

Indicator: Attachment to community

Naturvation challenges: Inclusive and equitable governance; Social justice and social cohesion; Health and well-being; Cultural heritage and cultural diversity

SDGs: 1, 2, 3, 4, 5, 10, 11, 16

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Indicator description

This indicator is about how people relate to each other and the type of social interactions/experiences they share, for example playing, sports, music, art etc. Community has many definitions, although most definitions include a sense of belonging from rewarding experiences such as a positive mental state of acceptance and well-being, and active participation in a community and consequently community interactions are positively related to personal feeling of community (13).

It addresses the NATURVATION challenge “Social justice and social cohesion” covering social coherence and equity. NBS can provide space for people to connect to other people and to the outdoors. NBS can enable social interaction and attachment, e.g. meeting friends and neighbours, having conversations, connecting through shared hobbies like exercise or gardening, having parties, cooking and eating together (1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18). Social cohesion is one of the most relevant cultural ecosystem services in the urban context (4, 7).

Another addressed NATURVATION challenge is “Health and well-being”. NBS and the social interaction (attachment to community) around them can contribute to relaxation and rehabilitation (1, 2, 3, 4, 7, 18). Also, a green environment is found to be a mediator of the relationship between socialization (also organizational) and happiness (also employee) (1, 5).

The challenge “Cultural heritage and cultural diversity” can be addressed by the indicator as people (e.g. from foreign countries) can meet in NBS and share their stories (e.g. about the home countries) and establish friendships (1, 8, 14, 18). Also, some plants may be reminiscent of the home country and its culture (8). “Inclusive and equitable governance” can be addressed by the indicator as the places of social interaction can be used for local resident and citizen participation (9). The indicator can be measured through various forms of interviews (1, 6, 8, 12, 13, 14, 17), questionnaires (3, 10, 16), method of empathy-based stories (MEBS, 4) or surveys and observations (6, 9, 11, 12, 13, 14, 15, 17, 19).

Indicator scoring

Values used for scoring were based on empirical data (transdisciplinary, 16 papers (1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17)) and literature reviews (3 papers (5, 7, 18)).

The proportion of studies that showed positive benefits for an NBS were used as a base for the scoring and distributed between scores ranging from 1 to 5 according to the proportions of positive impacts. Indications of negative impacts were noted here in the score document as a proportion of studies. When data for benefits of an NBS was not present in the literature it was denoted as no values found.



Scores, attachment to community		
Nature-based solution	Score	Proportions of positive /negative impact (number of studies)
Parks and (semi)natural urban green areas	4	0.68 / 0.26 (n = 19)
Urban green areas connected to grey infrastructure	2	0.21 / 0 (n = 19)
Blue areas	1	0.16 / 0 (n = 19)
External building greens	2	0.21 / 0 (n = 19)
Allotments and community gardens	2	0.32 / 0 (n = 19)
Green areas for water management	2	0.21 / 0 (n = 19)

References

- (1) Bell, S.L., Phoenix, C., Lovell, R. & Wheeler, B.W. (2015) Seeking everyday wellbeing: The coast as a therapeutic landscape, *Social Science & Medicine*, 142: 56-67.
- (2) Bengtsson, A. and Grahn, P. (2014) Outdoor environments in healthcare settings: A quality evaluation tool for use in designing healthcare gardens. *Urban forestry & urban greening*, 13(4), pp.878-891.
- (3) Giannakis, E., Bruggeman, A., Poulou, D., Zoumides, C. and Eliades, M. (2016) Linear Parks along Urban Rivers: Perceptions of Thermal Comfort and Climate Change Adaptation in Cyprus, *Sustainability*, 8: 1023.
- (4) Mesimäki, M., Hauru, K., Kotze, D.J. & Lehvävirta (2017) Neo-spaces for urban livability? Urbanites' versatile mental images of green roofs in the Helsinki metropolitan area, Finland, *Land Use Policy* 61: 587-600.
- (5) Richardson, M., Maspero, M., Golightly, D., Sheffield, D., Staples, V., & Lumber, R. (2016) Nature: a new paradigm for well-being and ergonomics, *Ergonomics*: 1-14.
- (6) Santiago, L., Verdejo Ortiz, J., Santiago-Bartolomei, R., Melendez-Ackerman, E. & Garcia-Montiel, D. (2014) Uneven Access and Underuse of Ecological Amenities in Urban Parks of the Río Piedras Watershed, *Ecology and Society* 19(1): 26.
- (7) Jäppinen, J.P. and Heliölä, J. (2015) Towards A Sustainable and Genuinely Green Economy. The value and social significance of ecosystem services in Finland (TEEB for Finland).
- (8) Hordyk, S.R., Hanley, J., & Richard, É. (2015) "Nature is there; its free": Urban greenspace and the social determinants of health of immigrant families, *Health & Place* 34: 74-82.
- (9) Shafraay, E. and Kim, S. (2017) A Study of Walkable Spaces with Natural Elements for Urban Regeneration: A Focus on Cases in Seoul, South Korea, *Sustainability* 2017, 9: 587.

