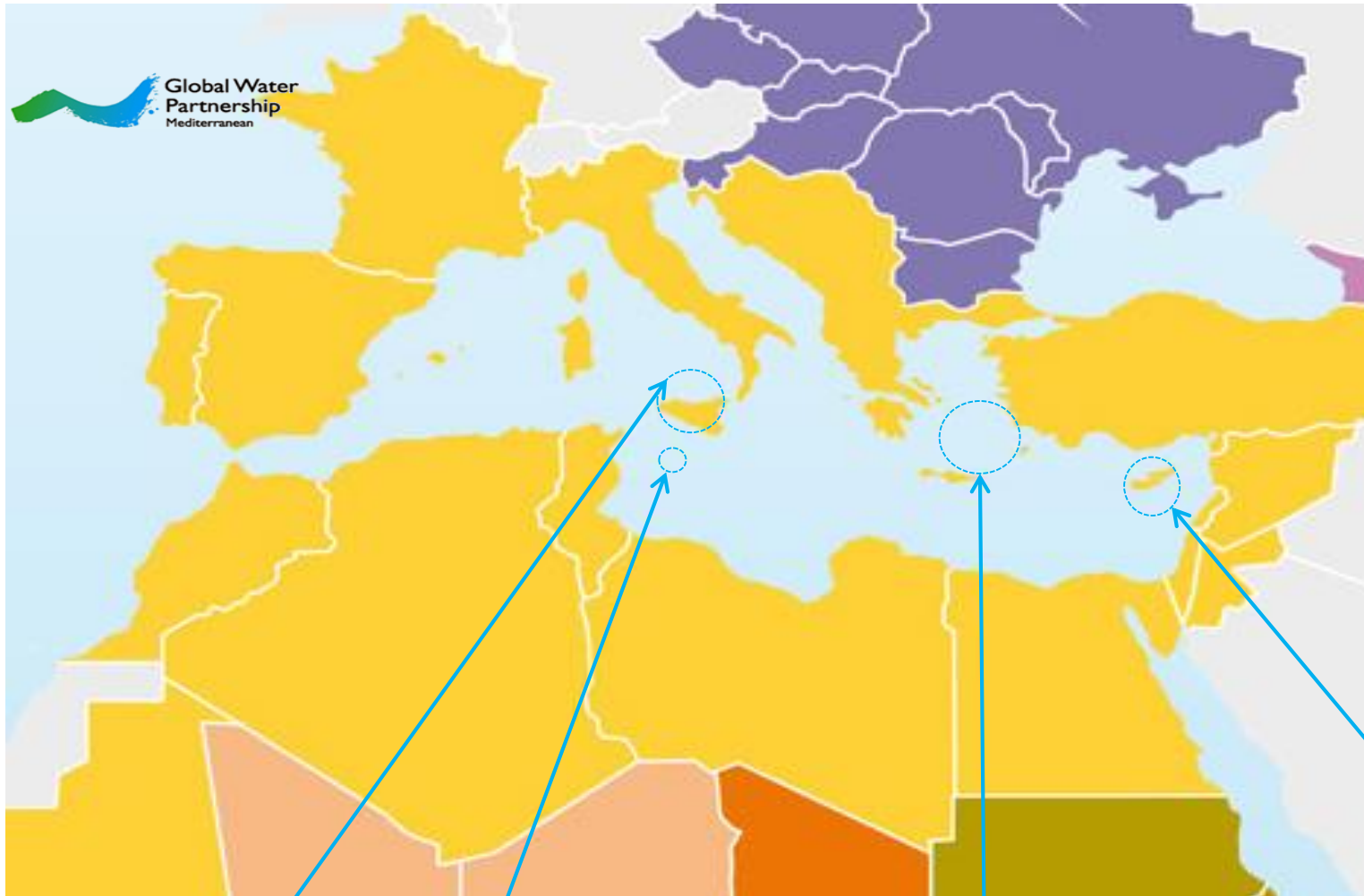


Non-conventional Water Resources – experience from Mediterranean islands with replication potential in the MENA

Konstantina Toli
*Senior Programme Officer,
GWP-Med*

Non Conventional Water Resources Management in the Mediterranean



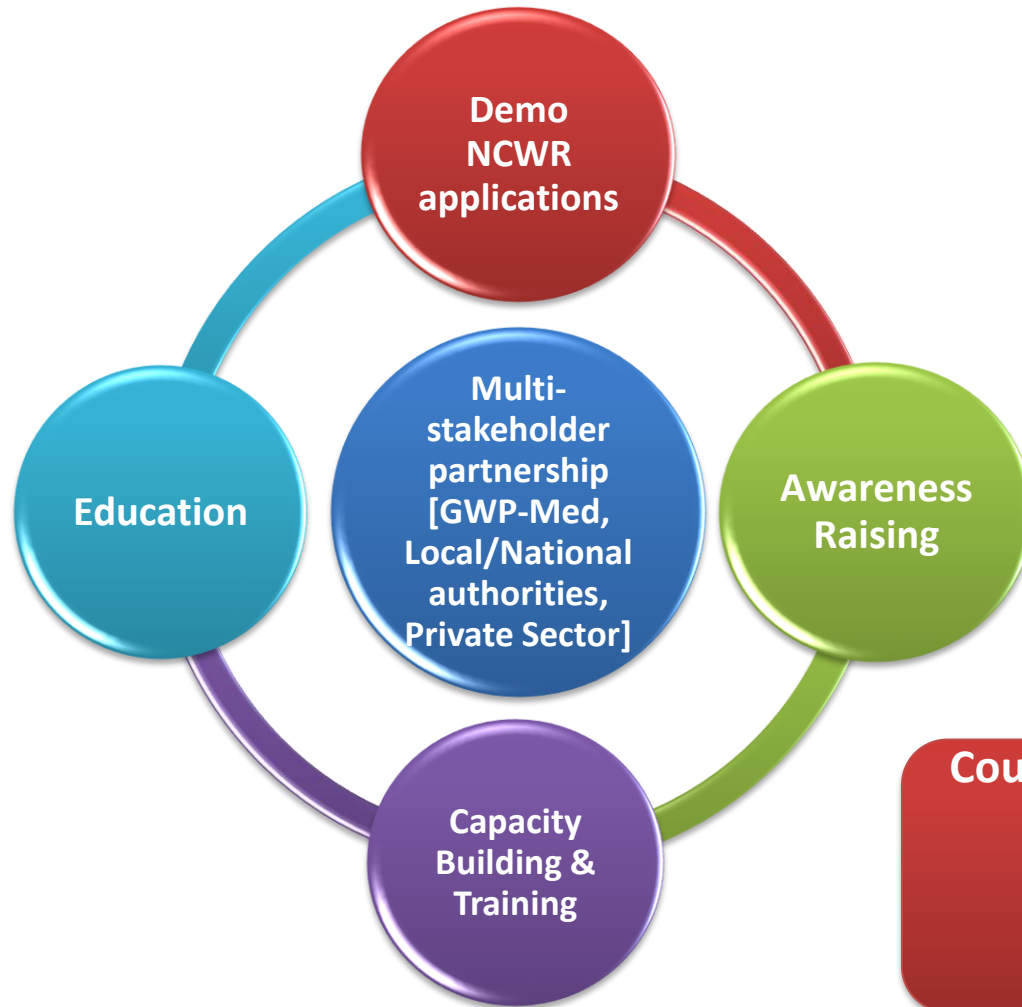
**Italy, Sicily
(2017-2018)**

**Malta
(2011-2017)**

**Greece, Cyclades & Dodecanese
Islands (2008-2018)**

**Cyprus
(2013-2017)**

Non Conventional Water Resources Programme in the Mediterranean



Countries: Greece, Cyprus, Malta, Italy

Duration: 2008-2018

Total Budget > 5.255 million USD

Coca-Cola Foundation Grant

Non Conventional Water Resources Programme in the Mediterranean

- ❑ Aims at promoting Non-Conventional Water Resources Management (NCWRs) and especially rain and stormwater harvesting and grey water reuse, mainly in urban and peri-urban areas, in islands and coastal cities, as cost effective practices for water availability and climate change adaptation at local level.

- ❑ The Programme's objectives are:
 - To demonstrate innovative & cost effective NCWR solutions, through demo projects
 - To train teachers to educate students on NCWR and increase awareness on sustainable water use
 - To enhance the capacity of the local authorities in NCWRM & IUWM
 - To train local technicians on the application of modern NCWR systems
 - To promote multi-stakeholder partnerships for local NCWR initiatives.
 - To promote knowledge and sharing of experiences on aspects of integrated approaches to urban water management.
 - To advance regional dialogue on NCWR among Mediterranean countries

NCWR Applications (I): Rainwater Harvesting

- Increase local water availability
- Water suitable for various non-potable uses
- Traditional method for islands in the Mediterranean



Rainwater Harvesting Applications



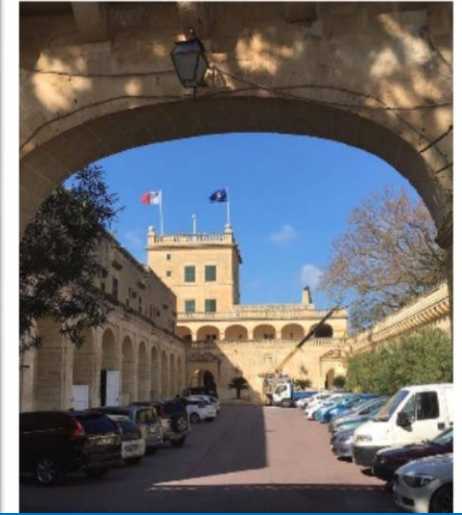
Gozo, MT



Syros, GR



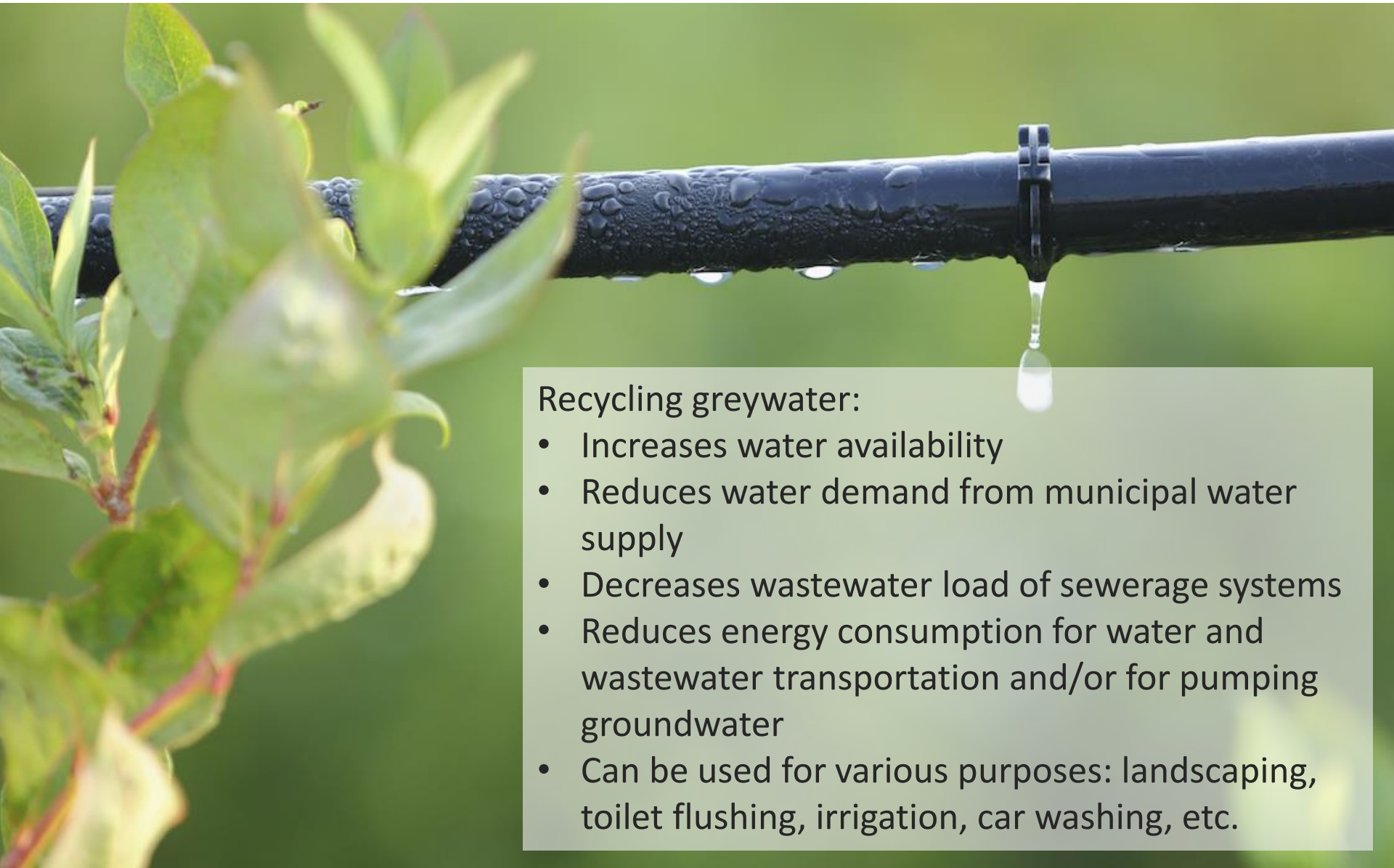
Tilos, GR



San Anton's Palace, MT



NCWR Applications (II): Greywater Recycling



Recycling greywater:

- Increases water availability
- Reduces water demand from municipal water supply
- Decreases wastewater load of sewerage systems
- Reduces energy consumption for water and wastewater transportation and/or for pumping groundwater
- Can be used for various purposes: landscaping, toilet flushing, irrigation, car washing, etc.

Greywater Recycling Applications

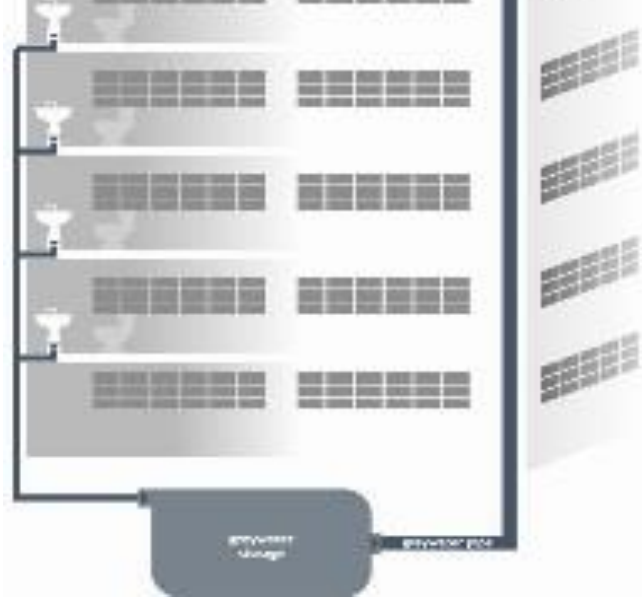
Gozo Football Stadium, MT



Malta College of Arts, Science & Technology, MT



National Swimming Pool, MT



Small desalination units (Water Kiosks)

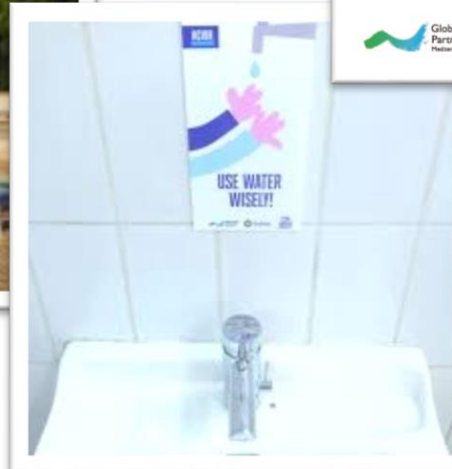
- **RO units**, with capacity $\sim 6\text{m}^3/\text{day}$
- Custom-made systems
- Used in small villages and remote locations, only for drinking purposes
- Operate with coins – authorities decide on the cost per litre (usually 0.2-0.5 €/5L)
- Revenue covers operation and maintenance costs



Water Efficiency: water saving devices & low flow equipment

- Discourage wasteful behaviour of users in facilities of increased consumption, e.g. swimming pool showers.
- Decrease domestic consumption by 20-30% using water saving devices in households

Improving Water Efficiency: water saving devices & low flow equipment



Capacity Building & Training - Creating Green Jobs

- Training for local technicians to increase local know-how on NCWR technologies, installation, retrofitting and maintenance
- Potential to expand the green market
- Need and potential for **water related jobs** (esp. in O&M) in the Mediterranean



Image Credit – Roger Mommaerts ([Clickn](#)).

Educational Programme

- In cooperation with the Ministries of Education
- **In-school hands on activities** for primary & kindergarten students
- **Teacher training**
- Country-specific educational material
- Variety of materials: educational packages, video games, posters, etc.



Awareness Raising & Communication

www.gwpm.org/NCWR



<https://www.youtube.com/watch?v=hxxyVDFWaXY&t>



Thank you for your attention!

For more information:

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[GWPMed](#)



[NCWRProgramme](#)

