



A participatory adaptation project to strengthen water management resilience

Santorso, Italy

IN A NUTSHELL

The BEWARE project has co-created and implemented a strategy for adaptation to climate change and flood risk in urban and rural areas. The main pillars of the project are the implementation of targeted Natural Water Retention Measures (NWRMs), the development of a trans-municipal adaptation plan, and the involvement of local communities.

Building up flood resilience in Santorso and Marano Vicentino

Italy is facing extreme natural phenomena caused by climate change. Examples include intense rainfall, floods and landslides. The municipalities of Santorso and Marano Vicentino are particularly threatened by these occurrences. The BEWARE project has thus implemented seven targeted measures for sustainable rainfall management in urban (six) and rural (one) areas, in public and private spaces. The University of Padua, in collaboration with external adaptation experts, was involved in the creation of these interventions:

- A bioretention area and a rain garden at Piazzale della Libertà (Santorso) to collect rainwater flowing across the impermeable asphalt of the carpark.
- Two rain gardens, an infiltration trench and pervious pavements in Via Prati (Santorso) for sustainable water retention in the cemetery carpark.
- Sustainable urban drainage systems for rainwater such as rain gardens, drainage paving and a tree-lined swale at the Marano Vicentino primary school.
- Dry wells and cisterns to channel and store rainwater from buildings in a private residential area (Corte Acquisaliente, Santorso).
- The creation of a bioretention pond, dug directly into a hillside in Via Volti (Santorso).
- The excavation of a grass swale to channel the rainwater runoff from Grumo hill to a newly created bioretention area.
- A water retention basin to collect rainwater, slow down and preserve its flow downstream and provide a water resource for farming activities in the agricultural area around the village of Giavenale.



Water retention basin (action C.3) created in an agricultural area (village of Giavenale di Schio, Vicenza Province); main objectives of the structure: i) Flood risk reduction for downstream residential areas and ii) Source of water for irrigation during drought periods.

(c) Lucia Dal Molin

SANTORSO



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Population: 5,881 inhabitants	Area: 13.2 km ²
Signatory to the Covenant of Mayors since: 27 Sept 2012	CO₂ emission reduction target: 2020 targets

Placing civil society at the heart of the adaptation plan

The BEWARE project aimed to create a new and broader plan for climate change adaptation and improve the water security of the territory of Altovicentino. The municipalities therefore developed a plan called "Altovicentino Mayors Adapt Strategy", which complemented the Sustainable Energy and Climate Action Plans (SECAPs). The objective was to identify the areas considered the most critical, as well as actions to increase the resilience of municipalities in extreme weather events.

To develop a comprehensive and inclusive plan, the project ensured the participation of several stakeholders, including civil society. The "Head-Heart-Hands" methodology played a key role in the development of the "Altovicentino Mayors Adapt Strategy". To create emotional engagement among stakeholders (heart) and find common solutions (hands), the municipalities first needed to collect contextual information (head).

In Autumn 2019, BEWARE organised workshops, events and interviews with adaptation experts to collect information on local intervention strategies. To stimulate engagement, a small working group called the "adaptation team" was created. When Covid hit, the team organised eight online meetings every two weeks for four months (Nov 2020–Mar 2021) to involve citizens. Participation reached 130 registrations from 30 different municipalities, mostly in the Altovicentino area. During these meetings, participants came up with a number of ideas that were eventually clustered into different categories. The adaptation team used citizens' proposals to help develop the plan and organised three additional virtual meetings (two with citizens, one with technicians and administrators) to communicate the proposals.

However, the involvement of local communities was not limited to the design of the Mayors Adapt Strategy, as they are playing a key role in the implementation of the strategy itself. Of the sixteen key actions identified, five aim at involving citizens. The goal is to create a "polycentric and adaptive governance system" to promote long-lasting collaboration and interdependence between municipalities and their local stakeholders. Two examples of such long-lasting collaboration are the "table for climate" and the "intermunicipal technical table". While the former is composed of political, technical and school representatives and aims to identify different stakeholders' needs in the implementation of the SECAPs, the latter enhances intermunicipal cooperation on climate actions. The municipalities of Altovicentino will also work to implement awareness-raising campaigns to identify the critical issues and needs of the community. They will do so through a new "sustainability centre" and a "circle of financing", a working group to mobilise finance for adaptation projects.

Through BEWARE, municipalities have also strengthened their sustainability help desks. As well as advising on energy efficiency and sustainable mobility, sustainability help desks also offer people tips on natural water retention measures they can implement in their homes.

Lessons learnt and next steps

The project's strength was mixing concrete interventions and educational activities while fostering a participatory process in which different target groups could influence policymaking. All parties involved (including landowners, farmers and citizens) gained awareness of what was being implemented and committed to the process.

BEWARE has now been recognised as a best practice by the IPA Altovicentino, a consortium of 32 municipalities and 14 institutional and private actors. A document approved by the consortium provides for financial aid to be given to public and private bodies for the collection and use of rainwater for non-drinking purposes. As a result, several project actions will be replicated in municipalities that were not directly involved in the project.

KEY FIGURES

7 Natural Water Retention Measures (NWRMs) implemented.

16 actions (of which 5 strategic) identified in the Altovicentino Mayors Adapt Strategy.

130 citizens involved in the development of the strategy.

FINANCING THE PROJECT

- + **Project start date:** 03/09/2018
- + **Project end date:** 30/06/2022.
- + **Financing source(s):** LIFE Programme.
- + **Total budget:** €2,103,964
- + **EU contribution:** €1,188,160
- + **% of eligible costs:** 60%

USEFUL LINKS

- » Project website: <https://www.lifebeware.eu/en/project/#perchebeware>
- » Altovicentino Mayors Adapt Strategy (Italian): https://www.lifebeware.eu/wp-content/uploads/2022/01/PianoAzioneBeware_C2.2.pdf



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