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## Systemic design approach for climate change adaptation and enhancement of public health and wellbeing

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Climate change-related phenomena are putting an enormous strain on cities' infrastructure, human livelihoods, public health and citizens well-being. This, together with the increase in urban growth and urbanization, results in an expansion of urban hazards - including water scarcity, disease transmission and consequent social issues.

To address this complexity in an urban design context we introduce a Systemic Design (SyD) framework for Multifunctional Nature-based Solutions (NBS) to rethink and contribute to the planet's health and people's quality of life. The SyD approach focuses on context knowledge creation (environmental, climatic, social...) that includes perspectives from the point of view of multiple stakeholders, maps its key features, and analyses alternatives for exploiting different design options. Exploratory or suitability modelling supports all these steps.

The examples here presented are part of the multidisciplinary project euPOLIS focused on climate change adaptation and on enhancement of public health and citizen's well-being through the implementation of nature-based solutions (NBS). Although diversity of the size and the scale of presented case studies, the systematic baseline analysis have revealed that there are several shared conditions, such as an immediate need for improvement of existing green spaces, mitigation of direct and indirect UHI effect and refinement of maintenance systems.

A mapping of the local features, and variety of specific spatial and social conditions in public spaces studied in euPOLIS's Cities (Belgrade, Gladsaxe, Lodz and Pireas) gives synthetic prospects to better understand the potential effectiveness of Blue-Green Infrastructure (BGI) solutions (design options) in relation to their wider ecosystem and citizens' concerns. This leads to a systematic assessment of possible future scenarios of different scales (local, urban, regional...) and allows an examination of possible steps to better define locally specific variables, evaluation and validation of benefits to reduce existing vulnerability, and to improve community's liveability. The systemic design approach allows to explore the main drivers of urban development, climate change mitigation and urban resilience. In this way, it also supports decisions for further planning stages and anticipates actions for the management of the multifaceted hazards of the entire urban system.