



NEWSLETTER MEDISS PROJECT

Newsletter N°2

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MEDISS PROJECT

"MEDITERRANEAN INTEGRATED SYSTEM FOR WATER SUPPLY"

SIX PARTNERS



FOUR AREAS



TOTAL BUDGET:
2.4 MILLION



EU CONTRIBUTION
2.2 MILLION

PROJECT
DURATION



01 AUGUST 2019
31 JULY 2022

MEDISS website

@MedissProject



MEDISS “Mediterranean Integrated System for water Supply” is a project financed by the ENI CBC MED Programme (Cooperation across border in the Mediterranean). The project addresses thematic objective “B.4 Environmental protection, climate change adaptation and mitigation”, priority “B.4.1 Water efficiency”. Six partners are involved in the project: Palestinian Wastewater Engineers Group and the Governorate of Jericho & Al Aghwar (Palestine), Aqaba Water Company (Jordan), Institute des Regions Arides de Médenine (Tunisia), University of Cagliari - CRENoS and the Sardinian Water Board - Enas (Italy).



MISSION

MEDISS addresses improving the quality of saline groundwater present in the MED area, opening up alternative irrigation for higher quality and more diversified cultivations. MEDISS threefold objectives:

- reduce water and soil salinity through the non-conventional water supply, reduce stress on groundwater and enabling high productivity and diversification of agricultural production;
- to support unconventional water solutions for agricultural use, to reduce water consumption and limit costs for water supply;
- to encourage the behavioural change of end-users toward the use of unconventional water in agriculture.

TERRITORIES AND SPECIFIC NEEDS

The innovative solutions in treating wastewater and desalination of brackish water are taken according to the features and specific needs of the partner areas. For this reason, in the project are involved institutional local actors.



In **Arborea (Italy)**, identified as a Nitrate Vulnerable Zone (NVZ), MEDISS develops a prototype for ammonia stripping from waste sludges to produce fertilizers in a plant equipped with biogas cogeneration.

In **Gabès (Tunisia)**, MEDISS upgrades the existing pilot plant (8 ha) for tertiary treatment through infiltration percolation and tests an innovative filter bed of clay.



In the **Jordan Valley (Palestine)**, MEDISS collects lost surface water in Wadi Quilt, blend it with saline water from artesian wells and Treated Waste Water from Jericho City and then use it to irrigate pilot areas.

In the **Governorate of Aqaba (Jordan)**, innovative approach for the desalination plant of brackish groundwater, extending membrane's lifetime with the innovative treatment of using photovoltaic panels for energy supply.

The pressure on primary water resources and the costs for water supply will be reduced. Local communities and institutions will benefit from the results of the project thanks to the network of professionals / experts of the MEDISS Project that will facilitate the exchange of experiences and good practices in the international area.

WPs

MEDISS project is organized in five work packages (WPs), each of which represents a coherent set of activities. The five WPs have been scheduled to interact coherently with one another:

- **WP1 - Management**
- **WP2 - Communication**
- **WP3 - Analysis and monitoring**
- **WP4 - MEDISS pilots set-up and implementation**
- **WP5 - Awareness and Networking**



WORK PACKAGE 1 - MANAGEMENT

WP1's objective is to guarantee a sound management of MEDISS ensuring quality standard in reporting and coordination.

WORK PACKAGE 2 - COMMUNICATION

WP2 aims at assuring constant communication to and with local stakeholders on MEDISS activities and results, disseminating MEDISS achievements and promoting its future exploitation in synergy with other initiatives and relevant stakeholders.

WORK PACKAGE 3 - ANALYSIS AND MONITORING

WP3 embraces the whole project and it aims at collecting relevant and consistent baseline data in the 4 MEDISS areas. In particular: analyzing and organizing data in a comprehensive database; providing target values and monitoring tools; evaluating MEDISS impact on water, soils and crops during and after pilot tests; identifying up-scaling opportunities and elaborating solid proposal for future funding.

WORK PACKAGE 4 - MEDISS PILOTS SET-UP AND IMPLEMENTATION

WP3 baselines surveys provide technical directions for **WP4** Pilot initiatives set-up and represent reference values to monitor and evaluate their impact. Innovative solutions for non-conventional water supply will be implemented in the 4 areas of the project, with the oversight of the Board of experts.

WORK PACKAGE 5 - AWARENESS AND NETWORKING

WP5's objective is threefold: getting support and active engagement from identified target groups on water management by raising their awareness on the theme (sustainable, non-conventional water supply); promoting exchange, development and uptake of good practices on non-conventional water supply at cross-border level; enabling efficient application of MEDISS innovative solutions for local institutions and local communities.

The innovative solution experimented in the 4 Mediterranean pilot sites is strictly monitored to evaluate MEDISS impact on water, soils and crops during and after pilot tests. In particular:

Arborea (Italy)

MEDISS main goal in Italy, in the pilot area of Arborea, is to reduce nitrates levels in soil and water by adopting win-win solutions: taking advantage of nitrates to produce fertilizers, reintegrating them into the process. In Italy, MEDISS develops a prototype for ammonia stripping with biogas cogeneration. The plant consists of a container furnished with all the necessary equipment (filtration units, membranes, tanks, pumps, valves, hydraulic and electrical connection, and all the essentials for the system's proper functioning). In the first months of 2021, the prototype plant was delivered and installed in Sardinia (Italy) at a Cooperative 'Produttori Arborea' facility, operating the treatment of zootechnical waste in Arborea. On June 24, MEDISS Italian teams presented the results achieved with the inauguration of the Arborea's plant.



Gabès (Tunisia)

In Gabès, in Wadi Echerka Bechima (Tunisia), MEDISS upgrades the existing pilot plant for tertiary treatment through infiltration percolation, and it tests an innovative filter bed of clay. The properties of clay as filter material are analysed and tested in laboratory filtration trials before being used in the existing wastewater treatment system. In 2020 and 2021, Tunisian partner did several analyses to investigate the impact of treated wastewater on soil physico-chemical and microbiological quality in arid zones.

Jordan Valley (Palestine)

MEDISS Palestinian partners are in charge of collecting surface water in Wadi Quilt, storing it in a ground pool, blending it with underground saline water and treated wastewater from Jericho City Wastewater Treatment Plant. In this plant, a laboratory equipped with a multi-parameter system has been installed to carry out surveillance on the water quality through the latest technologies and high-level features. Indeed, the objective in Palestine is to help Palestinian farmers to have better quality and quantity of water for irrigation. Palestinian partners have started testing the quality of saline water of farmers wells, in order to set the most suitable blending ratio of treated wastewater brackish saline water and fresh water to be used in irrigation in the Jordan Valley.



Governorate of Aqaba (Jordan)

In the Governorate of Aqaba (Jordan), MEDISS tests an innovative approach that is applied to the desalination plant of brackish groundwater, extending the membrane's lifetime with innovative treatment, and using photovoltaic panels for energy supply. Jordanian partner already inspected the ongoing work for the water desalination plant, civil structure is completed, electromechanical equipment are supplied and installation is about to start.

In order to reverse the logic behind the extraction of resources to a point of “maximum efficiency” MEDISS project develops a special programme aimed at involving all the actors present in the territory: the **awareness programme**. The awareness programme operates in rural areas and is based on 4 key actions:

- collecting information on all types of barriers, so as to overcome any cultural resistance to the use of unconventional water resources
- raising awareness of the correct use and exploitation of water resources
- creating a synergetic action involving and empowering all the actors present in the territory (including producers and consumers) to the methods and the work that involves the final products that will be purchased
- supporting community-led local development strategies by operating with local authorities in order to act on different levels of awareness and reverse the logic behind the extraction of resources to a point of “maximum efficiency” (which is the key point of the whole project).



PARTNERSHIPS AND COLLABORATIONS

MEDISS partners *have* enhanced the involvement of the local community in the project to *better meet* the specific needs of local territories while facing climate challenges.

In particular, a special collaboration started with:

- **LAORE Sardegna (Italy)**, the Regional Agency for Agricultural Development of Sardinia in charge of the implementation of agricultural and rural development programmes, supporting farmers and agricultural businesses in innovation processes, and promoting the dissemination of best agricultural practices (BAP).
- **Province of Oristano (Sardinia, Italy)**
- **MEDSEA (Italy)**, the Mediterranean Sea and Coast Foundation is a no-profit organization that promotes projects to reduce the impacts that cause the loss of natural and cultural heritage, through the principles of the Ecosystem-Based Approach and Integrated Coastal Zone Management of the Barcelona Convention.
- **Wadi Araba Municipality** and the **Jordanian Hashemite Fund for Human Development (JOHUD) (Jordan)** - with local community representatives and farmers,
- The **Directorate of Agriculture of the Governorate of Jericho & Al Aghwar (Palestine)**

MEDISS partners keep **disseminating and exploiting** the project mission and its innovative solutions for water management in the 4 Mediterranean pilot sites.

In 2020 and 2021, MEDISS partners participated in the following events:

Webinar "Sinergie per l'efficienzamento idrico nell'area mediterranea", July 20th 2021

ENAS presented the MEDISS results in the webinar organised by Puglia and Lazio regions.

Press conference for the presentation of the Arborea's Pilot Plant, June 24th 2021

The event was organized by CRENoS, coordinated by ENAS, and attended by the Palestinian Wastewater Engineers Group, the Mayor of the Municipality of Arborea, the Cooperativa Produttori Arborea. Representatives of other institutions and organizations supporting the MEDISS project attended the event. Local televisions, web, and social media assured visibility to the press conference.

World Water Day, March 22nd, 2021

MEDISS partners participated in the event for the World Water Day organised by Nawamed project.

Night of Geography, April 9th 2021

During the event, MEDISS promoted/raised awareness of its innovative programme of territorial valorisation to provide water efficiency while engaging the local community.

Euractive Virtual Conferences, December 4th 2020

The discussion focused around the European Green Deal (the European Commission's new Circular Economy Plan) and explored all the thematics of MEDISS interest.

European Researchers' Night (Sharper Night), November 20th 2020

The Italian partners participated in the roundtable entitled "Unconventional water resources in the Mediterranean area", to talk about the impact that MEDISS has in the pilot areas involved in the project, in particular, in the pilot site of Arborea.



NextGenerationEU is a temporary recovery instrument to help repair the immediate economic and social damage brought about by the coronavirus pandemic.

**Make Europe Greener, more Digital and more Resilient:
this is the goal of the NextGenerationEU Plan.**

NextGenerationEU is the recovery plan designed to restore and rebuild a stronger Europe after the Covid-19 pandemic, relaunching the economic recovery, creating opportunities and jobs. The objective? To reemerge stronger from health and economic crisis, creating job opportunities, a greener Europe, more digital, more resilient and adequate to the present and future challenges.

A key element of the plan is the mechanism for recovery and resilience, with its € 723.8 billion, of which in loans €385.8 billion and grants €338.0 billion, available to support reforms and investments undertaken by EU countries. The goal is to mitigate the economic and social impact of the coronavirus pandemic. Each Member State must submit funding proposals to benefit from the EU budget.

Another key element is the inclusion of € 50.6 billion for REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe). It's a new initiative that continues and extends the crisis response and crisis repair measures delivered through the Coronavirus Response Investment Initiative and the Coronavirus Response Investment Initiative Plus. It will contribute to a green, digital and resilient recovery of the economy.

NextGenerationEU will also provide funding to other European programs or funds such as Horizon2020, InvestEU, Rural Development or the Just Transition Fund (JTF).

The NextGenerationEU Plan is a part of the budget, in addition to the Multiannual Financial Framework (MFF), the "ordinary" budget of the European Union. The Multiannual Financial Framework has a total budget of €1 210.9 billion, distributed over different items of expenditure of the MFF are: Single market, innovation and digital; Cohesion, resilience and values; Natural resources and environment; Migration and border management; Security and defence; European public administration.

In addition to these six "spending headings", the MFF also provides a substantial share of funding for the *Neighborhood and the rest of the world*, i.e. funding programs for neighborhood policies, development, international cooperation, humanitarian aid, pre-accession, foreign policy and common security, overseas countries / territories funds. The budget for this specific item is € 110.6 billion.



A Budget for Europe's future

The EU response to the coronavirus crisis will be spread between now and 2027, concentrated in the first crucial years of recovery. To ensure an effective response, which reaches out to everybody in the EU and to our global partners, the Commission is mobilising a variety of instruments.

Next Generation EU will be rolled out under **three pillars**:



Source: European Commission



Palestinian Wastewater Engineers Group (PWEG), the lead partner of MEDISS project, is a technical Non Governmental Organization (NGO) founded in 2002.

PWEG's main fields of interest are water, wastewater, food security, renewable energy and institutional support, with *Clean Environment* as a slogan. PWEG has 3 offices: the headquarter office in Al Bireh, Ramallah and Al Bireh Governorate – Palestine and two branch offices in Jenin and Tubas Governorates – Palestine. PWEG supports local authorities in protection of the environment by assisting in planning, designing, fund raising and managing environmental projects, this includes also research and capacity building.

Aqaba Water Company (AW) was established in August 2004 in the Governorate of Aqaba with financial and administrative independence and rules. Moreover, it is the first commercial water



services company in Jordan that has been entrusted with the managing water and sanitation resources in its coverage area. The aim of Aqaba Water Company in MEDISS Project is to contribute to the development of the remote area of Al Risha as by improving the quality of drinking water. How?

- Developing community related to drinking water services
- Strengthening the relationship between the Aqaba Water Company and the European Union.
- Creating new opportunities for future projects in order to developing Aqaba Water Company service area.



The Governorate of Jericho & Al Aghwar (GoJ) was established in 2005, in Jericho - West Bank (Palestine).

The aim of the Governorate of Jericho is to implement the public policy of the State of Palestine and to supervise the production and service facilities within the governorate boundaries.

The objectives of the Governorate of Jericho & Al Aghwar (GoJ) are:

- To achieve economic, urban and social prosperity, carrying out equality and justice.
- To supervise and patronize health, social, cultural, educational, and urban development.
- To provide economic and social protection to the poor and needy who suffer from the disruption of the resources and care for people with special needs.



CRENoS was established in 1993 by economists of the Universities of Cagliari and Sassari (Italy). Since 2000 it is a section of the Interuniversity Centre for Economic Research and Mobility (CIREM), which is administered by the Department of

Economics and Business - University of Cagliari. It involves 27 Researchers, 46 Associated researchers, 4 Doctoral students, 2 post-doc Fellows and 9 Research Assistants. The Centre is in charge of developing the Awareness Program in which a senior facilitator will coordinate the work of local facilitators (1 per area), analyse the needs assessment results and collect final reports from awareness sessions. CRENoS is responsible for project communication. Two professors of University of Cagliari – CRENoS, expert on socio – economic analysis, are also involved in the activities of technical Board of Experts (BoE).

ENAS - Ente Acque della Sardegna (Sardinian Water Board) is the Sardinian operating entity that manages the Sardinia's multi-sectorial water system composed of various water collection and distribution works. Established in 2006, the Board's activities are based on the principle that water is a precious and limited resource with enormous environmental, cultural, and economic value to be protected. In this regard, the Board has been working towards the achievement of the highest standards possible for the water delivered. Its efficiency can be correctly maintained through one of its specialized structured - the current Delivered Water Quality Service (SQAE) - provided with its own laboratory equipped with avant-garde instrumentation. ENAS has designed and constructed large water infrastructures for the long-term development of the Sardinia, guaranteeing water supply to urban, agricultural and industrial areas, in a typical Mediterranean semi-arid region.



ENAS Sardegna

In MEDISS ENAS coordinates the activities of the WP3 with the support of the technical Board of Experts (BoE). Moreover, ENAS is in charge to coordinate quantitative and qualitative water analysis and soil study and analysis.



Institut des Régions Arides de Médenine (IRA). Created under the term of the law No. 76/6 of 7 January 1976, IRA conducts the research needed to develop the agricultural sector, the protection and preservation of natural resources and the fight against desertification in arid and desert regions. Ira main mandate are undertake researches for the development of the agricultural sector, conservation of natural resources and combating

desertification in the dry areas, training and capacity building of technicians and specialists in dry land agriculture and combat desertification, provide assistance and expertise for the development projects in the area. IRA has five laboratories whose the main missions are: Inventory and monitoring of desertification, Wind erosion and sand encroachment control, Conservation and valorization of water and soil resources, Desertification monitoring and climate change impacts, Development of water saving and management techniques and Improve of soil physical and chemical characteristics.

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The European Union is made up of 28 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.