AD2

AVAILABILITY OF AREAS OF PUBLIC GREENERY OF ADEQUATE QUALITY

Number	AD2
Indicator name	Availability of areas of public greenery of adequate quality
Area	A
Indicator definition	The indicator evaluates the spatial distribution of areas of quality public greenery with an area of at least 2000 m2 in terms of their accessibility for residents of the city/city district/municipality. Only areas of anthropogenic and natural greenery are evaluated, which provide suitable opportunities for refreshment during the summer heat with the help of shading and cooling by treetops. The share of tree canopy cover of a given area should be at least 40-60 %. These include parks, continuous areas of indoor greenery in low-rise buildings and residential greenery in high-rise buildings, historic greenery, greenery related to civic amenities and other greenery, if it is publicly accessible and fulfils, among other things, a recreational function. In practice, these are also urban forest lands with involved vegetation, alleys with tall trees and shrubs, etc. Accessibility for residents is reported (% of population living within 300 m of such areas).
Indicator unit	%
Key words	Green infrastructure, nature-based solutions, microclimate, biodiversity, summer heat, greenery, cooling
Reason for tracking and usability	One of the significant negative effects of climate change is the summer heat. Extremely high to tropical temperatures bring a number of health risks that cause significant negative health and social problems. This mainly concerns the most vulnerable groups of the population (seniors, mothers with small children, people with disabilities) who live in apartment buildings without the possibility of air conditioning. The tasks of local governments include ensuring a quality environment, which in the case of summer heat means providing for its inhabitants' areas where it is possible to cool down or overcome the hottest part of the day. One of the possibilities is public greenery with sufficient coverage of treetops or a water feature. Research has confirmed that in the case of parks with only a small proportion of trees, respectively, only with planted ornamental low plants, the temperature is the same as in their surroundings.

Completeness, representativeness, validity

The cooling effect of vegetation has been confirmed by several studies, but the extent of this effect depends not only on the area of public space, ratio and quality of vegetation, but also on the location of greenery within the city/city district/municipality, nature of surrounding buildings, terrain. Based on several sources in general, it can be said that the temperature difference e.g. between parks and built-up areas was on average from 0.94 $^{\circ}$C to 2.26 $^{\circ}$C.

A prerequisite for completeness and representativeness is a detailed analysis of the entire administrative area and a good knowledge of all areas and line elements (e.g. regularly updated pasport/general green).

A prerequisite for sufficient validity is a good knowledge of the actual condition of green areas, especially the evaluation of areas with sufficient shading and their classification into individual areas according to the criteria / definition of GI-green infrastructure (see indicatorAD1). All data must be current, based on the actual state. Within Klimasken, the indicator is linked to descriptive indicators (area and share of different types of areas), exposure indicators (share of tropical days and nights, climatic drought), other indicators of sensitivity and adaptive capacity (share of green infrastructure, share of paved impermeable areas, retention capacity) and readiness indicators (area converted to blue-green infrastructure).

This indicator does not have significant limits.

Description of data processing

Areas of anthropogenic and natural greenery will be set aside from the identified areas of GI (see indicator AD1), which provide suitable opportunities for refreshment during the summer heat with the help of tree canopy shading (more than 40-60 % shading). It is also advisable to make a map of shading by treetops. Subsequently, suitable areas with an area of at least 2000 m2 will be set aside. With the help of spatial analysis in GIS, a 300 m spatial zone (buffer) around such areas of anthropogenic and natural greenery is selected. Residential buildings will be set aside in the given spatial zone and the number of inhabitants will be determined with an assumed area of 3.5-4 inhabitants per 1 housing unit. Finally, the percentage of the obtained population living in the 300 m spatial zone of the total population is determined.

The result is expressed as a percentage.

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Data source

The source of data is the departments of the city/municipal office/local office of the city district (mainly the department of land usage plan, greenery or environment, general or pasport greenery, map GIS data, freely available data including satellite imaging (CORINE, LandCover, Copernicus Land Monitoring Service – Urban Atlas (land.copernicus.eu), The Landsat Program (landsat.gsfc.nasa.gov), ESRI basemaps (arcgis.com), Google maps (maps.google.com).

Tracking frequency

1 x 2 years (or according to the frequency of Klimasken monitoring)

Urban influence

The indicator applies to all greenery, regardless of the owner, which is accessible to all citizens without restriction and is used for general use, possibly with a time–limited and regulated accessibility of availability. The city/city district/municipality can influence the extent, condition, quality and character of greenery only in its administration. The city/city district/municipality can influence the greenery managed by other owners by consistent application of VZN (Všeobecne záväzného nariadenia) on greenery, the law on nature and landscape protection (especially in the field of woody plants), rules in spatial planning, application of appropriate regulations of spatial development and construction as well as educational activities.

Presentation method

The results will be presented in a single KLIMASKEN framework on a five–step scale according to specified intervals.

Responsibility

Processor KLIMASKEN, city, city district, municipality