

ARGUMENTS IN DEFENCE OF TRADITIONAL AND HISTORICAL IRRIGATION SYSTEMS

Historical and traditional irrigation systems provide
efficient, multifunctional solutions for all



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MEMOLab. Laboratorio de
Arqueología Biocultural

A. MAINTAINING NATURAL AND AGRICULTURAL SPACES

- Traditional irrigation sustains a high level of **agricultural diversity** (crops, pastures, etc.) and **biological diversity** (species and habitats)
- It generates and regenerates **soil**, maintaining its fertility and regulating its salinity
- It provides a paradigmatic example of **green and blue infrastructure**
- It produces large-scale **ecological corridors**
- It facilitates and accelerates **ecological restoration** processes



B. WATER REGULATION

- Traditional irrigation supplies **drinking** and **irrigation** water
- It regulates **hydrological cycles**, increasing the duration and availability of water in the basin through infiltration and irrigation returns
- It recharges **aquifers** and **springs** and is a resourceful system for **water sowing** and **harvesting**
- These **integrated water management systems** are examples of **nature-based solutions**



C. SOCIAL COHESION

- These **communal systems** improve **social justice** through the **consensus-based, equitable** distribution of water
- Their **conflict resolution systems** contribute to good **relations** between neighbours
- They build a more **participatory** and **democratic** society by teaching **shared responsibility** about basic resources
- They store priceless **traditional ecological knowledge** for the future
- They offer a **legal and institutional framework** to prevent and reverse initiatives from other public or private actors contrary to the common interest



D. RESILIENCE AND SUSTAINABILITY

- They are **local circular economy** systems (by using local natural materials without producing waste)
- Their **technological and external input dependency** is very low (by not requiring electronic components, industrial supplies, etc.)
- By relying on **gravity**, their **energy dependence** is very low (they do not require electricity, fuel, etc.)
- They are particularly **sustainable** and **resilient**, able to adapt to major social, environmental, cultural and political changes over time
- They increase the **production** of crops, pastures and other ecosystems, contributing to the **food sovereignty** of a region
- They complement **local incomes**, helping to **consolidate the rural population**
- They protect water from **privatization** and **commercialization**, deterring **land grabbing**



E. FIGHTING CLIMATE CHANGE AND PREVENTING ENVIRONMENTAL DISASTERS

- They prevent **fires** by minimizing low flow periods, lowering temperatures and increasing atmospheric humidity
- They act as **firebreaks** and provide water for firefighting operations
- They reduce **erosion** and the risk of **landslides** by maintaining optimal plant cover and regulating surface runoff, torrential watercourse patterns and floods
- Their operation and maintenance have a minimal **carbon footprint**
- They increase the capacity of irrigation ecosystems to **store large amounts of carbon**



F. HISTORICAL AND CULTURAL HERITAGE

- They are **agrosystems** with a long **historical tradition** (dating, at least, back to medieval times) and a powerful impact on the culture and history of many regions
- They are indispensable for understanding the shaping of the cultural **landscape** and **local identity**
- Understanding and preserving this **historical** and **cultural heritage** as **alive** and active can help to solve problems and find social, economic and environmental solutions

