

- Blair D. (2009) 'The child in the garden: an evaluative review of the benefits of school gardening', *J Environ Educ.*, 40(2), pp.15–38.
- Davis, J. N., Martinez, L. C., Spruijt-Metz, D., & Gatto, N. M. (2016) LA Sprouts: A 12-Week Gardening, Nutrition, and Cooking Randomized Control Trial Improves Determinants of Dietary Behaviors. *Journal of nutrition education and behavior*, 48(1), 2–11.e1. doi:10.1016/j.jneb.2015.08.009
- Ozer, E.J.(2007) The effects of school gardens on students and schools: conceptualization and considerations for maximizing healthy development' *Health Educ Behav.* 34(6), pp.846–863.
- Rees-Punia, E., Holloway, A., Knauff, D., & Schmidt, M. D. (2017). Effects of School Gardening Lessons on Elementary School Children's Physical Activity and Sedentary Time, *Journal of Physical Activity and Health*, 14(12), pp.959-964
- Somerset, S., & Markwell, K. (2009). Impact of a school-based food garden on attitudes and identification skills regarding vegetables and fruit: A 12-month intervention trial. *Public Health Nutrition*, 12(2), 214-221
- Wells, N.M., Myers, B.M., Todd, L.E. et al. (2015) The effects of school gardens on children's science knowledge: a randomized controlled trial of low-income elementary schools. *Int J Sci Educ.*, 37(17), pp.2858–2878
- Williams, D.R. and Brown, J. (2012) *Learning Gardens and Sustainability Education: Bringing Life to Schools and Schools to Life*, New York and London: Routledge

16.5 Citizens' awareness regarding urban nature and ecosystem services

Project Name: UNaLab (Grant Agreement no. 730052)

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Citizens' awareness regarding urban nature and ecosystem services	Knowledge and Social Capacity Building
Description and justification	The conservation, rehabilitation or restoration of ecosystems and ecological processes is a key strategy to maintain, enhance or recover the natural capital, or ecosystem services, provided by intact natural systems.

	Awareness of environmental issues is a critical first step in creating support for environmental projects and programs.
Definition	The extent to which a project has used opportunities to increase citizen's awareness of urban nature and ecosystem services, and educate urban citizens about sustainability and the environment
Strengths and weaknesses	+ Nature-based solution projects are uniquely placed to contribute to citizens' awareness regarding the multiple co-benefits of urban nature, and the connection between re-naturing cities and the provision of ecosystem services - May not provide the holistic evaluation
Measurement procedure and tool	The extent to which a project exploits opportunities to increase citizens' awareness of NBS and ecosystem services, or to more generally educate citizens about sustainability and the environment, can be evaluated using a five-point Likert scale (Bosch et al., 2017): Not at all – 1 – 2 – 3 – 4 – 5 – Very much 1. Not at all: opportunities to increase environmental awareness were not taken into account in the project communication 2. Poor: opportunities to increase environmental awareness were slightly taken into account in the project communication. 3. Somewhat: opportunities to increase environmental awareness were somewhat taken into account in the project communication, at key moments in the project there was attention for this issue. 4. Good: opportunities to increase environmental awareness were sufficiently taken into account in the project communication; the project utilized many possibilities to address this issue in their communications. 5. Excellent: opportunities to increase environmental awareness were taken into account in the project communication; the project utilized every possibility to address this issue in both online and offline communications.
Scale of measurement	Metropolitan scale (project based)
Data source	
Required data	Information on opportunities to increase citizens' awareness of NBS and ecosystem services or to more generally educate them about sustainability and the environment
Data input type	Qualitative

Data collection frequency	Annually; at minimum, before and after NBS implementation
Level of expertise required	Low
Synergies with other indicators	Relation to <i>Design for sense of place</i> indicator and <i>Green Space Management</i> indicator group
Connection with SDGs	SDG 11 Sustainable cities and communities
Opportunities for participatory data collection	Participatory data collection is the core of this metric; Questionnaires
Additional information	
References	Bosch, P., Jongeneel, S., Rovers, V., Neumann, H.-M., Airaksinen, M., & Huovila, A. (2017). CITYkeys indicators for smart city projects and smart cities. CITYkeys D1.4. Retrieved from http://nws.euocities.eu/MediaShell/media/CITYkeysD14Indicatorsforsmartcityprojectsandsmartcities.pdf