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## Phytoremediation: Nature based solution for contaminated urban soils

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**Abstract:** Rapid growth of urban population and consequential increasing traffic, construction of buildings, roads, industrial areas, affects urban soils as well as urban environment in general. Urban soils differ from the natural soils by their disturbed structure resulting from waste disposal, construction sites, pollution from atmospheric deposition, traffic and industrial activities. Mismanagement of urban environment can cause severe contamination of green areas in cities, with serious health risk for urban population. To prevail those issues and improve the sustainability of urban green areas, innovative and nature based solutions (NBS) should gain more attention, particularly those easily applied such as tree-based phytoremediation. Unlike traditional remediation techniques that are expensive, very demanding and can cause secondary pollution, tree-based phytoremediation is NBS with wide spectrum of application. It is low-cost technique, based on urban green infrastructure (parks, alleys, community gardens) and has numerous benefits reflected through sustainable management of urban soils and improvement of general environmental, health, social and economic conditions for urban population. Primarily, urban green infrastructure consist of different tree species capable to mitigate soil contamination, especially contamination with toxic heavy metals (HMs). Regeneration of urban ecosystems based on the role of tree species is connected to ability of trees to retain, uptake and decompose pollutants (including HMs) from contaminated urban soils, enabling their re-use process and turning them into green and environmental friendly areas. Taking into account advantages of phytoremediation technique, the aim of this paper is to present concentration of some HMs (cadmium, lead and zinc) in urban soils of cities accross Bosnia and Herzegovina and look into phytoremediation potential of common urban tree species: horse chestnut (*Aesculus hippocastanum* L.) and planetree (*Platanus × acerifolia* (Aiton) Willd.). Results showed high phytoremediation potential of above mentioned tree species, which opens space for further research and introduction of this NBS for remediation of many severely polluted urban soils, drawing attention to better-understood urban sustainability and importance of application of phytoremediation as NBS on local level.

**Key words:** nature-based solutions, phytoremediation, urban soil, trees, heavy metals