



Nature-based Solutions (NBS) at work and monitoring their performance – the innovative research case of the EU-funded project euPOLIS

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Climate change impacts are affecting and will continue to widely affect particularly urban areas and their dwellers. These impacts not only come with economic losses, but also directly threaten the health of urban dwellers, as well as the functionality of urban ecosystems in terms of providing ecosystem services (EES) and ensuring habitats for threatened biodiversity. Nature-based Solutions (NBS) are approaches that can tackle many of these impacts by mimicking natural processes.

In this case, the euPOLIS project, aims at creating cities-for-healthy-people by introducing NBS as a common practice in the urban planning methodologies, to locally improve thermal comfort, enhance biodiversity, mitigate pollution, improve climate resilience, provide open areas that stimulate social exchange and inclusivity, and much more, all contributing to enhancing public health and wellbeing (PH&WB) of citizens. By selecting 4 front-runner cities acting as demo-cases in different biogeographical and climatic regions, NBS are designed and tailored to each urban environment characteristics and problems. An innovative urban planning methodology that actively engage citizens is firstly developed, then tested and finally put into practice in all FR cities and resulting into a set of NBS interventions which aim to enhance the outdoor environmental conditions of the sites, supporting and promoting increased physical activity of citizens (as a precursor for health and well-being enhancements) and providing ground for socio-cultural and business improvements. These NBSs are then, implemented and constructed on each site, and carefully monitored before, under and after construction in order to measure their expected impacts.

The monitoring phase is based on an exhaustive data collection approach of different variables (environmental, social, public health and well-being, urban), which together with the posterior data analysis are expected to be important research tools and methodologies allowing to withdraw evidence-based conclusions of the NBS impacts. Different approaches to monitor NBS will be used, such as biodiversity surveys and environmental modelling, that in combination with in-situ

sensors and satellite imagery and will provide insights about the environmental status of the site. In addition, the use of wearables together with health apps will help to determine the effects on PH & WB of citizens. Finally, questionnaires on-site along with other qualitative methods will help to shed light on the enhanced social and economic conditions. NBS implemented in the project sites will therefore cover a multi-disciplinary consortium, actively engage citizens for consultation in all phases of the project and have a strong focus on PH & WB with the assessment of multiple co-benefits the solutions can provide. The enhanced EES by the newly introduced NBS, are expected to revitalize the urban ecosystems, protect local biodiversity and by doing so, regenerate the economic, social, cultural aspects of the site. Finally, this process is expected to directly/indirectly improve PH & WB in the demonstration sites.

The euPOLIS Project is on-going and expected to finish by August 2024, when the results and conclusions of the developed urban planning methodologies and NBS impacts on PH&WB will be shared, discussed and potentially scaled-up in other urban environments impacted by climate change.