

Reno river basin – Italy

- 4,628 km²
- Plain and mountain landscape; from temperate Mediterranean to mountain climate
- Main land use: agriculture (55%); main water use: irrigation (80%)
- Anthropogenic and vulnerable landscape: dams for hydropower use in the mountain part and channels for agriculture in the plain
- Growing climate risk (drought and floods) exacerbated by climate change
- Ecosystems (wetlands, forests, rivers) that benefit from water wastes of traditional irrigation at risk for new efficient technologies



BARRIERS TO THE ADOPTION OF INNOVATIVE ADAPTATION POLICIES

Barriers

Example

Rigid regulations



The regional Rural Development Program (PSR) incentivizes traditional measures precluding transformative approaches

Limited penetration and marketability of innovative policies



Lack of administrations and citizens knowledge can lead to concerns about safety (e.g., treated wastewater)

Limited institutional capacities and know-how on novel technologies and governance mechanisms precludes transformation



1. Subsidies to increase irrigation efficiency allocated to save water, despite much evidence showing the contrary
2. Institutions lack the technical background to use modelling and understand the results, limiting their capacity to make urgent decisions

Innovative solutions demand high economical return from investments limiting their implementation



Extensive paybacks periods and uncertainty about effectiveness of innovative solutions, such as NBS or insurance systems, limit their implementation

Decision-making and people's awareness are strongly influenced by personal beliefs (based on experiences, memories, group dynamics etc.)



River basin authorities are mostly made of hydrologists, who tend to support engineering approaches over soft/economic instruments

POTENTIAL INNOVATIVE ADAPTATION POLICIES

1. Revision of the water abstraction/allocation rules within the next-coming regional Water protection Plan: setting of new thresholds, integration of ecological flows, and development of river contracts as governance instrument
2. Introduction of flexible reallocation systems through water banks (voluntary economic instruments)
3. River natural space restoration, limiting channels and enhancing rewilding and delocalization
4. Shift to more sustainable crops/agriculture for a decrease of water use, soil erosion and an increase of soil quality
5. Creation of wetlands in the estuary area as a countermeasure to saltwater intrusion
6. Groundwater recharge also through wastewater