

Proposed solutions for obstacles to biodiversity promoting green space planning and design in cities

A survey of 573 cities in 18 European countries shows the obstacles that cities face when designing and maintaining their green spaces specifically to promote biodiversity. As the study also showed that cities implement a smaller range of biodiversity-enhancing measures when faced with a higher number of obstacles, it is important to develop and distribute appropriate solutions.

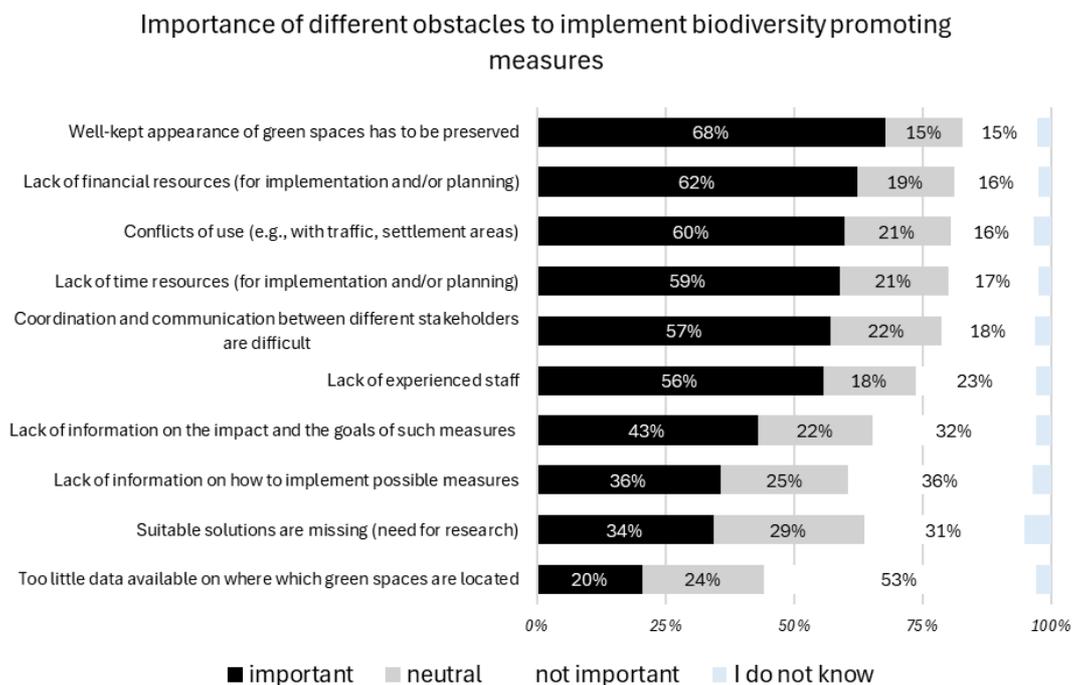


Figure 1: List of the various obstacles, sorted by importance (n = 611)

It became clear that all of the obstacles that were rated as *important* by more than half of the cities relate to the implementation of measures that promote biodiversity. A lack of information and knowledge about biodiversity-promoting measures is considered less important. The following proposed solutions therefore relate in particular to overcoming obstacles to implementation.

Ensuring that green spaces look well maintained and orderly is the most important obstacle. Many cities believe that actively promoting biodiversity has a negative impact on a well-maintained appearance and that the population does not agree with this. Such conflicts are a well-known problem, for example when “tidy” lawns are converted into extensively maintained “wild” urban meadows. However, there are also remedies in the form of information and participation measures. The perception of the aesthetics of green spaces is also very individual and depends, among other things, on a person's socio-cultural values ¹. Individuals who see the protection of biodiversity as a social and/or private task show a greater willingness to convert lawns into urban meadows ². It is important to note here that while the European urban population favors a well-kept appearance of urban green spaces, they also want them to function as habitats for animals and plants ². Actively informing the population about the ecological benefits of biodiversity-enhancing measures that significantly change the appearance of urban green spaces and raising awareness in this regard can increase acceptance among the population and is a key approach to overcoming this obstacle ². This includes, for example, information boards with explanations and contact details ³. In addition, the population could become more closely involved in planning processes through participatory approaches in order to further increase the acceptance of such measures ³. Finally, attention should be paid to making the measures as visually attractive as possible, for example by implementing regularly mowed “acceptance strips” around extensively maintained meadows ³.

The cities also stated that limited time resources of the authorities as well as difficulties in coordination and communication with the various urban stakeholders can hinder biodiversity-promoting green space management.

Improved coordination between different departments could make processes more efficient and thus save time resources in planning, for example through standardized processes and regular meetings between the various stakeholders. Staff training on the topic of biodiversity-promoting green space maintenance can also make planning and implementation more efficient in the long term and thus reduce the pressure on time resources. In addition, a lack of experienced staff is seen as a difficulty in many cities, which can further increase the workload of the staff involved. State or municipal support for further education on ecological aspects of landscape architecture and green space management could help to attract and educate more qualified staff in this area. A positive practical example of coordination and further training is the German association “*Kommunen für Biologische Vielfalt* (“Communities for Biodiversity”), which offers a platform for an exchange of experience, ideas and information as well as a wide range of further training opportunities⁴.

If resources for implementing biodiversity-promoting measures are limited, efficiency improvements in green space maintenance, process optimization and new technologies can be important solutions⁵. In order to conserve financial resources, very cost-effective measures should be chosen, and existing building materials should be used. For example, combinations of various small-scale structures, such as deadwood, rock piles and leaf piles, can be implemented at low costs due to the low material costs. Such measures still achieve a significant positive effect on urban biodiversity^{6,7}. Certain biodiversity-promoting measures that lead to extensive management of green spaces can even reduce the costs for maintenance works⁸.

It is also important that cities include the long-term benefits of biodiversity-promoting measures in their financial calculations, in addition to the short-term costs. Even cost-intensive measures can be financially worthwhile in the long term, for example as an adaptation to climate change or for increasing ecosystem services and the quality of life of the urban population⁸. If measures are planned and implemented directly in such a way that no additional interventions are necessary due to complaints from the population, this can further increase cost efficiency.

Conflicts with competing land uses, such as traffic or settlement areas, are often obstacles to the implementation of ecologically oriented green spaces. In densely populated urban areas in particular, there is little space for biodiversity-promoting measures. Small-scale measures that require little space, such as nesting and breeding structures, shrub planting and ruderal vegetation, might help in this case. In areas adjacent to traffic uses, only measures that do not impair traffic safety should be implemented. These can be low-growing flower or forb lawns, for example, which show flowering phases attractive to people and pollinators. In addition, participatory planning processes with the population can be used to make the measures socially viable and avoid conflicts of use⁹. In general, multifunctional use of urban spaces should be sought that considers the needs of both the population and urban biodiversity⁹.

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