



NAWAMED

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PUBLICATION

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Nature Based Solutions  
for Domestic Water Reuse  
in Mediterranean Countries

NAWAMED



## ACRONYMS

**AREC:** Advancing Research Enabling Communities Center

**CW:** Constructed Wetland

**ENI CBC:** European Neighbourhood Instrument Cross-Border Cooperation

**GW:** Green Wall

**HF:** Horizontal subsurface flow constructed wetland

**LGW:** Living Green Wall

**MA:** Managing Authority

**NbS:** Nature-based Solution

**NCW:** Non-Conventional Water

**NCWR:** Non-Conventional Water Resources

**SWM:** Sustainable Water Management

**UfM:** Union for the Mediterranean

**UNDP:** United Nation Development Programme

**VF:** Vertical subsurface flow constructed wetland

**WDM:** Water Demand Management

*“The effects of climate change in recent years are becoming increasingly evident in all regions of Italy and Mediterranean. Our territory, with a purely agricultural vocation, suffers particularly heavy repercussions from an economic and social point of view during periods of drought. The Province of Latina as lead partner of the NAWAMED project has been committed for several years to the protection of water resources and the promotion of Nature-Based Solutions for the recovery of domestic greywater, well aware of their growing importance as a good practice, highly innovative, to respond to the water emergencies of the coming years. The solutions identified for water reuse are, at least in part, a response to the evident climate change, and I am proud to represent an entity that has chosen to invest in projects of absolute environmental value”.*

**Gerardo Stefanelli, President of Latina province**

*“The water used inside cities, even though much less than water used for irrigation, is an important fraction of the total water withdrawn from rivers or underground aquifers, and is the water that requires higher quality and expensive treatments; before use, for potabilization, and after use, to reduce water bodies pollution. Urban water use could be drastically reduced through new approaches, aimed at collecting rainwater and reusing greywater and blackwater. Nature-based Solutions could play an important role in this new approach. To design ‘water sensitive and circular cities’ we need to renew urban planning and regulation and educate a new generation of technician (Urban planners, architects, engineers) able to progressively integrate Nature-based Solutions in the city water management network”.*

**Giulio Conte, IRIDRA**

## Introduction

*“What if we were to consider the vast quantities of domestic, agricultural and industrial wastewater discharged into the environment everyday as a valuable resource rather than costly problem?”*

- This is the paradigm shift advocated in the United Nations World Water Development Report, Wastewater: the Untapped Resource, launched 22 March 2017 on the occasion of World Water Day.

The NAWAMED project fits perfectly to this paradigm shift by harnessing the potential reuse of domestic water using locally adapted decentralised **Nature-based Solutions (NbS)**.

NAWAMED aims to modify water resources management in urban areas to replace the use of drinking water with Non-Conventional Water Resources (NCWR), promoting the application of innovative, sustainable and low-cost technologies and measures for the use of NCWR for domestic purposes. NAWAMED pursued this goal demonstrating the potential of NbS in addressing water treatment and reuse, specifically allowing the treatment of greywater.

Greywater includes all the domestic wastewater generated from a house, excluding those from the toilet (called black water); therefore, greywater represents the majority of the potable water daily used by us and is much less polluted in comparison to black water. Recovered wastewater and rainwater can be reused for different purposes, for example, for toilet flushing and irrigation, thus reducing the consumption of drinking water for domestic use.

NAWAMED put into practice and demonstrated the technical and economic feasibility of NbS in schools, universities, public facilities and refugee camps to make a building an efficient water producer rather than a consumer.



## Achieved results in numbers



- More than 1,000 operators (e.g. ,engineers, architects, etc.), construction companies, and students involved
- Over 200 representatives of local and regional authorities engaged
- 8 full-scale pilot plants for greywater/stormwater treatment and reuse
- Approximately 9,000 m<sup>3</sup>/year of non-conventional water reused at urban/domestic level
- 20 among technical visits and school camps in pilot sites
- 20 training workshops organised for technical staff and policy makers
- 1 policy document at Mediterranean level to promote the inclusion of water demand management and non-conventional water-related measures in national policy frameworks
- More than 10 Mediterranean countries cooperating

## The Pilots: NbS for the use of NCW

The safe reuse of greywater requires a decentralised treatment system. Greywater must be collected, treated and reused at **the building scale**, as the collection and treatment of greywater at the urban scale would require high investment and management costs. NbS are ideally suited to be used in a decentralised pattern: natural treatments systems – if correctly designed – work appropriately with little maintenance and don't require specialised management, on contrary of technology-intensive treatment systems. That's why NAWAMED focuses its attention on natural treatment technologies.



Green Wall, Lebanon

The **UNDP** (United Nations Development Programme) underlines how NbS use or mimic natural processes to enhance water availability (e.g., soil moisture retention, groundwater recharge), improve water quality (e.g., natural and constructed wetlands, riparian buffer strips), and reduce risks associated with water-related disasters and climate change (e.g., floodplain restoration, green roofs). Natural process can be recreated and systemized in controlled environment while delivering a wide range of additional benefits, in social, environmental and economic points of view. In this way, "Nature-based Solutions (NbS) offer a vital means of moving beyond business-as-usual to address many of the world's water challenges while simultaneously delivering additional benefits vital to all aspects of sustainable development" UNDP continues.

NbS and NCW resources in NAWAMED brought, together with a concrete reduction in potable water use, a wide range of additional benefits.

During the project, NAWAMED partners implemented and tested several technologies in pilot installations in different geographic, political and climatic regions in the Mediterranean. All the techniques used belong to or are derived from the macro family of Constructed Wetlands (CW).

CW is a NbS for wastewater treatment, which recreates the removal processes developed in natural wetlands, exploiting complex biochemical, physical, and physiological removal processes. During the passage of wastewater between the rhizosphere of the macrophytes, the organic matter is decomposed by microbial activity, nitrogen is denitrified, and phosphorus and heavy metals are adsorbed on the filling medium.

CWs are recognized among the ideal techniques to treat greywater near the houses without discharging them into public sewers and unlocking the potential of greywater reuse for activities requesting not potable water (e.g., irrigation, recharge of toilet flushing tanks, cleaning of external surfaces). Due to the low pollutant load of greywater, these NbS do not give any odour issues and are suitable for both indoor and outdoor applications.



# The treatment and reuse of greywater with green walls

The possibility of treating greywater with natural techniques is well known. In urban contexts, natural solutions developed vertically can be proposed, recovering walls not in use, thus contributing to achieving other objectives such as building aesthetics, cooling, etc. The plant species hosted by green walls promote bacterial biodiversity, guaranteeing purifying efficacy, as well as having aesthetic and cooling functions.



Green Walls, Lebanon

The **Living Green Walls (LGW) - named WALL2WATER system**- consists of modules hung on the wall made up of pots whose filling material acts as a support for the development of bacterial biofilm, the primary agent of the treatment processes. The water percolates vertically through the pots thanks to a piping system and is collected in a tank for subsequent reuse.

NAWAMED applied this solution in 3 sites:

A public school in Ferla (Sicily -Italy) and in 2 student dormitories at the university campus in Tunis (Tunisia) and in Beirut (Lebanon).



Pots Green Wall, Tunisia



Green Wall, Tunisia

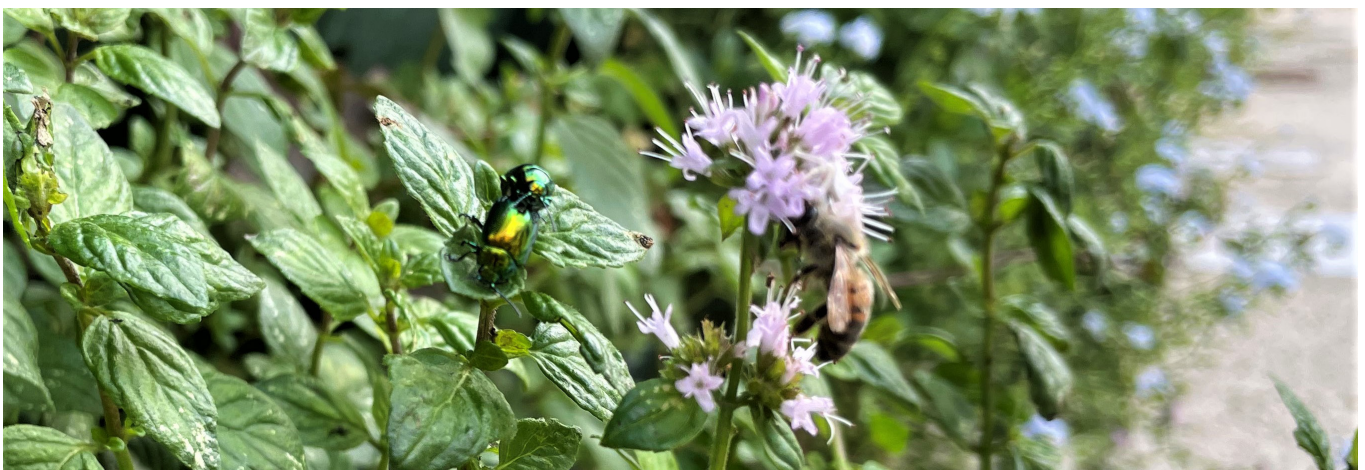
Country	Location	Building	Source of NCW	NCW used for	Pilot Capacity
Tunis	Cité Jardins, Tunis	Students, university aged, dormitory SWM House - Sustainable Water Management House	Hand washing basins and showers and backup with rainwater	Reuse for toilet flushing in nearby building (SWM House) and irrigation of edible garden	Up to 730 m <sup>3</sup> /year (depends on dormitory occupancy)
Lebanon	American University of Beirut campus, Beirut	Students, university aged, Jewett Hall dormitory	Hand washing basins and showers	Reuse in the building for toilet flushing	Up to 760 m <sup>3</sup> /year (depends on dormitory occupancy)
Italy	Istituto Comprensivo Statale "Valle dell'Anapo", Ferla (Sicily)	School, students aged 11-14	Hand washing basins	Reuse in the building for toilet flushing	Up to 460 m <sup>3</sup> /year (depends) on school use



Green Wall, Italy



Green Wall, Italy



Pollinators Green Wall, Italy

The **Green Façade** consists of trenches dug along the building walls, whose filling material acts as a support for the development of bacterial biofilm, the main agent of the treatment processes. The trenches are planted with specific vegetation and with climbing plants that cover the wall. Water percolates through the trench along the wall and is then collected in a tank for subsequent reuse.

NAWAMED applied this solution in 2 sites:

Student dormitories at the university campus in Amman (Jordan) and in Beirut (Lebanon).



Green Façade, Jordan



Green Façade, Lebanon

Country	Location	Building	Source of NCW	NCW used for	Pilot Capacity
Jordan	University of Jordan campus, Amman	Students, university aged, dormitory	Hand washing basins and showers	Reuse in the building for toilet flushing	Up to 1,530 m <sup>3</sup> /year (depends on dormitory occupancy)
Lebanon	American University of Beirut campus, Beirut	Students, university aged, Jewett Hall dormitory	Hand washing basins and showers	Reuse in the building for toilet flushing	Up to 300 m <sup>3</sup> /year (depends on dormitory occupancy)

# The treatment and reuse of greywater with Constructed Wetland technologies

The **Horizontal subsurface flow constructed wetland (HF)** is composed of one or more waterproof basins filled with inert material (i.e., gravel) planted with aquatic macrophytes (generally *Phragmites Australis*). The wastewater follows a subsurface horizontal flow below the surface, maintaining the basin conditions continuously saturated. The inert material assures adequate hydraulic conductivity and supports the growth of the roots of emerging plants. This system is one of the most used techniques for small installations due to its extremely simple functioning and the well-proofed removal efficiencies for domestic greywater, thanks also to the reduced dimension of the basin for this specific application.

NAWAMED applied this solution in 2 pilots at the AREC campus of the American University of Beirut (AUB) in the Bekaa Valley (Lebanon), treating greywater from 2 student dormitories.

Country	Location	Building	Source of NCW	NCW used for	Pilot Capacity
Lebanon	American University of Beirut AREC, Bekaa Valley	Boys and girls' university dormitories (2)	Hand washing basins and showers	Reuse in the building for toilet flushing	Up to 900 m <sup>3</sup> /year (depends on dormitory occupancy)



Constructed Wetland Beeka Valley, Lebanon

The **Aerated wetland** is an innovative technology composed of one or more constructed wetland beds fully saturated and equipped with an aeration system (blower). The forced air within the bed optimizes the oxidation removal processes occurring within constructed wetlands, allowing a footprint reduction of 4-5 times compared to classic CWs. In NAWAMED, the system has been designed to fit a commercial shipping container, developing a **Portable Constructed Wetland Unit** that can be easily transported to cover emergency needs for wastewater treatment. The unit adapts to the local conditions, treating water with different pollution loads, from black to greywater, and adjusting its operational parameters.

NAWAMED developed a portable unit in Lebanon for its use to ease water stress in emergency areas such as refugee camps.



Portable unit, Lebanon



Work in progress: portable CW system, Lebanon

## The treatment and use of rainwater with Rain Gardens

NbS perfectly adapt to the treatment and collection of rainwater, with a growing complexity depending on the location and volumes of water to be treated. Runoff water coming from every kind of surface collects during its path solid and organic materials deposited on the surface that require treatment to comply with values imposed by existing laws, thus much simpler than wastewater. The treated water is then collected in tanks for its use.

For the treatment of large volumes of stormwater, the system is generally composed of semi-natural free water surface CWs with high hydraulic retention times due to the discontinuous alimentation related to rain events. A **Vertical subsurface flow constructed wetland (VF)** is composed of one or more waterproof basins filled with gravel and sand of different sizes and planted with aquatic macrophytes (generally *Phragmites Australis*). Water is distributed on the top and vertically percolates through the bed, finding aerobic conditions.

NAWAMED applied this solution in Latina (Italy), collecting rainwater from the roofs and surfaces of the local Fiera district.

Country	Location	Building	Source of NCW	NCW used for	Pilot Capacity
Italy	Fair district, Latina	Building complex	Rainwater from complex surface and buildings roof	Reuse in nearby building for toilet flushing and cleaning of service trucks	Up to 900 m <sup>3</sup> /year (depends on rain patterns)



Constructed Wetland Latina, Italy



Constructed Wetland Latina, Italy

For the treatment of small volumes of stormwater, the so-called “**Rain Garden**” can be easily implemented. These systems are borrowed from the Vertical subsurface flow constructed wetland (VF) to treat rainwater from buildings’ roofs. They consist of sand filters planted with various types of plants that are characterized by their aesthetic and ornamental value and sustain the inclusion of these units in the green areas surrounding the buildings.

NAWAMED applied this solution in 1 site: Community Park, Jerash (Jordan)

Country	Location	Building	Source of NCW	NCW used for	Pilot Capacity
Jordan	Zain Park community park, Jerash	Public building	Rain water from building roof and backup from hand washing basins	Reuse for irrigating the community park	Up to 600 m <sup>3</sup> /year (depends on rain patterns)



Rain Garden Jerash, Jordan



Rain Garden Jerash, Jordan

## TRAINING AND CAPACITY BUILDING: the foundations for building a tomorrow

Training and capacity building activities are key phases in a pathway aimed at transferring the necessary know-how to local technicians and decision-makers in order to promote the dissemination and replication of the proposed solutions. NAWAMED began this process by identifying the key actors to be involved in the training and capacity building programme, following a first international e-technical workshop on “Designing urban nature-based solutions for greywater reuse”, thus actively involving multidisciplinary stakeholders at local level during:



Students monitoring the quality of treated water, Lebanon

training workshops on technical solutions for sustainable water management (SWM), technical visits to pilot plants and workshops on public policies to be adopted at local level to promote SWM solutions. These activities were developed in parallel with the school camps and the water table, where the individual aspects were deepened or expanded for the next level of discussion (i.e. the policy document).



School Camp Sicily, Italy

More than 150 technicians with different skills and knowledge participated, including managers, researchers, engineers, architects from local public institutions, companies, NGOs and water utilities. They aimed to improve their technical skills and keep up to date with the latest trends in NbS for NCW technologies, as well as to learn about the performance, added value, costs and impacts of NbS technologies.

Based on the survey results targeting national stakeholders needs, the training content was co-designed by the partners to enable stakeholders to replicate the pilots or improve governance related to water reuse.

The training focused on how to implement eco-sustainable solutions for urban water management and was aimed at professionals involved in construction and urban planning. The training programme included a workshop session on “Hands on Training: Case Study Design”, which provided participants with a hands-on learning experience and gave them the opportunity to design their LGW solutions adapted to the context. This hands-on training session was a real challenge among the multidisciplinary participants of the working groups, the trainers were knowledgeable and engaged, and the hands-on exercises were challenging and rewarding, as most of the participants testified.

Workshops were also conducted for decision-makers in order to provide them with technical support for possible changes in local regulations to promote water reuse in the domestic and agricultural sectors. The conclusions allowed to assess the “water table” results, integrating a common Mediterranean strategy on Water Demand Management (WDM) and NCWR to promote circularity in the water sector.

The workshops, attended by more than 100 participants, promoted exchanges between different national actors and stakeholders in order to identify possible changes/amendments to local regulations and urban planning tools to encourage and promote the use of NCW in urban areas. The main issues discussed and classified as high impact level included the need to ensure greater transparency in the decision-making process - which ultimately requires the inclusion of public discussion and political debate between citizens and politicians, ensuring participatory planning as a crucial step and promoting responsible water use practices. The involvement and engagement of young people is crucial in creating a successful and effective integrated planning process for sustainable and equitable communities.



Training in Tunisia



Training in Jordan



# Outcomes from the “water tables” experience and feedback to policy formulation

By bringing together different stakeholders, the national “water tables” have provided a unique opportunity to comprehensively analyze the challenges related to the adoption of small-scale NCWR solutions in the urban environment. In fact, the “water-tables” brought together experts from the public sector (policy authorities, regulatory authorities and operators), the private sector, academia and voluntary organizations to openly debate and assess a common topic, that of facilitating the adoption of NCWR solutions.



Final event Latina, Italy

This multi-sectoral dimension resulted in the identification of a series of barriers and correlated opportunities, which can guide the future development of an enabling policy environment.

Additionally, the different national stakeholder “water tables” provided a national perspective arising from the different participating countries, namely Tunisia, Italy, Lebanon, Jordan and Malta. The joint assessment of these different national perspectives, provided an opportunity to identify common challenges and opportunities leading to the formulation of a high-level regional policy document supporting the enabling of NCWR solutions in the Mediterranean region.



Mediterranean Water Table Sicily, Italy

The adoption of NCWR solutions comes with challenges of its own, which limit the adoption of these solutions on a wider scale. These challenges were extensively discussed during the national “water tables” leading to the identification of eight key barrier to the adoption of NCWR solutions.

These barriers are:

(i) availability of affordable NCWR technologies,

(ii) building type and space availability to accommodate NCWR technologies,

(iii) perceptions of users to NCWR technologies and the use of reclaimed water,

(iv) the lack of regulations such as Water Quality Standards for reclaimed water use in the urban sector,

(v) the lack of codes of practice for separate plumbing systems to manage reclaimed water use,

(vi) the generally long pay-back period of existing NCWR solutions,

(vii) the lack of financial support schemes for facilitating the uptake of NCWR solutions, and

(viii) the generalized lack of knowledge by the general population on NCWR.

The above eight barriers were widely shared in the outcomes of the respective national “water tables”, highlighting the general concern with these barriers in all the participating countries – and hence their regional nature.

The “water tables” discussed approaches to address these barriers, and hence facilitate the adoption of NCWR solutions. The identified solutions include:

(i) increasing the knowledge base on NCWR through capacity building programmes aimed at different levels from the general public to technicians to policy makers,

(ii) the development of institutional capacity for regulating NCWR technologies, through the clear identification of the key institutional roles and responsibilities,

(iii) the determination of quality standards for reclaimed water for use in the urban environment, to provide quality targets to technology providers,



Workshop in Lebanon



Training in Tunisia

(iv) the promotion of NCWR applications through the use of various outreach initiatives to increase the level of appreciation of these technologies in the general public, and

(v) the development of financial support schemes to support the market entry of NCWR technologies and their uptake by urban water users.

From a policy perspective, NCWR solutions are considered as a central measure to address water supply security, by lowering the water demand of urban water consumption hotspots. NCWR applications provide an opportunity for increasing water use efficiency within urban areas, providing additional external benefits such as the betterment of the urban environment. Clear policy direction is therefore warranted at the national and regional level to promote NCWR solutions and ensure the safe use of these solutions to address emerging challenges due to demographic, economic and climate change.



Nawamed presentation , COP27



International Event Sicily, Italy



## When communication is part of the process and makes a difference

The social acceptance of water reuse at urban level is a constraint in many countries in order to improve the strategy at policy level and the engagement of technicians to ensure the high-quality level of treated water for secondary use at domestic level.

As a result, the partners developed different communication products aimed at two main target groups: technicians and decision-makers, and citizens and students.



Activities with children, Lebanon

For the first group of stakeholders, more conventional and official means were used, such as News, MEDIA, Newsletters and national/international events. More than 180 news items were published, 200 news/interviews in local/national newspapers and TV programmes, 90 events were organised and attended, including COP27 in Egypt, reaching thousands of people.

Under the leadership of NAWAMED, ENI CBC Med's water projects - AQUACYCLE, MEDISS, MENAWARA, PROSIM - decided to celebrate World Water Day 2021 by sharing their stories and commitments around a key message: "the value of water is much more than its price". Thanks to the partnership between the ENI CBC Med programme and the Union for the Mediterranean (UfM), the Mediterranean campaign, with 17 videos and 10 posters, was highlighted in Corriere della Sera, Italy's most widely read newspaper.



Activities with children, Lebanon



Activities with children, Tunisia

Furthermore, the synergy with the ENI CBC capitalisation project MEDWAYCAP made it possible to increase the participation of visitors to a travelling exhibition on NCWR and reuse at urban and agricultural level, installed in Sicily and Tunisia during the international events organised by NAWAMED.

After two years of work, co-designed and finally launched a short film to reach a wider audience, especially young people and students. The aim was to change the way a more technical subject was presented, using a more accessible approach and language. Cinema has always been a powerful medium for communicating messages and ideas to the public. By harnessing the visual and auditory elements, a short film can make a lasting impact on viewers.



Short film scene

Through a thought-provoking short film entitled “Gocce di Rugiada” (Drops of Dew), the project aims at engaging a wide audience by using the power of cinematic language to highlight the needs behind these alternative approaches.

Shot in Italian and subtitled in English, French, Arabic, Spanish, Catalan and Greek, the short film is a candidate for numerous international film festivals and has already been selected by fifteen of them, winning the audience award (12–17 years old) at one of them.



School Camp children Sicily, Italy



Activities with children Sicily, Italy

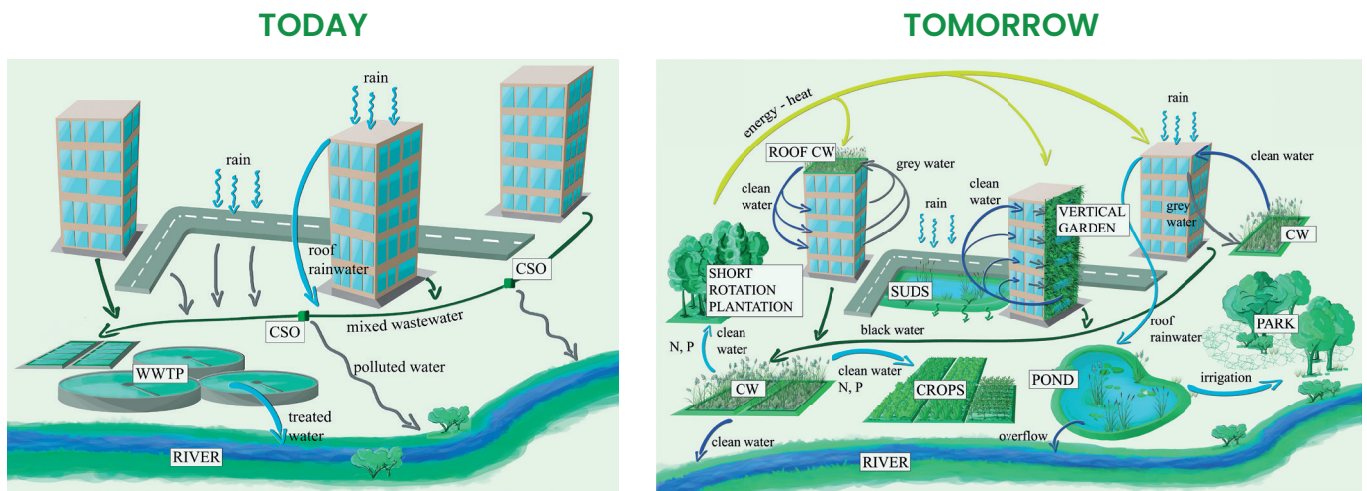
Finally, the partners developed awareness-raising campaigns directly involving schoolchildren and students, so that they could experiment for themselves what the protagonist of the short film does: a home-made system to understand that nature provides the solutions we sometimes seek, that it is up to us to see and appreciate them, and to experiment with solutions that benefit from the power of nature. NbS, such as our Green Walls.

The lesson learnt, even in these final months of the project, is this:

- Beauty is easier to communicate.
- According to the New European Bauhaus, beautiful and sustainable solutions, inspired by the context and responding to real needs, encourage community engagement.
- Artistic communication products, such as cinema, help to break down barriers and are longlasting.
- Mediterranean cooperation amplifies communication impact.

# Conclusion

To adapt to climate change we must create cities where water management is radically different from the current one. Today our cities are supplied by a single source of water - the public aqueduct - which provides drinking water that we consume in large quantities for drinking, cooking, washing, but also for flushing the toilet, washing the floors and watering the plants. In the same way, the elimination of all our liquid waste occurs through a single waste system: be it excrement with a very high bacterial load, urine rich in precious nutrients, or practically clean water used to rinse fruit. Urban wastewater is rapidly removed through sewer systems and delivered to water bodies and - despite treatment (WWTP) - is often still an important cause of pollution of rivers, lakes and seas.



Source: Masi, F., Rizzo, A. and Regelsberger, M., 2018. The role of constructed wetlands in a new circular economy, resource oriented, and ecosystem services paradigm. *Journal of environmental management*, 216, pp. 275-284.

The water systems of the future will have to be much more intelligent. The buildings will be equipped with supply networks with lower quality water for non-drinking uses (rainwater and treated greywater - NCW resources); while for waste disposal we will behave as we have learned to do for waste: we will carry out separate waste collection. Greywater - easy to treat - will be a fundamental resource both for flushing toilets and for irrigating urban greenery, which - to mitigate urban heat waves - will be more widespread on streets, squares and car parks and also extended onto roofs and on the walls of buildings. The sewage, adequately treated but still rich in nutrients, can be used for agriculture and forestry crops. The extensive reuse of all water waste will drastically reduce the pollution of natural water bodies.

If the agriculture sector is increasingly convinced by the advantages of using NCW resources, and several solutions and approaches have been successfully demonstrated, the domestic and urban sector is still reluctant to embrace the new water-use paradigm that NCW brings. Nonetheless, the experience of NAWAMED shows that technical solutions to treat and reuse rainwater and greywater in a decentralised way in our cities exist and function.

To complete this small revolution in urban water management, a journey to which NAWAMED is actively contributing and has only just begun, we need to pave the way for activating appropriate policies, as NAWAMED have started with the water tables. What we see today as obstacles and barriers, economic, social and cultural, can be opportunities to co-create new growth.

### **Statement about the Programme**

The 2014-2020 ENI CBC Mediterranean Sea Basin Programme is a multilateral Cross-Border Cooperation (CBC) initiative funded by the European Neighbourhood Instrument (ENI). The Programme objective is to foster fair, equitable and sustainable economic, social and territorial development, which may advance cross-border integration and valorise participating countries' territories and values. The following 13 countries participate in the Programme: Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain, Tunisia. The Managing Authority (MA) is the Autonomous Region of Sardinia (Italy). Official Programme languages are Arabic, English and French. For more information, please visit: [www.enicbcmed.eu](http://www.enicbcmed.eu)

### **Statement about the European Union**

The European Union is made up of 27 Member States who have decided to gradually link together their know how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders.

## Partnership

### ITALY

Lead Partner  
Province of Latina (Lazio)



IRIDRA (Tuscany)



SVI.MED.  
Euro-Mediterranean Center for  
Sustainable Development (Sicily)



### JORDAN

University of Jordan (Amman)



### LEBANON

American University of Beirut



### MALTA

Energy and Water Agency



### TUNISIA

Centre for Water Research and  
Technologies



[www.enicbcmed.eu/projects/nawamed](http://www.enicbcmed.eu/projects/nawamed)  
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