

AGUA DE PRATA - Adaptation and Watering in Green Urban Areas facing Climatic Heat Waves, Drought and Extreme Storms

ACRONYM: LIFE AGUA DE PRATA

PROJECT LOCATION: Évora, Portugal

BUDGET INFO:

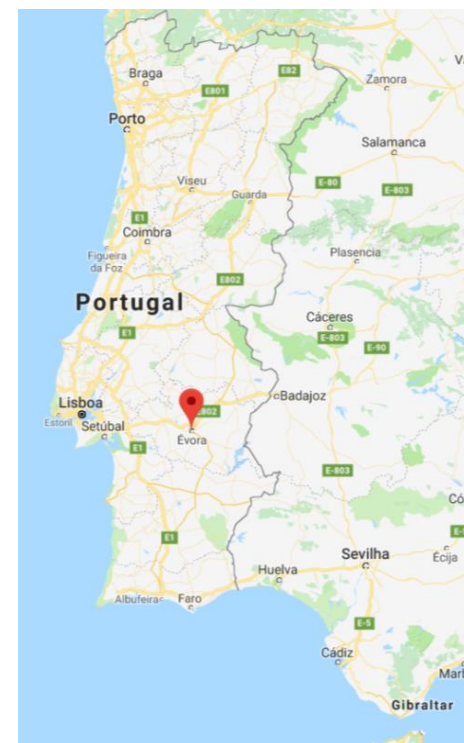
Total amount: 1.354.352 €

EC Co-funding: 60%

DURATION: Start: 01/07/18 - End: 31/12/22

PROJECT'S IMPLEMENTOR:

Coordinating Beneficiary: Municipality of Évora



PREVIOUS EXPERIENCES IN LIFE PROGRAM

- **LIFE GAPS** (LIFE03 NAT/P/000018)

Site of Monfurado Active and Participated Management

LIFE – nature | 2003-2008 | partner

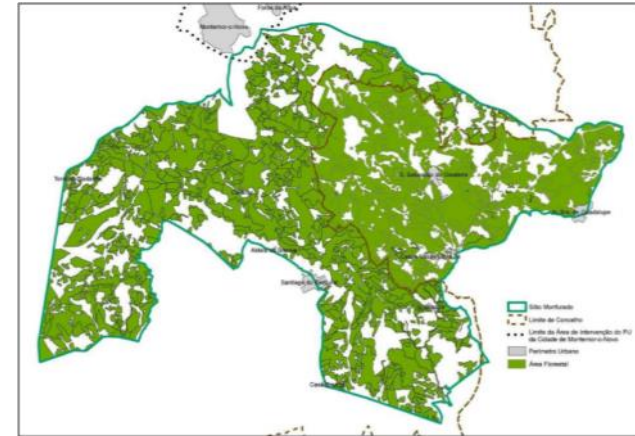
budget: 3.576.676 €

- **LIFE-LINES** (LIFE14 NAT/PT/001081)

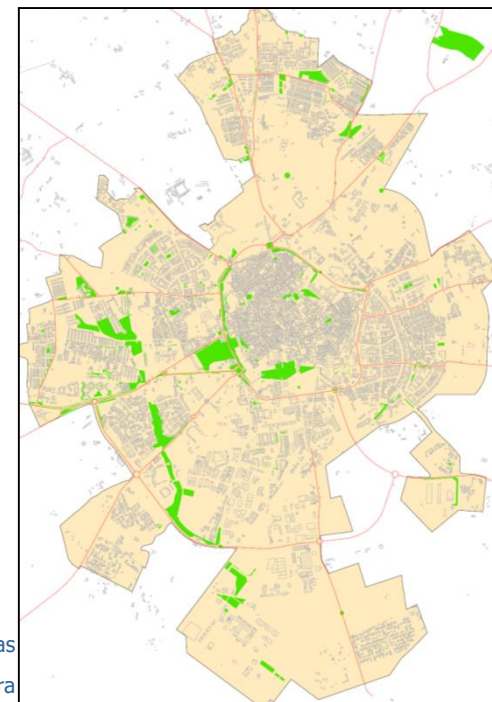
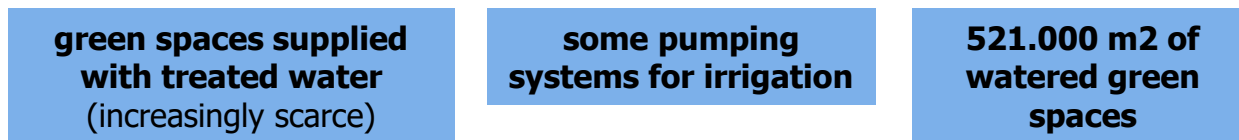
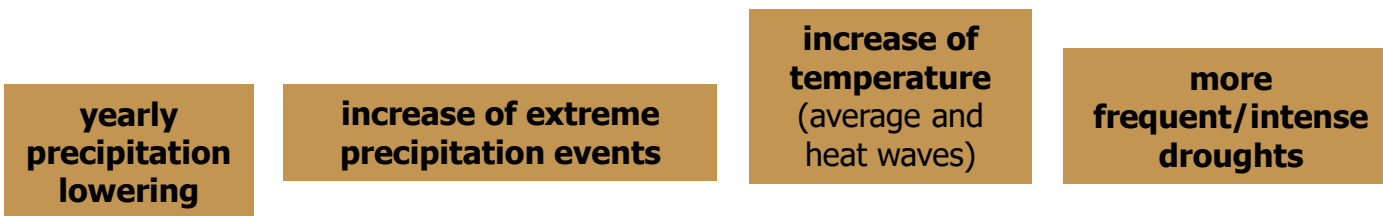
Linear Infrastructure Networks with Ecological Solutions

LIFE – nature/biodiversity | 2014 – 2020 | partner

budget: 5.540.485 €



CONTEXT



Watered green areas
in Évora

OBJECTIVES & SCOPE:

- **Shift the water supply for irrigation to untreated water**, reusing original underground springs and historical aqueduct;
- Promoting **adaptation works that harmonize the use of the aqueduct for a pilot distribution system**;
- Promoting **structural adaptation of green urban areas to face heat waves and extreme precipitation** (with nature based solutions), as well as **additional water-efficient use and energy saving solutions**.



Aqueduto da Água de Prata (silver water)
National Monument

AQUEDUTO DA ÁGUA DE PRATA

- **Hydraulic work from the 16th century - King João III**
- **18km extension – water abstractions and aqueduct still operational**
- **National Monument since 1910**



AQUEDUTO DA ÁGUA DE PRATA



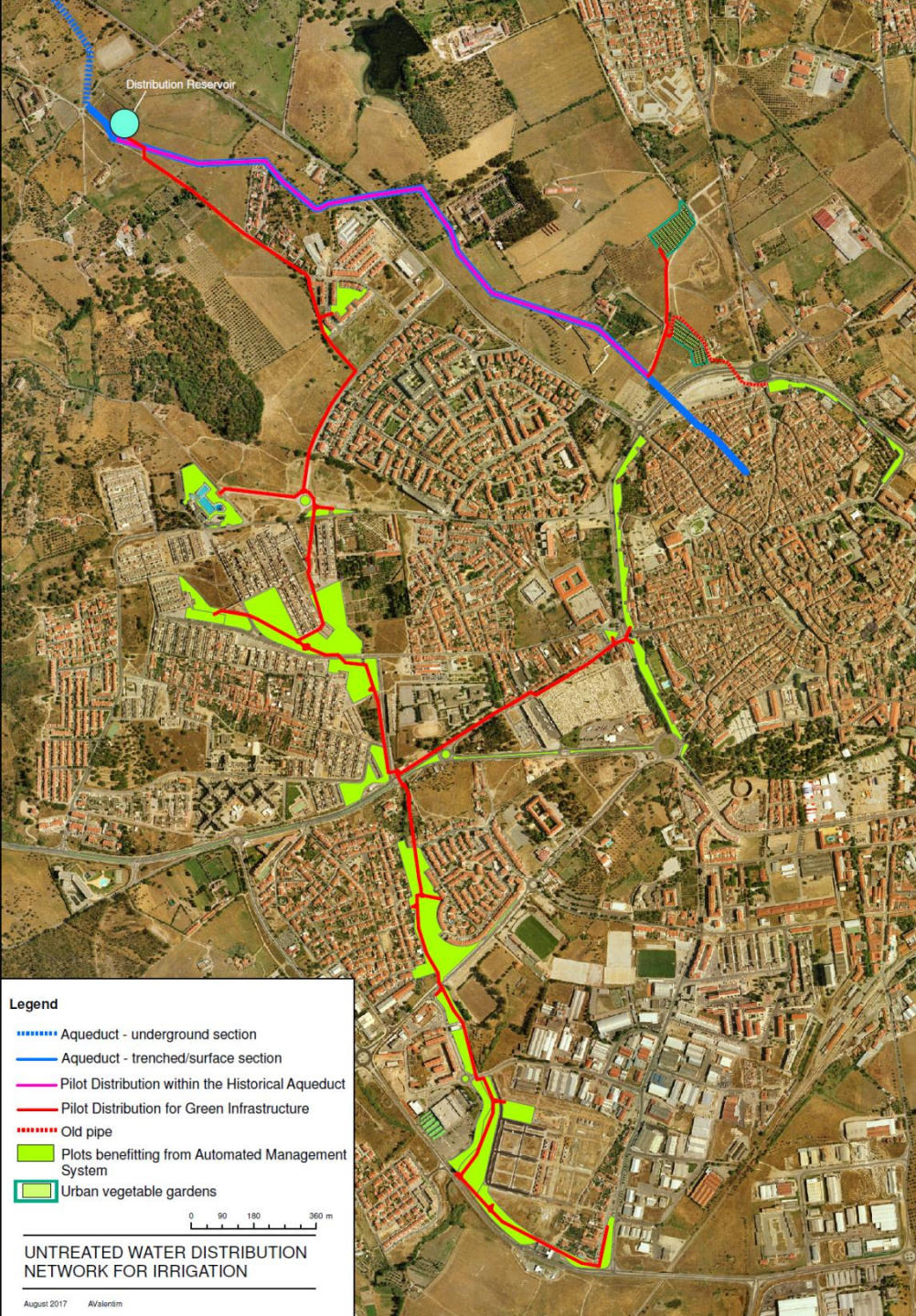
WORKS IN THE AQUEDUCT OUTSIDE THE CITY:

- **Cleaning and restoration of water abstractions at Graça do Divor** to increase water flow
- **Adaptation and restoration of the aqueduct** to ensure the transport of water to the city
- **Construction of a 1000m³ reservoir** to regulate the water flow and pressurize the irrigation system



WORKS IN THE CITY:

- **Construction of an untreated water network for irrigation of green spaces.**
Provides water to 50% of the city gardens
- **Remodeling and installation of autonomous irrigation systems** - use of wells in places far from the irrigation network
- **Installation of irrigation management systems and intelligent solutions** to ensure an efficient irrigation, and adjusted to the current weather
- **Renaturalization and reinforcement of vegetation in gardens and river banks** for:
 - increased shadowing and microclimate conditions
 - water saving
 - better adapted vegetation
 - protection of river banks to floods
 - increased biodiversity in urban areas



EXPECTED IMPACTS

How much?

- **spare treated water** and reduce shortage threats to human consumption
120.000 m3/y
- **reduce energy consumption**
(on water pumping - 50% of the city green areas supplied by gravitational head)
2,16 ton/y
CO2 emissions
- **improve shadowing and microclimatic conditions**
(in urban green areas - to face heat waves)
10.100 m2
- **improve resilience to flooding**
(encompassing 45% of city's green urban areas)
187.517 m2
- **increase resilience/protection of stream margins** to extreme precipitation events
1.800 m
urban stream
- additional **reduction of water consumption for irrigation by water-efficiency measures**
30.000 m3/y
- **replications of the project works** during and after the project's lifetime
1 local,
2 national, 1 EU

POLICY IMPLICATIONS

- Coping **climate change adaptation needs** with **historical heritage conservation and (re)use**



Concerning:

- **a problem faced by most EU historical cities**

- Contributes to the **Water Framework Directive objectives**



- **water management at urban level**

- Contributes to the **EU biodiversity strategy**



- **nature based solutions**
- **increase of urban biodiversity through ecosystem based approaches**

- Contributes to the **Floods Directive**



- **flood prevention in urban areas**