




Abstract

The Effect of Nature-Based Solutions on Human Nutrition and Food Security in Urban Settings [†]

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[†] Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Increased land use as a result of urbanization is one of the most rapid human-driven causes of biodiversity loss. Urbanization negatively affects human health because of poor nutrition, non-communicable diseases (NCDs) and health problems related to air pollution. Nature-based solutions (NbSs) for sustainable food production in combination with reduced land and water use are essential for the reduction in biodiversity loss, human health and nutrition. This systematic review aims to assess the effects of NbSs that positively contribute to biodiversity on human health and wellbeing in urban settings worldwide. Secondly, other factors, such as safety, attractiveness, inequity and accessibility, that may have a potential role in the use of NbSs will be evaluated. For the purpose of the FENS conference, only results related to nutrition and food security will be presented. The PRISMA guidelines will be followed. Full-length articles in English language conducted in 2000 and published in 2010 will be included. Both quantitative and qualitative studies are eligible. Due to the diversity of studies, the quality assessment with diverse studies (QuADS) tool will be used for the quality assessment of the studies included. The statistical analysis will depend on the heterogeneity and the feasibility of harmonization of the data. PubMed, Web of Science and Scopus were searched. The initial search yielded 14386 publications. After the removal of duplicates, 8730 titles and abstracts were screened. Currently, 881 full texts out of 2928 have been screened, from which 69 (8%) studies reported outcomes related to human nutrition and food security. Most of the studies took place in urban gardens (61%). Urban farming (25%) and farmers' markets followed (25%). Vegetation/greenness in cities was considered as an NbS by 6% of the studies. Less studied NbSs were green roofs, general green spaces, urban foraging and urban blue spaces (3% each). Gardening has been shown to be beneficial for the wellbeing and nutrition of various populations. Due to the high land use for the feeding of urban populations, alternative food production techniques without soil use are important. Soil-free rooftop farms and vertical farming could increase the vegetable and fruit production in cities and improve the diet quality of citizens.

Keywords: nature-based solutions; urban gardening; nutrition; food security; urban; city



Citation: Kalmportzidou, A.; De Giuseppe, R.; Vincenti, A.; Al-Naqeb, G.; Cena, H. The Effect of Nature-Based Solutions on Human Nutrition and Food Security in Urban Settings. *Proceedings* **2023**, *91*, 214. <https://doi.org/10.3390/proceedings2023091214>

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 4 February 2024



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Author Contributions: Conceptualization, A.K. and R.D.G.; methodology, A.K.; formal analysis, A.K.; data curation, A.K.; writing—original draft preparation, A.K.; writing—review and editing, A.K., R.D.G., A.V., G.A.-N. and H.C.; visualization, A.K.; supervision, H.C. All authors have read and agreed to the published version of the manuscript.

Funding: The research is funded by the European Union—Next Generation EU within the National Biodiversity Future Center (NBFC; Project code CN00000033; CUP:13C22000720007).

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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