SUMMARY

Context

The research project UrbanGaia focused on the multitude of functions and services that urban green and blue infrastructure (U-GBI) provides and started with the hypotheses that:

A. U-GBIs increase ecological resilience,
B. U-GBIs increase supporting ecosystem functions and biodiversity,
C. U-GBIs supply direct ecological, social and economic benefits,
D. U-GBIs improve well-being of all.

The main aim of UrbanGaia was to develop a framework to evaluate, manage and design performative U-GBI while taking the four hypothesis into consideration. UrbanGaia focused explicitly on the ecological and socio-economic performances of existing U-GBIs in four case studies (Coimbra in Portugal, Genk in Belgium, Leipzig in Germany and Vilnius in Lithuania). An transdisciplinairy approach was used to analyze the U-GBI performances. Ecologic and socio-economic research was combined with policy and governance analysis and stakeholders were involved in each case study to provide their insights and to steer research activities.

Key Performance Indicators (KPIs) were identified and used for the development of the evaluation framework. The KPI's act as a tool to follow up on a set range of theme's to assess the quality and performance of U-GBI. A good KPI framework is aimed to support the development of new strategies for the improvement of urban ecosystems and the related decision-making, planning and management, with attention to increase biodiversity and ecological resilience and improve the supply of benefits and their impact on human wellbeing (of all).

It is expected that improved U-GBI, and improved planning and management of U-GBI, will foster opportunities for i.a. economic activities (tourism, catering industry, urban agriculture, etc.), quality of life of city dwellers (positive effects on health, leisure experiences, sport, etc.), and ecological quality.

Objectives

The main objective is the development of an indicator framework that includes KPI's for the ecological, social and economic benefits of U-GBI. Furthermore, this framework will be applied in the case studies for the selection of indicators adjusted to the local context to monitor the performance of their U-GBI. This is divided in the following sub-goals:

- Development of an evaluation framework that is flexible enough to be applied to each case study and yet allows for a fair comparison between case studies
- Development of performance indicators for governance processes (is U-GBI planned in such a way that it aims for a multitude of benefits for the wellbeing of all?)
- Identification of realistic (given the local context) performance indicators for ecological, social and economic benefits for each case study

Additionally, this project also aimed to get insights on

- The policy context of U-GBI: how has the concept of U-GBI being taken up in current policies relevant for each case study? Does it contribute to the planning and implementation of multifunctional U-GBI for all?
- The use of U-GBI for the planning and management of user-oriented U-GBI: which functions of U-GBI are typically used by visitors and what is their motivation?

Conclusions

- UrbanGaia developed a KPI-framework based on the IPBES assessments. This framework includes intrinsic values of nature (such as biodiversity), instrumental values such as ecosystem services, and rational values with respect to quality of life of urban dwellers.
- The innovative KPI framework that has been developed by UrbanGaia (1) is flexible enough to adapt concrete indicators to local issues and context and (2) allows to compare indicator sets on a higher level between cases. Furthermore, a method has been designed and published to identify the best indicators for each case study based on local knowledge.
- A framework of performance indicators has been developed to evaluate the planning process (governance) of U-GBI. This assessment assesses whether all relevant issues and opportunities of the area and relevant stakeholders (including citizen) have been included and if this has led to collaboration in the process and the creation of multifunctional application of U-GBI.
- The policy assessment highlights a varied uptake of the EU concept in the case studies, which can be explained by 1) the presence of other established or new environmental concepts which can be favored, and 2) the moldability of the green infrastructure concept, which can lead to local adaption of the concept, but also the risk that it is molded into an interpretation and application that have transformed the original ideas. To spread the concept to local and widespread application multiple driving forces are needed to incentivize the concepts use and re-use in order to make into something recognized, common and shared. Examples are the availability of written material such as (inter)national journals or handbooks that inspire planning and design of green infrastructure, participation in (inter)national or regional networks to exchange experiences and practices, participate in a research project that study and support the implementation of the concept on the ground and exchange knowledge.
- Results show that it is difficult to transfer results about ES use and user motivations from one park or city to other parks or cities. Our results suggest that the design of U-GBI must meet local specific characteristics in order to offer benefits for their users. This result underlines 1) the importance of a governance process that includes the local assets, issues and opportunities, while including user-groups, to design U-GBI that meets local demands and 2) when monitoring benefits, to have a framework that is flexible enough to include different indicator sets in each city.

Keywords

Urban Green-Blue Infrastructure, Key Performance Indicators, Plural valuation, Policy analysis, Governance analysis, Ecosystem Services use

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