



Natural Water Management and Territorial Resilience

The case of the LIFE
BEWARE Project





LIFE BEWARE: Better Water management for Advancing Resilient Communities in Europe



Sub-programme: Climate Action

Area: Climate Governance and Information

Duration: September 2018 – June 2022

Leader: Santorso Municipality (VI)

Territory of interest: Altovicentino, Veneto



For further information please consult the Project Website: <http://www.lifebeware.eu/en/>



BEWARE – Project partners



Comune di
Marano Vicentino



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

TESAF

VENETO  AGRICOLTURA 

alda 
 European Association
for Local Democracy

ALTA PIANURA VENETA

CONSORZIO DI BONIFICA



BEWARE – Issues tackled by the Project



- ☐ **Increase of heavy rainfall intensity** which leads to frequent floods, inundations, landslides and landfalls.
- ☐ **Increase of soil consumption and ground sealing** which is undermining the effectiveness of natural water infiltration systems.
- ☐ **Lack of adequate resources** for local public administrations to be able to respond and mitigate climate change and flood effects.



The main objective is to implement a strategy for **adaptation to climate change and flood risk** in urban and rural areas, through the **active involvement** of local communities.



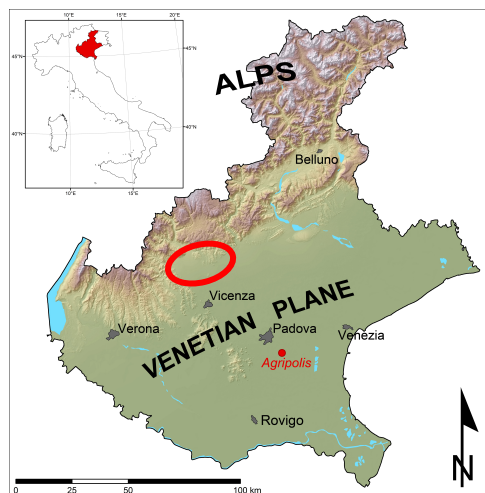
Issues tackled by the Project: Soil Sealing and increase of heavy rainfalls



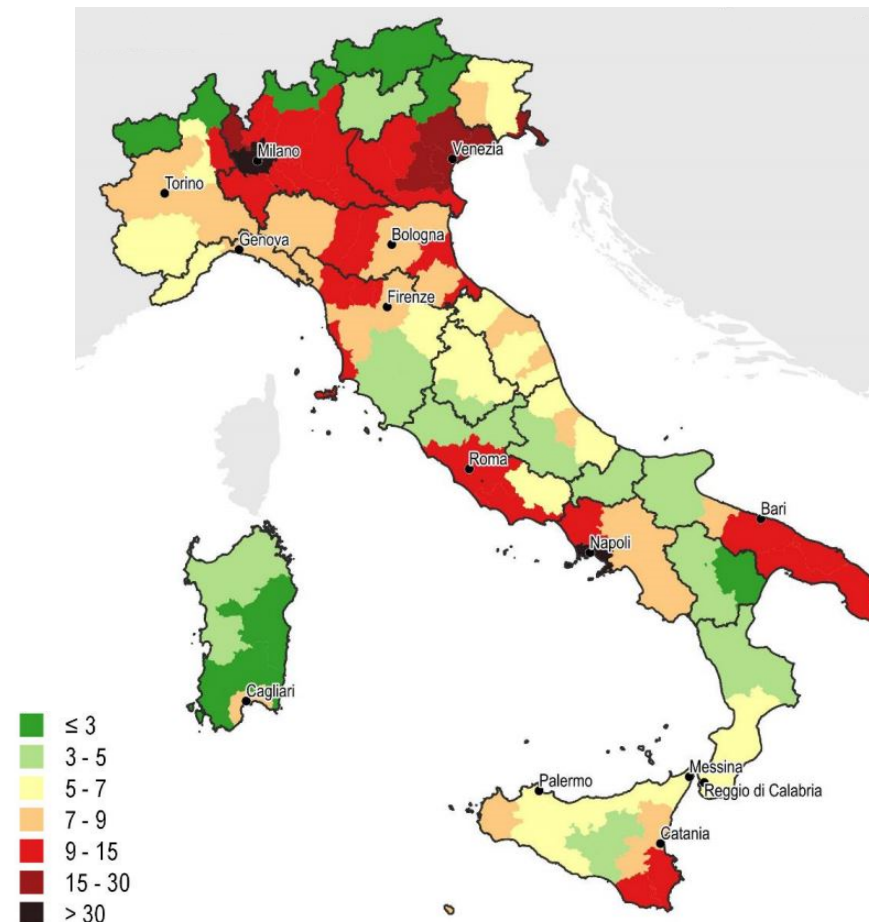
! Veneto is the Italian region with the highest soil sealing rate in 2019 (equal to 785 ha) and where almost 12% of the regional territory is impermeable.

In the Pre-Alps area is also particularly influenced by the mountains:

- Cool Temperate Climate
- Precipitations: **1200-1500 mm/years** (maximum values of 2000 mm/years)
- Mostly during Spring and Autumn



Soil sealing - provincial scale
– in 2019 (%)





BEWARE – The mission



THE PRINCIPLE: The project is built on the belief that the widespread use of small and affordable hydraulic measures can generate even more significant hydrologic results than big construction projects.

THE APPROACH: The project is implemented through a participatory approach that actively involves the main stakeholders, encouraging citizens to adopt small-scale actions for the benefit of the whole community.





BEWARE – The actions



Natural water retention
interventions



Information and awareness



Building regulations and territorial
action plans



Support to citizens



Training for professionals



Education and dissemination

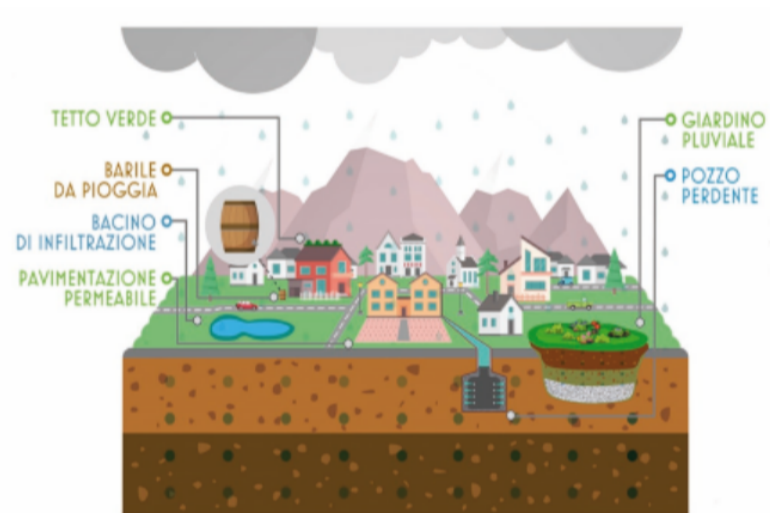


Networking and replicability

7 Natura Water Retention Measures in urban and rural areas



RUNS OF



SOAKS IN

- Flood and drought risk reduction
- Enhancement of water quality and restoring water resources
- Biodiversity conservation
- Provision of nature protection areas which can also be valuable for recreation and increasing life quality
- Contribution to the development of a green economy



BEWARE – Natural Water Retention Measures



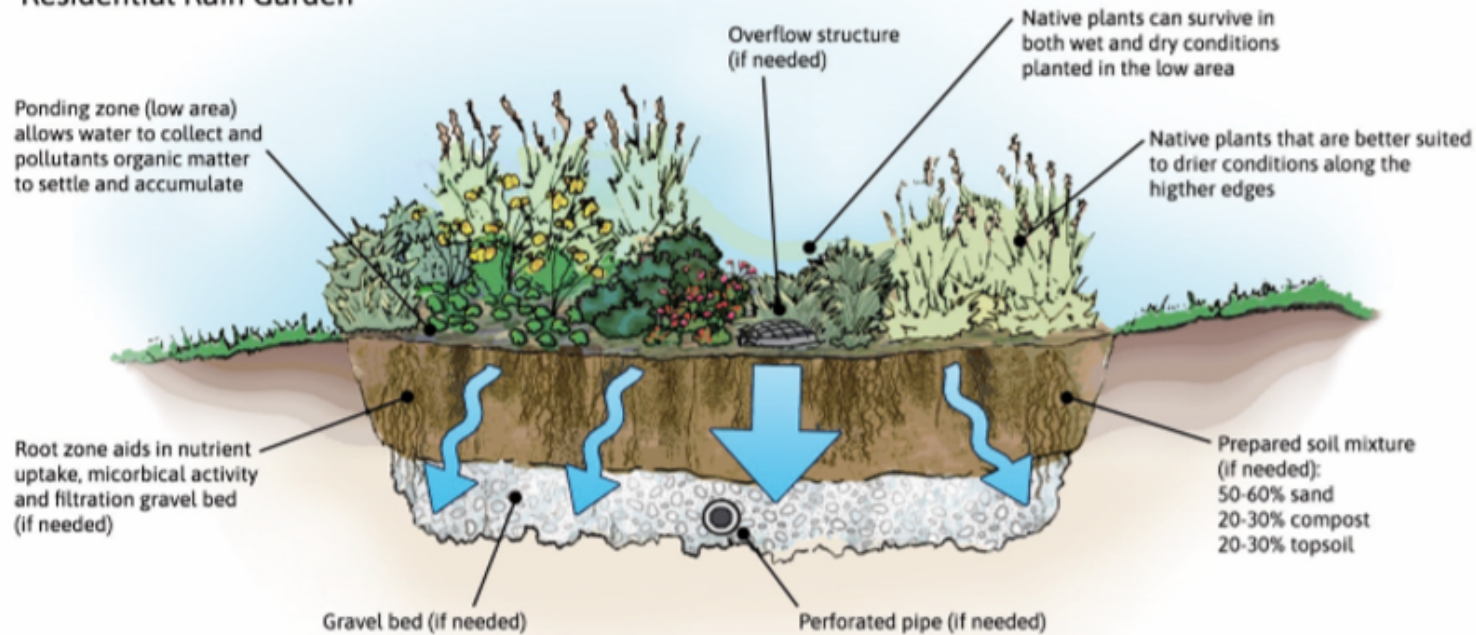
AIMS OF THE INTERVENTIONS

- **DISSEMINATION:** to create a province/regional focal point for the promotion and awareness of the benefits of this kind of solutions against floods and other climate-related risks.
- **HYDRAULIC RISK REDUCTION:** to improve the hydro-climatic resilience of the two municipalities solving hydraulic problems really present in the territory.

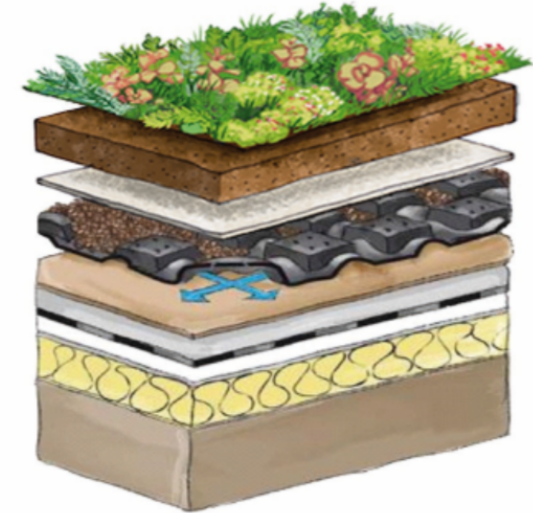


RAIN GARDENS

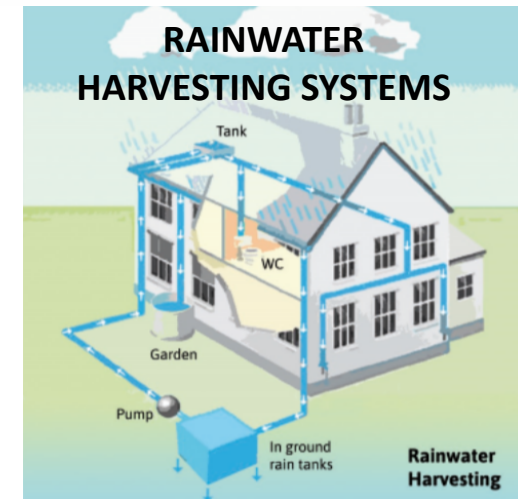
Residential Rain Garden



GREEN ROOFS



RAINWATER HARVESTING SYSTEMS





BEWARE – Natural Water Retention Measures in Santorso and Marano Vicentino



Urban area

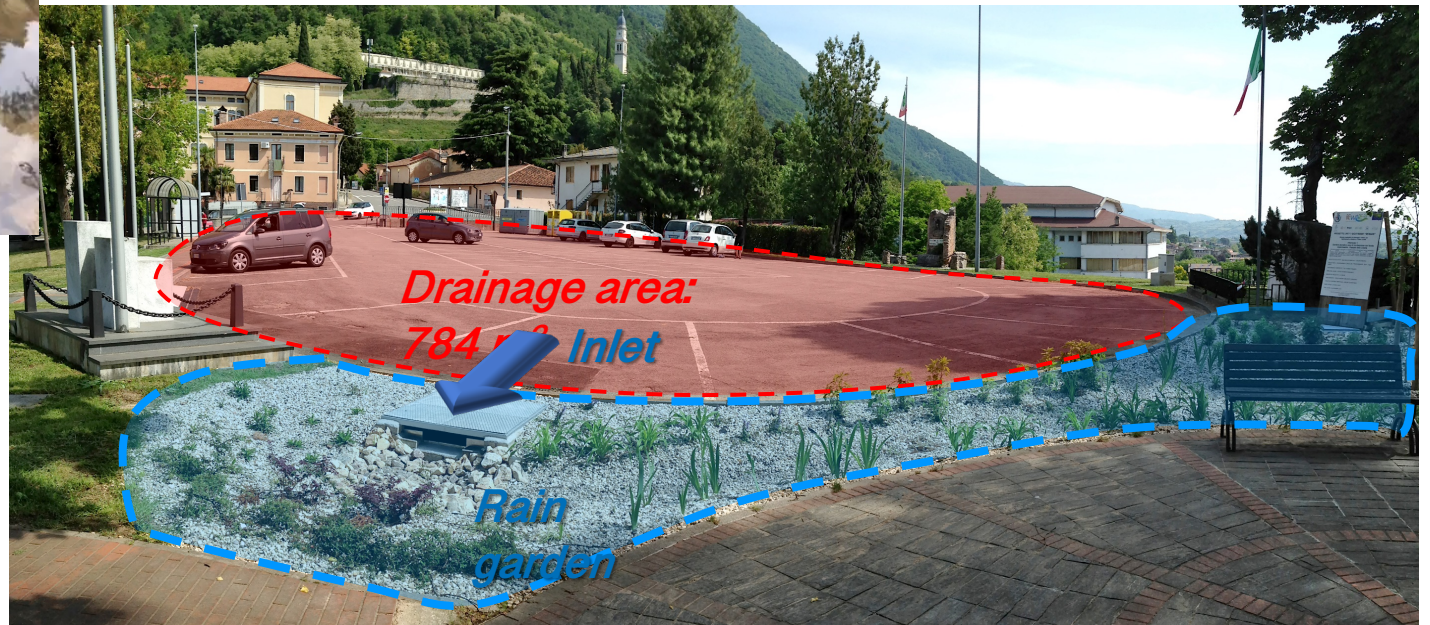
1. Underdrained bioretention rain gardens
2. Grass swale and bioretention area
3. Detention basin with an internal bioretention pond
4. Rainwater harvesting plus drywells
5. Rain garden, infiltration trench, pervious pavement
6. SUDS treatment train in a school

Agricultural area

7. Detention basin in agricultural sector

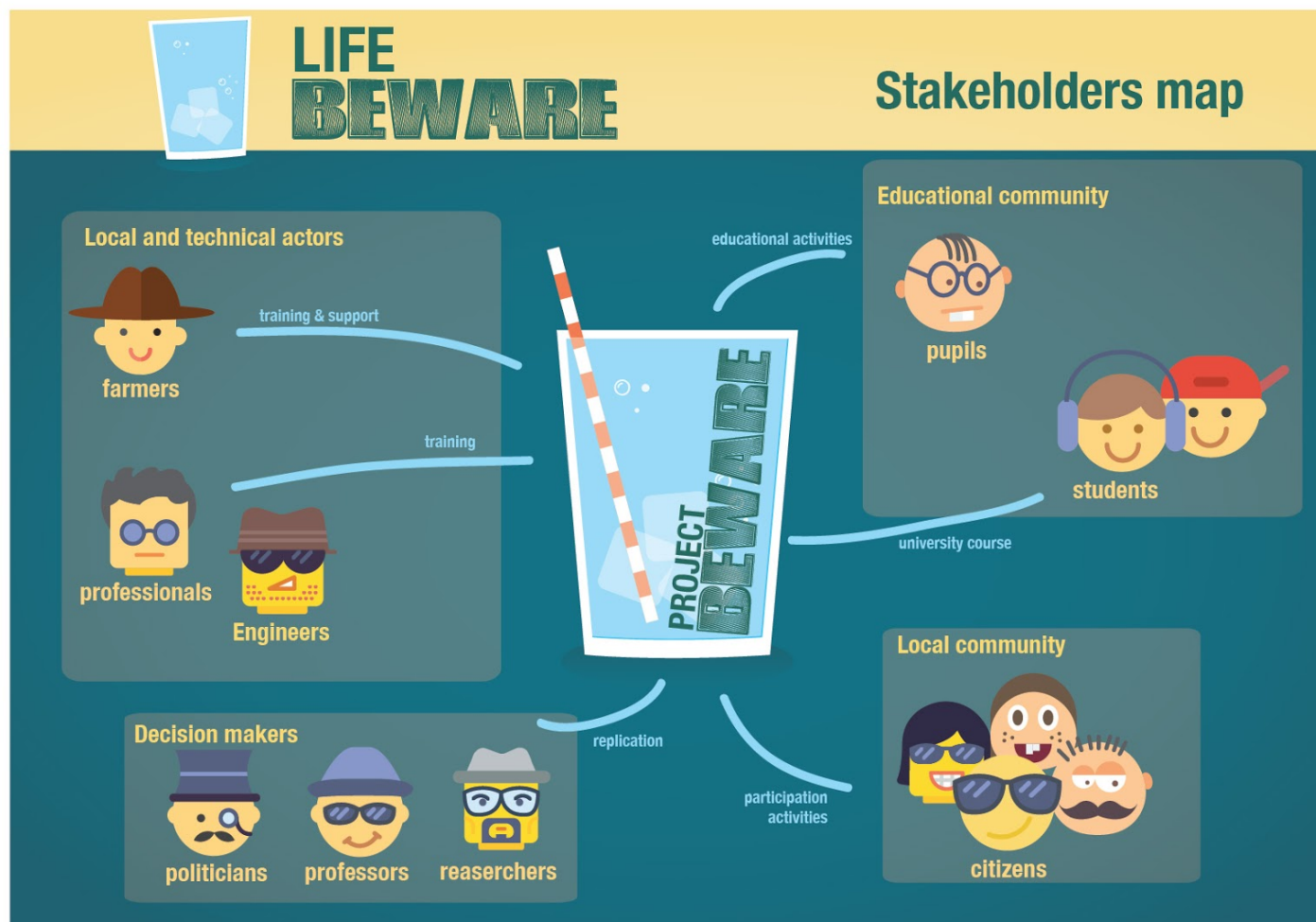


BEWARE – Underdrained bioretention rain garden



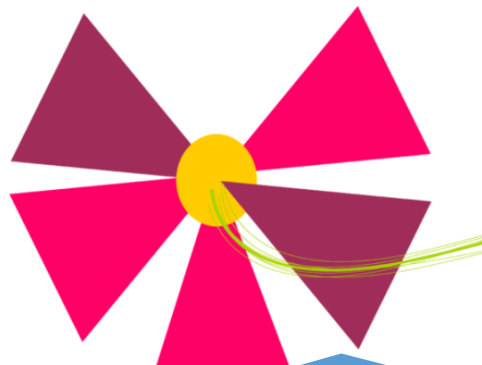


BEWARE – Networking and replicability





BEWARE – Citizens' engagement and training



School of Common Goods



Cycle of meetings and conferences



Training for farmers



Help desk for resilient communities



Educational activities for schools

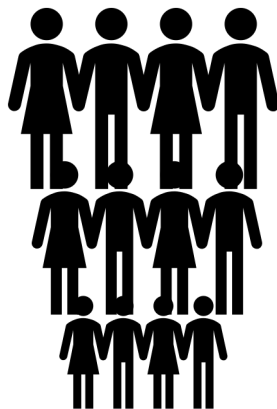


BEWARE – Networking and replicability



3 levels of actions: local, national and European

Community of Interest



More than 100 members

WHO?

Municipalities, universities, research centers, civil society organizations, technical experts such as architects, engineers, agronomists.

HOW?

Subscribing to the newsletter, promoting the project actions, joining project activities and training opportunities, providing knowledge and expertise.



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