

Description of urban green heritage indicators

Issue: dissemination and awareness

- › **No. of outreach and education activities carried out in the past year**
This indicator accounts for the quantity of cultural activities held at the heritage resource, that seek to educate and make it known to the various groups. The number of activities carried out within a one year period should be taken into account.
- › **No. of people who attended the activities carried out in the past year**
This indicator measures the total number of people who took part in the various activities carried out by the heritage resource within a one year period.
- › **Average participation rate in activities carried out with a limited capacity**
This indicator seeks to measure the impact the heritage resource has on the public where its cultural activities are concerned. To do so, it measures the attendance percentage at the activities. The higher the percentage is, the greater the social impact is.
- › **No. of publications (articles, books, etc.) produced in the past year**
This indicator measures the number of publications about the heritage resource produced within a one year period. All types of publication should be included: articles, books, papers, etc.
- › **No. of publications on social networks per month**
It is fundamental to have active social networks so that the public gets to know about our heritage resource and the activities it offers. Therefore, this indicator measures the activity on the website and social networks, counting the number of monthly publications produced.
- › **No. of outreach channels**
This indicator measures the number of media or channels used to publicise the heritage resource. They may be the website, e-mail or Whatsapp distribution list, or profiles on various social networks, for example: LinkedIn, Facebook, Instagram, Twitter or Tik-Tok.

Issue: **training**

- › **No. of training activities carried out in the past year**
This indicator measures the number of training activities carried out at the heritage resource throughout one year, including training received and given.
- › **No. of people who attended the training activities carried out in the past year**
This indicator measures the total number of people who took part in the various activities carried out by the heritage resource within a one year period.

Issue: **public health**

- › **Allergen level index**
This indicator seeks to measure the amount of allergic particles in the area of the heritage resource. This is something that can affect many people if they are allergic to certain plants. To do this, we can base ourselves on tables already produced that measure the level of allergen presence of some species, measured from 1 to 5, like the example at the following link: https://www.uco.es/investiga/grupos/rea/?page_id=108
- › **Pollution absorbed (g/year)**
This indicator serves to estimate the amount of pollution absorbed each year by the trees at the heritage resource. To do this, the use of i-tree eco software is recommended: https://www.itreetools.org/documents/196/EcoV6_UsersManual.es.pdf
 - O3: Ozone
 - NO2: Nitrogen dioxide
 - SO2: Sulphur dioxide
 - PM10: Particulate matter with an aerodynamic diameter of 10 microns, or less, and more than 2.5 microns
 - PM2.5: Particulate matter with an aerodynamic diameter of 2.5 microns, or less

Issue: **biodiversity**

- › **Tree and palm tree species:**
 - Number of species
 - Pielou evenness index
- › **Shrub species:**
 - Number of species
 - Pielou evenness index (for individual shrubs)
 - Linear metres of hedging (m)
 - Hedging surface area (m2)
- › **Herbaceous species:**
 - Number of species
 - Green field surface area (m2)

This indicator measures the biodiversity at the heritage resource in several ways, depending on the type of vegetation. This can be the number of species, for those that can be counted easily, such as isolated trees and shrubs, or linear metre, or surface area,

of hedging, when the species are in groups, which is very common in shrubby hedging or herbaceous green fields.

For species that can be counted individually, such as trees and shrubs, it is also recommended to use the Pielou evenness index, which measures the average level of uncertainty when predicting what species an individual chosen at random from a collection belongs to. It is defined using the following formulation:

$$e' = -\sum [p_i \cdot \ln(p_i)] / \ln(S)$$

Where:

- p_i : proportion of individuals of each species, percentage of 1
- S: Total number of species

The indicator takes values between 0 and 1, where 0 would be the result obtained where all individuals belong to the same species, and 1, the result obtained where each individual belongs to a different species, which would indicate maximum diversity.

Issue: **procurement of services**

- › **Proportion of supplier entities**
This indicator measures the percentage of supplier entities used by the heritage resource to carry out services that it cannot do itself.
- › **Proportion of supplier entities publishing sustainability reports**
This indicator measures the percentage of supplier entities used by the heritage resource that publish annual sustainability reports.

Issue: **circular economy and waste management**

- › **Solid urban waste collected (kg/ha).**
- › **Proportion of waste recycled (%).**
This indicator measures the amount of waste collected at the heritage resource, either from waste bins or from cleaning the floor and fittings, expressed in kilos per unit of surface area. At the same time, it proposes indicating the proportion of the waste that was taken to a recycling plant for proper processing.
- › **Natural organic waste collected in the PVU (kg/ha).**
 - Proportion of waste reused for compost (%).

This indicator measures the amount of organic waste collected from the vegetation at the heritage resource (fallen leaves, small branches, dry plants, etc.). At the same time, it proposes indicating the proportion of the waste that was reused for composting (for the resource itself, or not).

Issue: **sustainable management of water resources**

- › **Water consumption:**
 - Amount of water used for irrigation (l/m²/year; l/tree/year).
 - Amount of water consumed in other uses (l/year).
- › **Water source:**
 - Drinking water (%).
 - Reused water (%).
 - Water from wells, boreholes, reservoirs, etc (%).

This indicator measures the source of the water used at the heritage resource in such a way that encourages not using drinking water for uses other than human consumption, wherever possible. Therefore, this indicator measures the percentage of water coming from various sources (drinking water network, reused water network, reservoirs or on-site wells, etc.).

- › **Proportion of efficient irrigation**

This indicator measures the percentage of the area irrigated efficiently (area irrigated efficiently/total area irrigated) x 100

Efficient irrigation is considered to be as follows:

- Drip and sprinkler irrigation, or using other systems where the flow and pressure can be measured, regulated and monitored when the dosage is programmed and regulated depending on the vegetation's needs for water (species, age, density, etc.) and other abiotic factors, such as the soil and the micro-climate (temperature, humidity, rainfall, hours of sunlight, etc.), as long as suitable monitoring and maintenance is carried out that minimises water loss and pressure on the distribution network.

The following are not considered to be efficient irrigation:

- Conventional irrigation with a hose or water tank
- Drip and sprinkler irrigation, or using other systems, where none of the above conditions are met

Issue: **sustainable management of equipment and fittings**

- › **Proportion of infrastructures/fittings finished with certified, low maintenance wood**
This indicator measures the percentage of infrastructures and/or fittings at the heritage resource made from wood, compared to the total infrastructures and fittings in place. So that the indicator does more justice to sustainable management, it is proposed solely to count the wood that is certified for sustainable collection (FSC, PEFC, etc.) and that is low maintenance wood, suitable for outdoor use and highly durable.
- › **Proportion of infrastructures/fittings finished with reused or recycled materials**
There is a considerable quantity of materials and equipment that can be used more than once. This indicator seeks to measure the percentage of elements reused in the various activities at the heritage resource.

Issue: **plant health**

- › **Phytosanitary products used**
 - Herbicides: (indicate specific product(s) and amount used)
 - Insecticides: (indicate specific product(s) and amount used)
 - Bactericides: (indicate specific product(s) and amount used)
 - Fungicides: (indicate specific product(s) and amount used)
 - Other: (indicate specific product(s) and amount used)

This indicator measures the amount of phytosanitary products used at the heritage resource, requiring, for each type of products (herbicide, insecticide, etc.), the specific product and amount used. This can be expressed as kg/m², l/m², kg/plant or l/plant. The choice of measurement unit is totally subjective and will depend on the product used, the subject plant and the application method, etc.

- › **Fertilisers**
 - Chemical fertilisers: (indicate specific product(s) and amount used)
 - Organic fertilisers: (indicate specific product(s) and amount used)

This indicator measures the amount of chemical or organic fertilisers used at the heritage resource, requiring, for each type of product, the specific product and amount used. This can be expressed as kg/m², l/m², kg/plant or l/plant. The choice of measurement unit is totally subjective and will depend on the product used, the subject plant and the application method, etc.

Issue: **energy transition and climate change**

› **Electricity consumption during one year**

This indicator measures the kilowatt/hours (kWh) the heritage resource consumes in the space of one year.

› **Proportion of energy from self-consumption**

Although certain heritage resources cannot integrate self-consumption installations, other spaces do have the option of benefiting from the systems. Therefore, this indicator measures the percentage of energy from self-consumption within the total energy consumed by the resource in the space of one year. This can be obtained by comparing invoices.

› **Stored carbon (t)**

This indicator estimates the amount of carbon stored by the heritage resource during its whole life due to the trees, expressed in tonnes. To get this value easily, use of the i-tree eco software is recommended:

https://www.itreetools.org/documents/196/EcoV6_UsersManual.es.pdf

› **Sequestered carbon (t/year)**

This indicator estimates the amount of carbon sequestered by the heritage resource each year due to the trees, expressed in tonnes per year. To get this value easily, use of the i-tree eco software is recommended:

https://www.itreetools.org/documents/196/EcoV6_UsersManual.es.pdf

› **Shadow index**

The shadow index is based on various mathematical deductions arising from the allometric relations between the normal diameter and canopy diameter of different tree species, linking them using the expression that defines the fraction of canopy cover in a wooded area (canopy horizontal projection area).

It is defined using the following formulation:

$$Is (\%) = 7/S \cdot \sum (ni \cdot dni^2)$$

Where:

- *Is*: Shadow index
- *S*: Total surface area
- *ni*: number of individuals of the species 'i'
- *dni*: average normal diameter of the species 'i'

Issue: **accessibility and inclusion**

- › **Proportion of the area accessible to disabled people**
This indicator measures the percentage area at the heritage resource that is accessible to people with various degrees of disability and different disabilities (hearing, visual, motor, cognitive, etc.).
- › **Proportion of adapted equipment and fittings**
This indicator measures the percentage of equipment and resources adapted for disabled people within the heritage resource.

Issue: **heritage conservation, protection and safeguarding**

- › **No. of activities and actions devoted to the heritage resource's conservation, protection and safeguarding**
This indicator measures the number of actions carried out at the resource in the space of one year to foster its conservation and protection, which includes preventive conservation and restoration work and various types of interventions.

Issue: **employment and working conditions**

- › **No. of employees regularly providing services at the heritage resource**
This indicator accounts for the permanent personnel on the staff at the heritage resource.
- › **Percentage variation of the minimum wage envisaged in the collective agreement**
This indicator measures the percentage variation of personnel wages compared to the fixed minimum wage.

Issue: **sustainable economic management**

- › **Annual percentage of income over expenditure**
This indicator measures the existence of a surplus at the heritage resource, in other words, the amount of income that exceeds expenditure in one year.
- › **Percentage of current expenditure used for each significant issue**
This indicator refers to the budget entry for each significant issue identified in the heritage resource's management. It measures the budget percentage in relation to the total in place for the resource.
- › **Percentage of annual expenditure from external funding**
This indicator measures the percentage of expenditure and budget coming from funding sources that are external to those of the heritage resource.

Issue: **sustainable land management**

› **Soil permeability index**

This indicator measures the soil's capacity for water and air infiltration, expressed as a percentage of permeable soil against impermeable soil. Given that permeability is a highly variable parameter, and there are various levels of permeability, the permeability index is defined using the following formulation:

$$Ips = \sum(f \cdot Si) / ST \cdot 100$$

Where:

- *Si*: Typical surface, where permeability is regularly assessed
- *ST*: Total surface area assessed
- *f*: Permeability factor in a given time
 - Permeable soils: $f = 1$
 - Semi-permeable soils: $f = 0,5$
 - Impermeable soils: $f = 0$

Issue: **equal opportunities**

› **Gender parity index in the organisational structure**

This indicator measures gender equality within the heritage resource's organisational and management structure, in other words, the existence of the same number of men and women in running it.

› **Proportion of people at risk of poverty and exclusion (PRPE) who regularly provide services**

This indicator measures the percentage of people at risk of poverty and exclusion who are members of staff.

› **Proportion of people with a disability of 33%, or more, who regularly provide services**

This indicator measures the percentage of people with a recognised disability who are members of staff.

Issue: **investment and funding**

› **Proportion of expenditure on investments**

This indicator measures the amount of expenditure on investments made by the heritage resource.

› **Proportion of current expenditure in one year**

This indicator seeks to measure the amount of total current expenditure at the heritage resource in one year.

› **Percentage of annual budget from external funding**

This indicator measures the annual budget coming from external sources of funding, outside the heritage resources own funding.

Issue: **users and local community**

- › **No. of activities carried out with the local community.**
This indicator counts the number of activities carried out by the heritage resource that the local community takes part in.
- › **Proportion of local users compared to total users**
This indicator measures the percentage of users of local origin compared to the total visitors to the heritage resource in one year.

Issue: **ethical management, good governance and transparency**

[There are no indicators for this issue for cultural heritage resources]

Issue: **citizen participation**

- › **No. of participatory processes and events during the past year**
This indicator measures the number of participatory actions carried out at the heritage resource, in other words, those that stakeholders or different groups take part in.
- › **No. of activities or work carried out at the request of the local neighbours**
This indicator measures the number of activities carried out at the express request of the heritage resource's neighbours.
- › **No. of people actively doing volunteer work**
This indicator measures the number of volunteers at the heritage resource to look after it or to carry out the activities.

Issue: **public/private partnerships and collaborations**

- › **No. of collaboration agreements with public bodies**
This indicator counts the number of collaboration agreements in place between the heritage resource and public bodies.
- › **No. of collaboration agreements with private bodies**
This indicator counts the number of collaboration agreements in place between the heritage resource and private bodies.
- › **No. of networks the heritage resource collaborates with**
This indicator measures the number of networks the heritage resource collaborates with when carrying out activities or work of any kind.