communities of the cities studied see the need for GI and whether they take actions to maintain and preserve its existing resources and create new ones. We want to find out whether our assessments of GI resources are consistent with the views of the authorities and residents of the cities studied.

The research was divided into four stages. They will include 7 research tasks.

The first stage will cover 264 cities, including 148 medium-sized and 116 small ones (urban-rural communes will not be examined due to different management conditions). We will find out what layouts of areas with dominant vegetation and water coverage form GI and distinguish characteristic models of these systems. We will also examine the socio-economic situation of the cities studied. On this basis, we will select 20 cities for detailed research. For the purposes of the second stage, we will examine legal regulations in force in Poland that favor the protection and development of GI.

In the second stage, we will recognize what types of areas (e.g. parks, allotment gardens, home gardens) make up GI and what is their percentage share in the total area of the city. We will also determine what functions are fulfilled by these areas (e.g. recreation, protection, economic, integration, image) and what benefits due to this, the city dwellers can derive from. Next, we will carry out detailed analyses of planning documents (e.g. development strategies, spatial development conditions and directions, environmental protection programs) developed in the cities studied and find out whether their authorities attach any significance to the function of GI and how they see its future. At this stage, we will select 5 cities, for which we will carry out multiple case studies. They will rely on a thorough, systematic identification and description of issues of interest.

In the third stage, we will focus on social issues and management. Through interviews and surveys, as well as field studies, we will learn the views and expectations of city dwellers regarding GI and management mechanisms of GI. We will examine which institutions and organizations influence the planning and protection of GI and how its development and modernization is financed.

The fourth stage will be the summary of the research results, which - we hope - will allow to achieve their above-mentioned goal.

The designed research is multidisciplinary. It will be led by a team of landscape architects, a spatial planning specialist, a geographer, a lawyer and an economist. This will allow a wide range of research methods to be used. In addition to basic methods, source queries, review of planning documents and legal acts, methods appropriate to social research (e.g. interviews, surveys), analyses of socio-economic situation, landscape ecology (e.g. landscape indicators, multi-criteria analyses), landscape architecture and environmental psychology (e.g. indicator of perceived quality of residence), will be applied.