

## Urban Tree Heritage: Strategies for Conservation and Decision-Making in a Historic Maghreb City

Rania Ajmi 1,2, Faiza Khebour Allouche 1, Aude Nuscia Taïbi 2

1 High Institute of Agronomic Science of Chott Mariem (ISA-CM), Sousse University, Sousse, Tunisia

2 Espace SOciété (ESO) UMR 6590, University of Angers, Angers, 49100, France

### INTRODUCTION & AIM

Public urban green spaces (PUGS) provide ecological functions but also contribute to place attachment and collective identity (Moorish and Brown, 2008). Among them, remarkable trees stand out not only for their age, size, or morphology, but also for their historical continuity, symbolic meaning, and social uses (Bourdu and Feterman, 1999; Touzé, 2019). Their heritage value is strongly linked to cultural attachment and collective memory (Chen et al., 2018). In Sousse (Tunisia), colonial-era species such as eucalyptus, ficus, palms, and old olive trees remain important urban landmarks. These trees structure public spaces, support social practices, and preserve traces of the city's historical transformations.

This study assesses their intrinsic, cultural, symbolic, and landscape values to better understand their role as heritage trees in a Mediterranean urban context.

### METHOD

The methodology combined field-based inventory, historical analysis, and heritage assessment to identify remarkable trees within PUGS in Sousse (Fig. 1). Field surveys conducted in 2021 enabled the geolocation and documentation of 303 trees across five main public green spaces. Selection was based on dendrometric and morphological indicators such as trunk diameter, height, canopy size, and sanitary status, complemented by qualitative data from semi-structured interviews with municipal managers and residents.

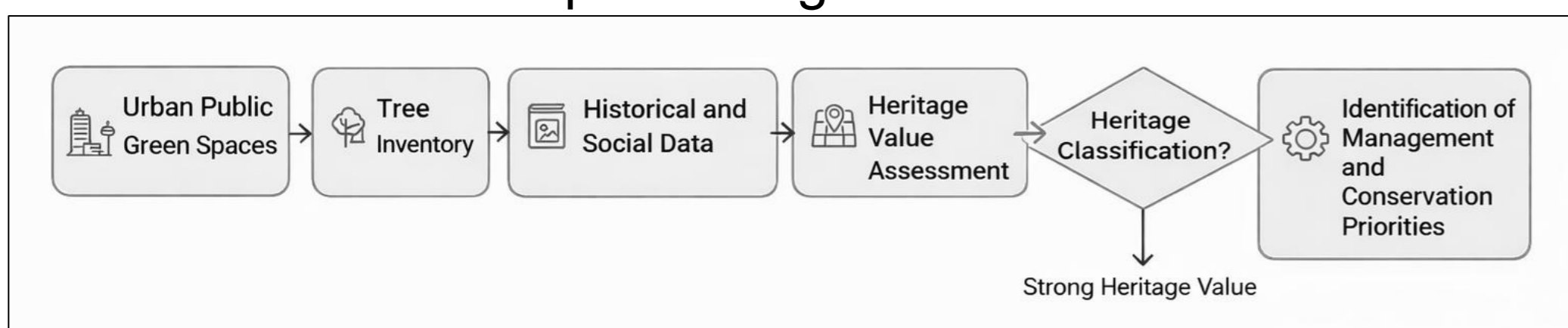


Fig.1. Methodology framework of our study (@Ajmi et al. 2025)

The heritage evaluation was carried out using a multi-criteria approach assessing intrinsic, use, cultural and symbolic, pedagogical, and landscape values (Table.1). Each criterion was scored using a binary system to determine the presence or absence of value, and trees exhibiting more than two positive criteria were classified as having strong heritage significance.

Table.1. Value categories description of heritage trees inventoried in UPGSs of Sousse, Tunisia

Value category	Description
Intrinsic	Morphological characteristics (form, size, age), rarity, and aesthetic features (e.g., bark, roots)
Cultural & symbolic	History, religion, social meanings
Pedagogical	Education, awareness-raising
Landscape	Visual impact, spatial structure
Use	Social, ecological, economic functions

### RESULTS & DISCUSSION

The inventory of colonial-era vegetation in Sousse reveals a diverse assemblage of remarkable urban trees, including *Eucalyptus globulus*, *Ficus spp.*, *Olea europaea*, *Melia azedarach*, and several palm species. These trees, distributed across major urban green spaces, represent a living legacy of colonial planting strategies and contribute to multiple heritage dimensions, including intrinsic (age, morphology, size), cultural and symbolic (colonial history, social meanings), and landscape values (shade, spatial structure). However, despite their ecological and historical importance, their heritage status remains largely implicit and poorly integrated into formal urban management frameworks.

Ibn Eljazzar Park is characterized by centenarian *Eucalyptus globulus* forming dense urban stands that provide shade and microclimatic benefits but also create infrastructure conflicts due to root expansion. In Boujaâfar and Sidi Yahya Gardens, large *Ficus*, palms, and ornamental trees function as major landscape and cultural landmarks, structuring social and religious uses of space. In contrast, the South Rehousing Gardens show weak heritage management, where historically significant trees remain poorly maintained.

Overall, heritage trees in Sousse act as ecological regulators, cultural markers, and structuring elements of the urban landscape. However, their patrimonial value remains insufficiently recognized in urban management.



Fig.1. Inventoried heritage tree Species in UPGSs of Sousse, Tunisia (@Ajmi, 2023)

### CONCLUSION

Heritage trees in Sousse are urban ecological infrastructures that combine environmental functions with heritage, cultural, and symbolic values. Their assessment should not be limited to dendrometric characteristics alone, but must also integrate landscape identity, collective memory, and socio-cultural practices. Incorporating heritage tree evaluation into urban planning and management strategies is essential for their long-term conservation and to reinforce the sustainability of Mediterranean urban landscapes.

### REFERENCES

- Bourdu, R., et Georges F. 1999. Arbres de mémoire: ARBRES REMARQUABLES DE FRANCE. ACTES SUD.  
 Chen, W, Huiping H, Jinwei D, Yuan Z, Yichen T, et Zhiqi Y. 2018. « Social Functional Mapping of Urban Green Space Using Remote Sensing and Social Sensing Data ». *ISPRS Journal of Photogrammetry and Remote Sensing*.  
 Touzé, Ophélie. 2019. La protection juridique des Arbres Remarquables. Mémoire de recherche. Master 2 Droit du patrimoine et des affaires culturelles. UFR de Rouen Faculté de Droit, Sciences Economiques et Gestion.