

Present challenges for future water sustainable cities: a case study from Italy



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The project **Water2Adapt "Resilience enhancement and water demand management for climate change adaptation"** (September 2010-August 2012) is an applied-research project funded by IWRM-Net funding initiative. It seeks to produce policy-relevant knowledge and recommendations for water management and the implementation of the EU Water Framework Directive. In particular, it analyses the social and economic impacts of droughts in four selected European river basins: Weser (Germany), Ebro (Spain), Guadiana (Portugal), and Po (Italy) rivers.

The **ITALIAN CASE STUDY** is the **Po River Basin**. The research focused on two cities in the region Emilia Romagna: **Parma** and **Ferrara**

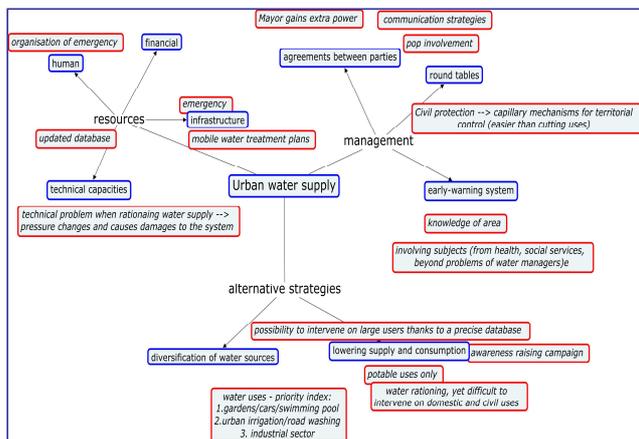
- Similar system dependencies
- Different patterns of vulnerability to drought and/or water service interruption

OBJECTIVE

Study of **vulnerability** to water crisis, in order to identify **disaster risk reduction** and **climate adaptation measures** contributing to a more **sustainable water use**.

METHODOLOGY

- ① **Literature review**
- ② **Interviews**
- ③ **Focus workshops** with local authorities and experts, employing diverse **participation** methods and **cognitive maps**, to assess the weaknesses of the water supply systems and to identify potential for improvement
- ④ **Water Sensitive Urban Design** as framework for analysis of policies and action



Brainstorming during the workshops



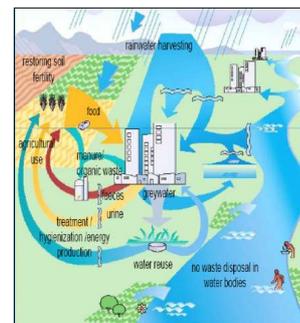
FOUR FACTORS FOR A BETTER WATER MANAGEMENT

Water source: protection and diversification of water supply sources

Measures: extraordinary measures (e.g. floating drafts to uptake water from dry river) adopted during droughts help improve ordinary management (rehabilitation of disused wells, extended diversion pumps,...)

Institutional and political action: coordination of policy and management efforts across the institutional levels within a river basin should be accompanied by concerted action at the local level.

Communication: both prevention (e.g. awareness raising campaigns) and reaction mechanisms (early-warning systems)



A Water Sensitive City's integrated water management cycle (Elmer, V. 2010. Three steps to a water sensitive city. Bonn: ICLEI)

Highlights

This article demonstrates that ordinary water management, which goes beyond maintenance works, to increase **network efficiency**, coupled with **awareness raising campaigns** for more sustainable water consumption, may significantly reduce cities' vulnerability to water crisis. It confirms that **preparedness** to extreme events should be included in planning instruments even in situations where the risk is not deemed high. Concerted actions towards a more **water sensitive** behaviour and management should be taken not only during and in aftermath of emergencies, but also as a risk **prevention** and **preparation** measures to extreme events, even in otherwise water-abundant regions.

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