

Sustainable Water Integrated Management and Horizon 2020 Support Mechanism

SWIM-H2020 SM

Working for a Sustainable Mediterranean,
Caring for our Future



This project is funded by
the European Union



An Outstanding Regional Project

Mediterranean Sea

MOROCCO

ALGERIA

TUNISIA

“The sustainable development of the Mediterranean Region is of immense socioeconomic and political importance for the European Union and its southern neighbours. To achieve this, the environment needs to be protected and in particular, water – an increasingly scarce resource – needs to be managed in a sustainable manner.

The SWIM-H2020 Support Mechanism, funded by the EU, has addressed critical water and environmental pollution issues in the region in a comprehensive manner.

The project has contributed to developing a regional strategy based on the involvement of all the countries in the region. It has facilitated the implementation of shared objectives by reinforcing national capacities in the beneficiary countries and by raising awareness on the need to protect the Mediterranean Sea. The project also disseminated innovative approaches tested within EU funded demonstration projects and organised exchanges of good practices between the countries of the region.

Critical issues such as waste management, reduction of industrial emissions, green economy, efficient use of water and education on sustainable development overall have been tackled in a holistic manner.

This approach is the only way to offer a cleaner environment and the possibility for sustainable economic development for the people of the region.

The success of SWIM-H2020 SM has only been possible through the strong support and sense of ownership by the Partner Countries. The involvement of key regional organizations, such as the Union for the Mediterranean, the UN Environment/Mediterranean Action Plan, the European Environment Agency and the League of Arab States have played an important role in facilitating our work.

I am pleased that, together with our partners, we will continue to build on the achievements of this project with new initiatives in the area of critical environment and water issues.”

Michael A. Köhler
Director for the Neighbourhood South Directorate General
for Neighbourhood and Enlargement Negotiations
European Commission

April 2019

Overall Objective

To contribute to reduced marine pollution and a sustainable use of scarce water resources in the Mediterranean Region with emphasis on the following Neighbourhood South Countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine* and Tunisia).

Aiming to Achieve

- 1 Strengthening of regional coherence and cooperation in approaches to marine pollution prevention and control, and sustainable water management;
- 2 Positive changes triggered in the design and implementation of the relevant national institutional, policy and regulatory frameworks;
- 3 Enhancement of Partner Countries' capacity to promote investment and business opportunities for properly managing municipal waste, industrial emissions and waste water;
- 4 Facilitation of access to finance for selected sustainable investment projects;
- 5 Identification, testing and sharing of best practices and success stories;
- 6 Use of research results in policy making – enhancement of more sustainable practices in the fields covered by the project.

Framework of Cooperation

The project established synergies, which were further supported and advanced through:

- The SWIM-H2020 SM Focal Points (FPs) in the Ministries in charge of water and environment in the Partner Countries;
- Regional bodies that formed the project's Institutional Partners, namely:
 - the Union for the Mediterranean (UfM), assisting on issues related to the draft Strategy for Water in the Mediterranean, the Water Strategy in the Western Mediterranean (5+5), projects and investments related with Mediterranean pollution hotspots.
 - the Mediterranean Action Plan of UN Environment (UN Environment/MAP), supporting activities related to Barcelona Convention for the protection of the Mediterranean Sea. Relevant EU Institutions involved in the environment and water: EU Commission for the strategic aspects, the European Investment Bank for the access to finance and the European Environmental Agency for the environmental information system.
- Other regional initiatives and projects (SwitchMed, BlueGreen Med CS, CLIMA South, Act4Litter, Plastic Busters MPAs, etc.).

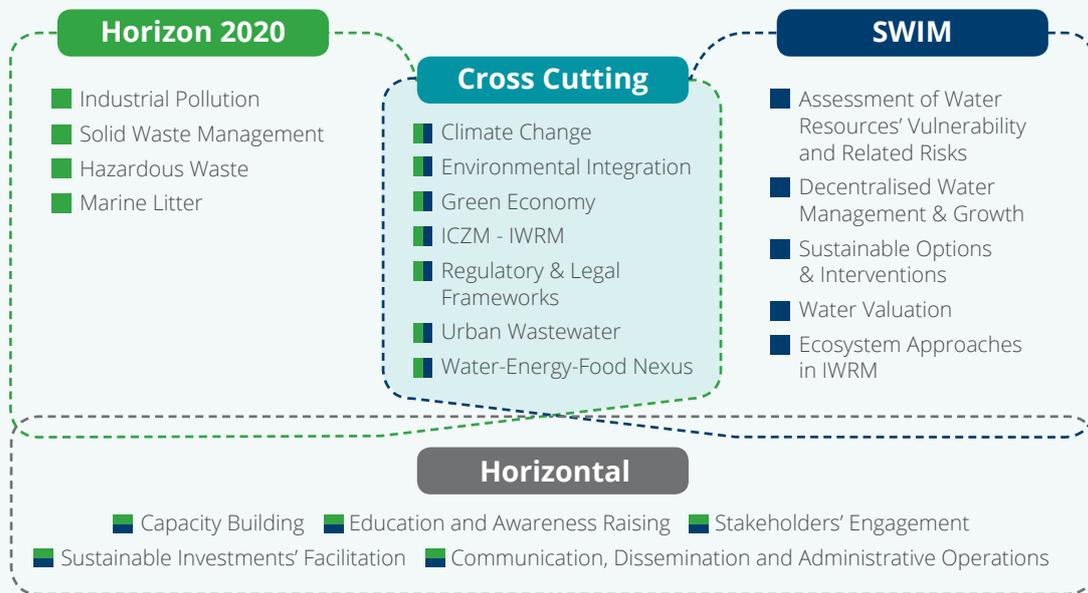
* This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of Member States on this issue.

Approach

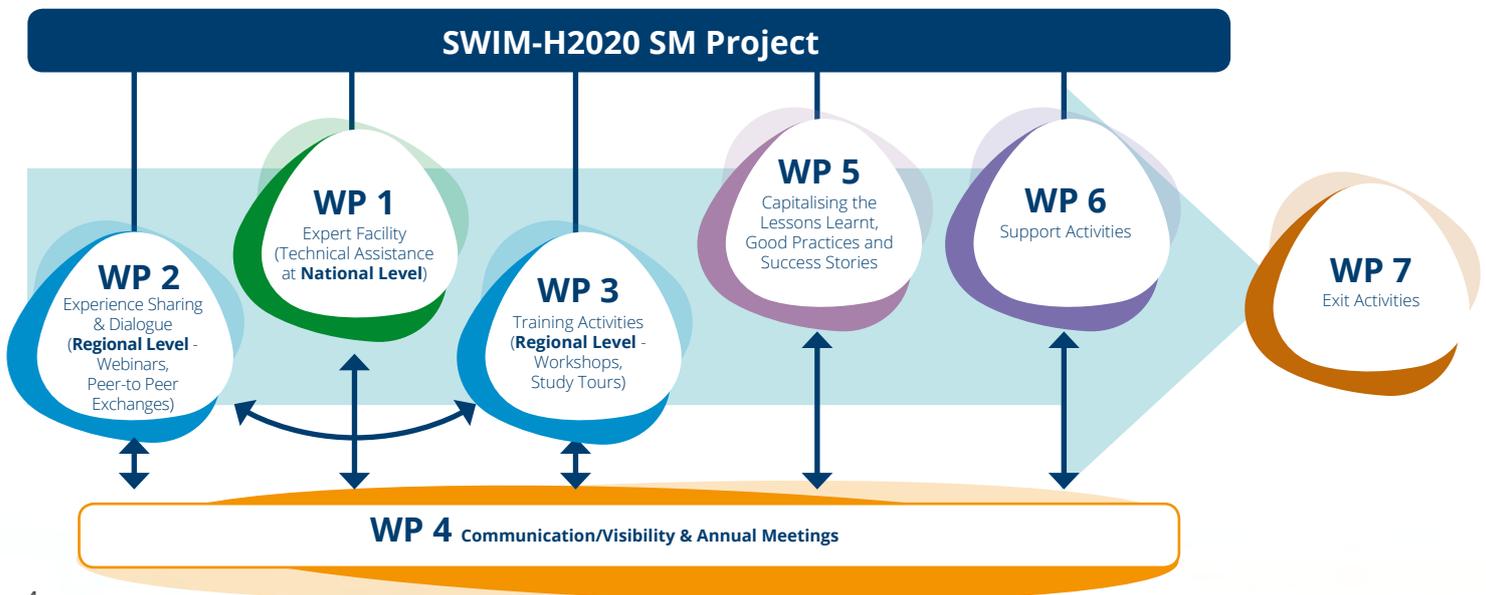
Driven by the regional context governed by the UfM Ministerial Declaration, the Barcelona Convention and the H2020 Initiative, the project developed a demand-driven mechanism to respond to the Partner Countries' needs and assist in the achievement of the Countries' goals related to reduced marine pollution and sustainable use of scarce water resources. Its main elements were the following:



The project's structure around its "vertical" and "horizontal" themes:



The project's structure evolves around 7 Work Packages



Strengths

- The project's regional character promoted the regional engagement of the countries by proposing national solutions to implement the regional decisions;
- Flexible, demand-driven mechanism providing targeted and tailored technical assistance activities at national level, addressing the Partner Countries' needs;
- Boosting knowledge, skills and capacities through highly popular regional training activities and technical guidance from European, MENA countries and experts;
- Project built on previous achievements of H2020 CB/MEP and SWIM SM; initiated cooperation in new areas such as the research-policy interface; introduced new themes and tools, such as the Peer-to-Peer experience sharing;
- Dedicated activities on the capitalisation of lessons learnt, good practices and success stories from other projects;
- Facilitating complementarity with bilateral cooperation activities in the South Mediterranean countries;
- Fostering regional dialogue, cooperation and synergies with institutional partners, other projects and initiatives;
- Disseminating innovative approaches tested in EU funded DEMO projects.

Challenges met along the way

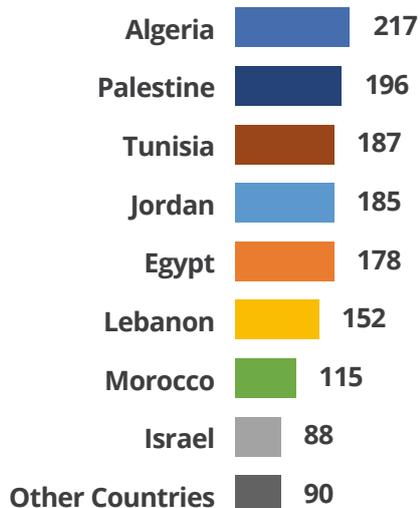
- Administrative complexities, leading to delays in decision-making about the design of national activities;
- Governmental/administrative changes at Ministries, leading to changes in the prioritisation of the country's needs, which in turn results in revisions/changes in national activities;
- Difficulty in obtaining data necessary for the implementation of specific activities from Ministries and other stakeholders in the Partner Countries;
- Unsynchronised initiation by the DEMO projects resulting to a slow dissemination of the innovative practices.

Opportunities

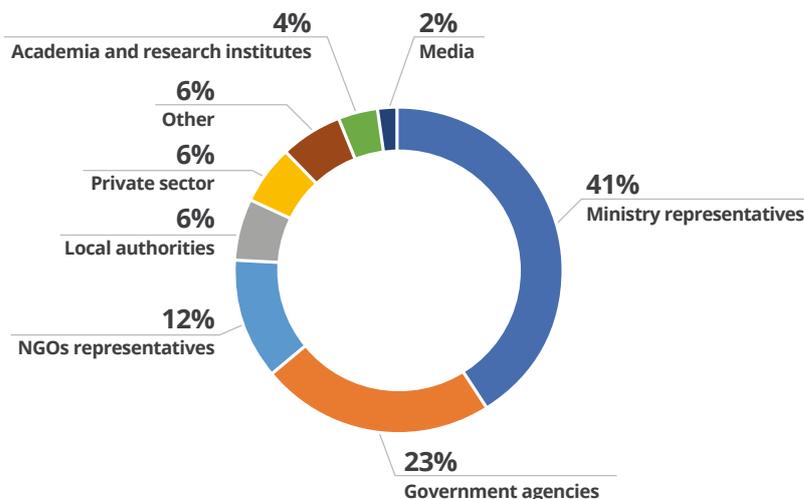
- Creating an enabling environment to identify and share best practices among northern- and southern-coast neighbours, as well as between southern countries with similar problems and experiences, thus providing a basis to collaboratively define future options;
- A unique platform bringing together national and regional stakeholders involved in environmental protection and water resources management, EU and non-EU donors, organisations and initiatives to present their activities, explore synergies, seek complementarity and minimise overlapping;
- The regional dimension of the web platform informs all involved stakeholders of developments in each country and in the region, and highlighting how the project improves the quality of life.

The Project in Numbers

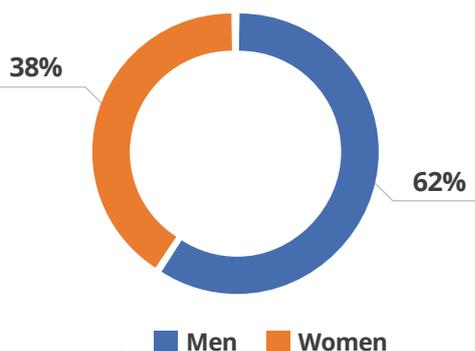
Trainees per Country in regional and national trainings



Trainees per Type of Institution that participated in the project's events



Trainees' Gender Balance



1 Support Mechanism

2 Components (Water-SWIM/ Environment-H2020)

19 Major Synergies with Institutional Partners, Regional Organisations and other projects

39 Months of Implementation (02/2016-04/2019)

21 Themes

Over **100** Activities out of which:

14 Regional (or sub-regional) on-site Trainings with the participation from Western Balkans and Turkey

51 National Technical Assistance activities including 39 National Training sessions

6 Study Tours

10 Peer- to Peer activities

4 Webinars

5 Activities on lessons learnt, good practices and success stories

Equal Allocation of resources to Partner Countries

121 International and Local Non-Key Experts involved

20 National consultation workshops held

16 National Meetings held in the Partners Countries

4.016 Stakeholders/media reached through our communication activities

11 Categories of stakeholders involved

2 Websites (Project & H2020) available in EN, FR and AR

2 Social Media Pages (LinkedIn, Facebook)

6.923 Facebook followers

112 LinkedIn followers

7 Newsletters distributed

58 News releases published

6.705.250 Euros Budget

Results Capitalisation at Regional Level

By sustaining a good balance between regional and national demand-driven activities, the following activities reflect a regional dimension in water and environment.

Decentralised Water Management

2 Regional trainings, 3 Peer-to-Peer focus groups, 1 Study Tour

The stakeholders were introduced to the concepts and approaches of the Water Framework Directive (WFD) as an instrument applied in Europe to promote Decentralised Water Management and apply the basic principles of public participation and the concept of groundwater bodies as units for water management and protection at the local level. The trainees visited the operations of different water management institutions in Austria. Partner Countries can now apply the concepts of Decentralised Water Management when developing their local River Basin Management Plans and implement effective public engagement processes in water planning.

** Relevant Technical Assistance has been provided at the national level in Egypt, Lebanon, Morocco.*

Drought Risk Management

2 Regional trainings, 1 Peer-to-Peer focus group, 1 Study Tour, 1 Webinar

The concepts of the proactive Drought Risk Management (DRM) and DRM Mainstreaming (DRMM) were presented to stakeholders. As such, they improved their technical capacity on the development and analysis of indicators and drought risk mapping. Their knowledge was enhanced by visiting the drought risk management scheme of the Segura River Basin in Spain.

The Partner Countries can mainstream activities on drought monitoring under common harmonised indicators, allowing for comparable drought assessment in the region, and can adopt good practices to support their drought management decision-making.

** Relevant Technical Assistance has been provided at the national level in Egypt, Jordan, Palestine, Tunisia.*

Treated Wastewater Reuse

1 Regional on-site training, 1 Peer-to-Peer focus group

The exchange of experiences between European and South Mediterranean countries on the technical, institutional, regulatory and managerial aspects of treated wastewater reuse was triggered under the framework of a Regional On-Site Training, promoting regional dialogue. Practical examples and lessons learnt from the SWIM DEMO projects proved valuable for promoting cross-fertilisation between the DEMO projects and the SWIM-H2020 SM. The training was complemented by Peer-to-Peer exchanges between Jordan (offer side) and Egypt, Morocco, Algeria (demand side), establishing the basis for future cooperation.

** Relevant Technical Assistance has been provided at the national level in Morocco and Algeria.*

Marine Litter

1 Regional on-site training, 1 Peer-to-Peer focus group, 2 Webinars

The project was centred on regional coherence and cooperation in order to tackle the problem of marine litter. It was guided by the main legislative frameworks on marine litter monitoring in the Mediterranean, i.e. the Barcelona Convention Ecosystem Approach. The impact of a regional training combined with valuable insights from the closing conference of the EU-funded Interreg Med ACT4LITTER was enhanced by a Peer-to-Peer exchange be-

tween Algeria, Egypt and Morocco, two webinars and close synergy with the EU-funded 'Marine Litter-MED', which is implemented and coordinated by the UN Environment/MAP. The UfM-labelled Plastic Busters project is building on the legacy of the SWIM-H2020 SM marine litter activities.

Construction & Demolition Waste

1 Study Tour, 1 Peer-to-Peer focus group

Following the study tour on Construction & Demolition (C&D) Waste in Belgium (2017), Partner Countries took bold steps. Tunisia launched an ambitious programme that includes an agreement between the Ministry of Local Affairs and Environment and the Ministry of Equipment which states that tenders for public works will oblige bidders to use at least 20% of the materials from recycled demolition waste. Palestine drafted a C&D bylaw, Lebanon is drafting a strategy for C&D waste, Israel advanced its C&D national policy and in Egypt a protocol between the Ministry of Environment and the Housing and Construction Authority has been prepared.

** Relevant Technical Assistance has been provided at the national level in Egypt and Israel.*

Sludge Management

1 Study Tour, 1 Peer-to-Peer focus group

The study tour to the island of Psytallia, off the port of Piraeus in Greece in June 2018, provided access to a fully operational state-of-the-art sludge management facility for the Athens Metropolitan Area, including one of the few facilities in the world that produces alternative fuel from sludge (pilot EU-funded project). This visit, combined with the exchange of information between peers coached by the project, was instrumental in Morocco's decision to establish a regulatory and technical framework for sludge management.



Regional Study Tour at 'Psytallia' Sludge Management Facility, 06/2018, Greece

Results Capitalisation at Regional Level

Olive Oil Mills' Waste Management

1 Study Tour, 1 Peer-to-Peer focus group, 1 Webinar

The Athens regional training on the sustainable management of olive oil mill's waste prompted Algeria to consider the implementation of general and specific requirements for the management of olive oil mill's waste and the organisation of the sector's waste recovery streams. Within the Peer-to-Peer process that followed the regional training, the Egyptian Peer, Egypt's Ministry of Environment and other olive oil stakeholders from the private sector organised a national meeting for dissemination purposes. In Palestine, national networking of the public administration and private olive oil mills sector has been enhanced.

** Relevant Technical Assistance has been provided at the national level in Israel.*

Leachate Management

1 Study Tour, 1 Peer-to-Peer focus group

Leachate is a serious preoccupation for all Partner Countries. The sub-regional study tour of leachate treatment facilities in Lebanon in June 2018 was complemented by detailed guidelines on sustainable leachate management and best available technologies, including advantages, disadvantages, costs, and other selection criteria. The guidelines were widely disseminated in several countries, including Morocco and Palestine where they were used to review Environmental Impact Assessments and other studies for sanitary landfills.

** Relevant Technical Assistance has been provided at the national level in Lebanon.*

Integrated Coastal Zone Management and Integrated Water Resources Management within the Integrative Methodological Framework

1 Study Tour, 1 Webinar

The 3-day study tour on combined Integrated Coastal Zone Management and Integrated Water Resources Management (ICZM – IWRM) that took place in July 2018 in the Buna/Bojana Delta on the

Montenegro/Albania coast resulted in a set of concrete recommendations that were communicated to their host peers in Montenegro and Albania.

** Relevant Technical Assistance has been provided at the national level in Morocco and Tunisia.*

Sustainable Investment Facilitation

1 Regional on-site training

In response to the influx of refugees, a regional training co-organised with MeHSIP-II* on 'Fast-track project design on water, wastewater and solid waste' brought together the key stakeholders from Lebanon, Jordan, Palestine and Tunisia and trained them in the management and design of wastewater treatment and solid waste facilities.

**MeHSIP-II: Mediterranean Hot Spot Investment Programme led by the European Investment Bank*

Fostering the Switch to Green Economy in the Mediterranean

1 Regional on-site training

In close collaboration with key green and circular economy promoters including the EU funded SwitchMed program and the Global Green Growth Institute, SWIM-H2020 SM conducted interlinked capacity building and technical assistance on various Sustainable Consumption and Production (SCP) aspects across the region. Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC) hosted a major regional training on designing circular economy strategies in the food and beverage packaging sector in December 2018. This consolidated the ongoing targeted national support, including the development of capacities to access financing for SCP projects that will advance national Green Economy agendas (Israel, Jordan, Morocco, Tunisia). The study visit of an Algerian delegation to Barcelona resulted in new regulations for product packaging and identification of best available techniques in the packaging industries and Tunisia is in the process of developing a project for the implementation of eco-design for the packaging sector.

** Relevant Technical Assistance has been provided at the national level in Israel, Morocco, Tunisia, Jordan.*

Green Banking

1 Regional on-site training, 1 Peer-to-Peer focus group

The project's rapid regional overview of the potential role of banks in water financing in conjunction with green banking offered encouraging insights on how Arab banks are collectively discussing the financing of sustainable development goals and the endorsement of green banking. SWIM-H2020 SM is among those who have helped make it happen. The project's contribution was provided through the organisation of a regional training of banks as part of the 'Water Governance in the MENA and wider Mediterranean region: Strengthening integrity and financing for water security and sustainable development' conference in December 2017. Furthermore, in collaboration with Global Water Partnership-Mediterranean, the project supported a Peer-to-Peer exchange that enabled the upscaling of Lebanese achievements in 'Private-sector participation in water infrastructure in Lebanon with emphasis on the role of banks' which was replicated by the Association of Banks in Jordan.

** Relevant Technical Assistance has been provided at the national level in Lebanon.*



Regional Training, 12/2017, Olive Oil Mill, Peloponnese, Greece

Education and Awareness for Sustainable Development

Almost all Partner Countries have extensive experience in Environmental Education, but most are transitioning to Education for Sustainable Development (ESD), particularly for meeting the Agenda 2030 for sustainable development targets. They have been substantially supported by SWIM-H2020 SM to transcribe the Action Plan of the Mediterranean Strategy on Education for Sustainable Development into national policy and projects. National ESD Action Plans create the enabling conditions to address the large environmental and socioeconomic challenges that the countries of the region face, such as overpopulation, consumption and production models, solid-waste management and water scarcity.

** Relevant Technical Assistance has been provided at the national level in Algeria, Egypt, Jordan, Palestine and Tunisia.*

Stakeholder Engagement in the UfM Environment and Water Agendas

Members of Parliament, NGOs and media from the Partner Countries and the Western Balkans working on environment, water and sustainability, as well as the Circle of Mediterranean Parliamentarians for Sustainable Development (COMPSUD) were informed of the state of play under the H2020 Initiative and the Mediterranean Water Agenda in Cyprus in November 2017. The Cypriot Parliament hosted a special session and disseminated the results to other Parliaments, while soon after, they were transmitted by the project to the UfM to be included in future planning.

Regulatory and Legal Frameworks

1 Regional on-site training

By presenting practical examples from various countries and facilitating the exchange of experiences among participants, the regional training on 'Good water governance, focusing on regulatory aspects and the design, monitoring and enforcement of policies' introduced key stakeholders in the water sector to the main principles of good governance, as well as public participation.

** Relevant Technical Assistance has been provided at the national level in Morocco and Lebanon.*

Screening BATs and BEPs

The project concretely supported the transfer of new Best Environmental Practices (BEPs) and Best Available Techniques (BAT) in ENP south countries by conducting a screening process leading to a selection of the best practices, measures and technologies for two selected industrial sectors (olive oil and cement) and complementing them with circular economy measures appropriate for the targeted sectors.

Strengthening the Interface Between Research Policy and Practices

The mapping and screening of the most important research and innovation results and knowledge outputs facilitated to draw recommendations for a better interaction of research and policy. These recommendations directly support the Research Component of the H2020 Initiative for a cleaner Mediterranean and the work of organisations such as the European Environment Agency and the UN Environment/MAEP. The activity has been extended to include a useful online tool the 'Med Research Case Studies Outputs Repository (MedRCSOR)' offering a structured knowledge base on policy research case studies outputs.

Ex-post Assessment of the Sustainability and Impact of SWIM SM and SWIM-DEMO (Phase I)

In order to assess the effectiveness and impact of the EU past interventions in the field of Sustainable Water Integrated Management and develop a strong evidence base to guide future projects' decisions, an ex-post assessment was conducted for three randomly selected SWIM SM project activities and three SWIM-DEMO project activities. The ex-post assessment showed that the assessed activities were relevant, efficient and fit-for-purpose and that some relevant policy developments have taken place as a result of the interventions.

External Monitoring and Ad-Hoc Assistance to the SWIM DEMO Projects (Phase II)

The monitoring and mid-term assessment of three on-going DEMO projects showed that they were remarkably active and are on track, despite the fact that they have faced delays and difficulties. In order to enhance cross-fertilisation, exchange and dissemination of best practices, the DEMO project representatives participated in the project's regional training events. The SWIM-H2020 SM website was used as a platform to promote the scope of work and results of the DEMO projects.

Water Supply and Distribution Mapping in the South Mediterranean Region

This activity provided valuable information by mapping the current supply and distribution status in the water sector in the SWIM-H2020 SM Partner Countries. The aim was to compare the economic and institutional water management models and to focus on governance and regulatory frameworks.

Horizon 2020 Coordination Mechanism

Working in close collaboration with the European Commission and the Union for the Mediterranean Secretariat, the project is providing support for timely and harmonious cooperation among the components of the 'Horizon 2020 Initiative for a Cleaner Mediterranean' and for the consolidation of the Initiative's results.

NGO Participation in the Project

The participation of Non-Governmental Organisations (NGOs) and Civil Society Organisations (CSOs) in all of the SWIM-H2020 SM activities, regional and national, was designed and monitored by the UfM-labelled BlueGreen MED-Civil Society Networking Mechanism. Coordinated by the major regional NGO networks active in the region, BlueGreen MED helped to align efforts and support environmental NGOs in a harmonised and complementary manner.



Regional Study Tour, 06/2018, Leachate Treatment Facility, Lebanon

Highlights and Achievements at National Level

Algeria

Non-Revenue Water

In line with Algeria's national water policy to reduce water losses, support was provided through the project to introduce management systems and new technologies to detect and repair leaks in the distribution networks. Based on the technical support provided, leaks were repaired, illegal connections were identified and the proportion of Non-Revenue Water was reduced from 65% to 50%. Knowledge acquired in Algérienne Des Eaux (ADE) /Blida was extended to identify losses in the Bouroumy Zone. Moreover, within the framework of the 'Support Programmes for the implementation of the GIS' (Geographic Information System) Association Agreement, an action plan for the establishment of an information system and a GIS unit at the level of ADE is being developed. Using Blida as a pilot, the action plan builds on the road map developed by the project for the establishment and operation of a GIS unit within ADE at Blida.

Education for Sustainable Development

Following the capacity-building activity on Education for Sustainable Development, a Memorandum of Understanding (MoU) was signed between the Ministry of Environment and Renewable Energies (MEER) and the Ministry of National Education outlining the organisation of a training programme for teachers and the leaders of the environmental clubs in the fields of environment and sustainable development.

Marine Litter and Coastal Zone Management

The project provided training and technical assistance for the characterisation of marine and coastal litter in 14 coastal wilayas (provinces). This activity has strengthened cooperation between different departments and institutions in the management of marine litter. The Ministry of Environment and Renewable Energies (MEER) expects that this activity will also support the implementation of one of the components of the MEER-MEDPOL (the Marine Pollution Assessment and Control component of Mediterranean Action Plan) MoU, through the National Waste Agency, which will also use the activity's results to develop the National Marine Litter Management Plan.



National Consultation for the Protection of Water Resources Against Pollution, 07/2018, Algeria

Egypt

Decentralised Water Management

The Manual on Water Use that was developed as part of this project, establishes a common typology and classification of water uses across different economic sectors. It creates guidelines for estimation and assessment at the decentralised level. All governorates can now use this publication in their Water Resources Management Plans in order to assess water uses and patterns; conduct policy-relevant assessments; and design solid water-management measures, priorities and targets that take existing water gaps into account. Furthermore, the suggested scheme for monitoring and reporting of water uses lays the groundwork for the development of a National Water Use Information System for Egypt.

The training compendium on domestic- and industrial-sector water savings can be used as a guidance document to develop water-saving programmes.

Marine Litter

After a training and field visit in September 2017, Egypt conducted beach litter surveys over a period of one year in order to raise awareness, collect the necessary data and determine what measures are best suited for marine litter management. By joining forces with the EU-funded 'Marine Litter-Med' project, SWIM-H2020 SM helps Egyptian stakeholders, to implement the Regional Plan for Marine Litter Management in the Mediterranean of the UN Environment/Mediterranean Action Plan.

Education for Sustainable Development

Egypt is advancing its National Strategy on Education for Sustainable Development (ESD) with a pilot programme on ESD in primary and secondary schools in selected governorates. The SWIM-H2020 SM trainings and inter-institutional consultation that took place in December 2018 agreed to set up a national ESD platform and provide recommendations to the Ministry of Planning to enrich the education and awareness component of the Egyptian National Strategy on Sustainable Development.

Construction and Demolition Waste

Combined technical assistance and capacity building for staff of the newly created Waste Management Regulatory Agency and other public institutions in Egypt has focused on the development of the new waste-management stream of C&D Waste, an issue also addressed by a regional study visit of the project. Besides conceptualisation and monitoring aspects, the project supervised the development of a project proposal to facilitate access to finance.



Training on Water Conservation and Water Use Efficiency in Industries, 01/2019, Egypt

Israel

Ecosystem Approaches in Integrated Water Resources Management

As part of ongoing efforts to upgrade the monitoring network in the Kishon River Basin, the project developed an investigative plan to monitor non-point source pollution (NPSP), with a view to implementing a more comprehensive monitoring plan for the whole Kishon Basin. A training manual on monitoring NPSP was also developed, while multiple stakeholders participated in a training workshop on the subject. This activity could form the basis for the development of a national NPSP monitoring plan.

The project also assisted the Ministry of Environmental Protection (MoEP) in developing the community-based "Adopt a Stream" programme aimed at keeping streams cleaner and educating the public about the importance of viable streams.

Green Public Procurement

The project facilitated the production of a map of priority sectors that are to be included in the green public procurement process. Relevant EU experience was used for inspiration as well as interviews with Israeli stakeholders. This map will facilitate the MoEP's future work on green public procurement.

Plastics and Glass

The EU Plastics Strategy is guiding Israel in developing its own National Plastic Waste Strategy. The relevant assessment results and recommendations provided by the project have been taken up by the MoEP's Solid Waste Division and a multi-stakeholder Steering Committee has been established. The Israel Manufacturers Association teamed up with MoEP to host the first joint workshop on plastic waste and recycling. Similar results were achieved in the glass sector, where the project helped identify key problems and opportunities in glass-waste recycling. Based on this, the MoEP established a glass-sorting facility.

Construction and Demolition Waste

The project's assessment of the technical aspects of the C&D waste-sorting and recycling situation in Israel, as well as the recommendations on new legislation and enforcement helped the MoEP to develop a national policy. Israel's overall aim is to increase recycling of the various waste streams (plastics, glass and C&D) and promote market-based solutions.

Ms. Tahel Yashfe, H2020 Focal Point

“The project directly contributed to the decision-making processes and the preparation and implementation of a national policy in various areas. The project gave us the professional assistance and support to develop the future policy on glass, plastic, C&D and olive oil mills waste treatment and to progress towards a more sustainable solution for waste management. It also led to an enhanced policy for restoration and rehabilitation of streams.”

Jordan

Water Resources Vulnerability and Related Risks

The drought-hazard indicators developed by the project have been adopted by the newly established Drought Management Unit of the Ministry of Water and Irrigation (MWI), where staff were trained in calculating and using the indicators as part of their future work on drought characterisation and early warning. The Amman-Zarqa groundwater resources model developed in WEAP (a software tool for integrated water resources planning) was used to assess the related groundwater drought vulnerability, which now facilitates the development of targeted mitigation measures. The MWI staff training on the development of WEAP models will be capitalised by developing similar models in other basins, and thus improving drought management and water budgeting.

With regards to groundwater over-abstraction, Jordan can now use the results of the model developed by the project to simulate the impact of over-abstraction on groundwater and salinity levels in the Azraq Basin. The model also assesses associated socioeconomic impacts and helps guide decisions on groundwater management in the basin. The study may be replicated in other basins.

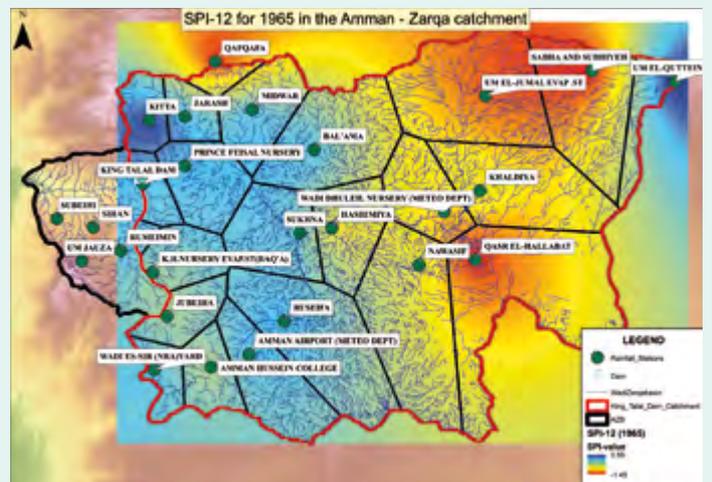
Education for Sustainable Development

Following a training and inter-institutional consultation in 2017, a database of environmental and sustainable development content for use by school teachers was established, SWIM-H2020 SM trainees regularly train educators on ESD principles, methodologies and tools. In December 2018, preparations for a National Strategy on Education for Environment and Sustainable Development were launched in cooperation with all relevant stakeholders, such as the Jordanian National Commission for UNESCO and competent NGOs.

Jordan actively participates in the Mediterranean Committee on Education for Sustainable Development and remains closely engaged in regional developments.

Green Economy

Together with the Ministry of the Environment of Jordan (MoE) and the Global Green Growth Institute, SWIM-H2020 SM addressed some of the challenges involved in translating the concept of Green Growth into practice. The Sustainable Consumption and Production National Action Plan and the National Green Growth Plan are designed to help Jordan transition to a Green Economy. Through trainings, mentoring and coaching over a six-month period, the project improved awareness and knowledge across six sectors (waste, energy efficiency, transport etc), and strengthened the capacity to develop successful project proposals.



Drought Hazard Mapping in the Amman Zarqa Catchment, Jordan

Highlights and Achievements at National Level

Lebanon

Decentralised Water Management

The project supported the Ministry of Energy and Water (MEW) in the design of a Programme of Measures (PoMs) to manage unmet water demand in Nahr El Kelb River Basin through a bottom-up, participatory approach. This included a simulation-based evaluation of the measures' performance. The PoM can be integrated into development frameworks and action plans related to the Water Law. Based on this pilot, ACTED has already procured a similar project in another river basin in the country (El Ostuan River Basin). Future River Basin Organisations may adopt this holistic methodology to develop decentralised PoMs.

Private Sector Involvement in the Water Sector

Following an assessment of the enabling environment for Private Sector Participation (PSP) and Public-Private Partnership (PPP) in Lebanon in the framework of the joint work of the UfM-labelled project 'Governance & Financing for the Mediterranean Water Sector' and SWIM-H2020 SM, three national consultation dialogues were conducted in order to (a) enhance the potential for PSP in Water Infrastructure, (b) enable the banking sector to get involved in some critical themes in Lebanon, (c) develop criteria for the selection of bankable projects. The country now benefits from a guideline document on the procurement of PPP in the water and wastewater sector, taking into account the provisions/procedures of the framework Law 48 on PPP that came into force in 09/2017.

Abatement of Industrial Pollution

According to the Ministry of Environment, the technical assistance and capacity building provided on the abatement of industrial pollution was

very helpful to the team's everyday work, such as routine inspections in the industrial sector. The Ministry of Environment and Ministry of Industry have developed a joint plan to simplify administrative and technical procedures; develop the necessary legislation to strengthen the industrial permitting system in Lebanon; and build a single shared database.

Cost of Environmental Degradation

The Training Workshop on the Cost of Environmental Degradation (CoED) was very helpful in providing guidance for the review of environmental studies (Environmental Impact Assessments, environmental audits, policies, strategies, master plans, etc.). Consultancy firms also participated in the workshop and are now better able to assess the CoED in the studies and projects that they are obliged to conduct and submit to the Ministry of Environment.



National Meeting, 07/2018, Lebanon

Morocco

Decentralised Water Management

SWIM-H2020 SM continued its work on Decentralised Water Management by supporting the Ministry of Equipment, Transport, Logistic and Water to finalise and submit for publication the application texts of the new Water Law "36-15", that focus on the management of drought and water scarcity, desalination and the establishment of protection zones for safeguarding and prohibition of the resources for potable water.

Treated Wastewater Reuse

The project's second activity in Morocco focused on promoting treated wastewater reuse through the formulation of a programme of measures (institutional, regulatory and financial). On this basis, the Ministry of the Interior is compiling a report that combines findings from all previous studies on the subject and highlights projects for future implementation.

Marine Litter

The Secretary of State for Sustainable Development is planning to replicate the SWIM-H2020 SM activity that focused on reducing marine litter in the regions of Tangier-Tetouan-Al Hoceima and Rabat-Salé-Kénitra in other regions of the country. The methodologies and protocols recommended by SWIM-H2020 SM to assess marine litter and develop targeted management options fully align with the Regional Plan on Marine Litter Management.

Integrated Coastal Zone Management

Major stakeholders approved the Diagnostic Analysis of the Rabat-Salé-Kénitra (RSK) coastal region, a report jointly prepared by the

project, the RSK region and the Secretary of State for Sustainable Development. The 'Rabat Vision and Call for Action for Integrated Coastal Zone Management in RSK' was also jointly developed, and stakeholders agreed to act as the driving force behind its implementation. The project also prepared a draft project fiche, which was accepted by the World Bank to be developed into a full concept note for donor financing.

Green Economy

Technical assistance activities for the development of green economy models have helped build capacity on circular economy, extended producer responsibility and strengthened the country's overall effort to transition to a circular economy. The activity focused on knowledge management and innovation and engaged Moroccan trainees in regional activities on the role of green banking and capacity building of SMEs.



Training on Marine Litter, 10/2017, Morocco

Palestine

Drought Risk Management

The Palestinian Water Authority (PWA) now has the capacity to efficiently monitor drought hazard using rainfall and meteorological data, directly applying the software models developed by the project to compute drought hazard indices. A core team will be established, with members from the PWA, the Meteorology Department and the Ministry of Agriculture to monitor the evolution of drought and climate change.

Based on methodologies developed by the project the PWA can now use GIS procedures to conduct assessments of drought and water scarcity vulnerability and delineate groundwater protection zones in additional pilot areas. Activities on Drought Risk Management were implemented in Egypt and Jordan as well.

Integrated Water Resource Management

SWIM-H2020 SM was a key partner of the 1st Palestine International Water Forum, organised by PWA in June 2018 under the theme "Integrated Water Resource Management: Best Practices and Technology Transfer". The project provided both technical and logistical support to the Forum.

Enhancing Environmental Awareness

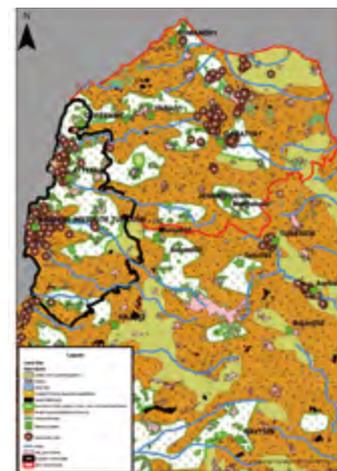
SWIM-H2020 SM activities targeting educators and media catalysed the MoU signed in 2017 between the Environment Quality Authority (EQA) and Ministry of Education as well as the MoU signed between the EQA and the Journalists Association. Thanks to the project's capacity building and technical assistance, national curricula are being revised to include environmental aspects. The trained stakeholders will sustain the ongoing efforts for cur-

riculum revision and implementation of the Action Plan of the Mediterranean Strategy on Education for Sustainable Development.

Industrial and Hazardous Waste

An environment strategy cross-cutting all ministries was prepared for the period 2017-2022. SWIM-H2020 SM is supporting its implementation. The Environment Quality Authority's cooperation with other ministries has in effect been strengthened. The manuals/guidelines for environmental inspection and enforcement of environmental legislation were jointly developed with the inspectors in order to address real needs. This will be integrated into the national inspection and enforcement processes.

The SWIM-H2020 SM project deliverables directly support Palestine to comply with the "Basel Convention on the control of Transboundary Movements of Hazardous Waste and their disposal". The process of the revision of the national hazardous waste management master plan has also enabled the EQA to better understand the gaps, needs, options, required resources, etc. A national team for Hazardous Waste Management (HZM) will be maintained and strengthened based on the proposed institutional set-up on HZW management.



Land Use Categorisation in Northern Palestine

Tunisia

Sustainable Options and Interventions

The practical arrangements for implementing individual or semi-collective sanitation in rural areas (<1,000 inhabitants were defined by the project. Tunisia can now start developing a rural sanitation strategy and implement the necessary actions to complement the strategy (e.g. awareness-raising campaigns on a larger scale, capacity building of stakeholders, and adaptation of the legislative framework).

Packaging and Plastic Waste Management

The capacity building and technical assistance activities on the management of multilayer packaging waste and plastic bags helped to better address this issue in Tunisia. Structuring the multilayer packaging sector will be crucial to implement the technical-economic and environmental study that the Agence Nationale de Gestion des Déchets is launching soon, involving key sector partners. The report on the evaluation of the legislation for the ban of plastic bags was presented and discussed with the Ministry of Local Affairs and Environment.

Education for Sustainable Development

Officials at the Ministry of Local Affairs and Environment in Tunisia are convinced that this programme contributes directly to changing student behaviour in schools on several environmental and water management issues. This capacity-building programme has initiated a new educational dynamic. A new programme is being set up as part of bilateral cooperation with Portugal to introduce sustainable development issues into school curricula.

Dredged Materials Management

The project was co-developed with the Agence Nationale de Protection de l'Environnement guidelines for the best management of dredged ma-

terial in Tunisia, compatible with the UN Environment/MAP guidelines and adopted to the particularities of the country. These were complemented by guidelines for the development of a National Action List and Levels for Dredged Material, compatible both with the UN Environment/MAP and International Maritime Organisation guidelines.

Governance for Integrated Coastal Management

SWIM-H2020 SM supported Tunisia in consolidating the governance structure for the sustainable management of Lake Bizerte. The participatory approach and overall experience in the development of the Lake Bizerte Charter has been reproduced in the region of the Gulf of Tunis through the 'Charter for the sustainable development of Oued Meliane'. In addition, a study has been launched to identify a set of measures aimed at the integrated decontamination of the watershed of the Medjerdah River, which is the largest river in Tunisia.



Sustainable Management of Lake Bizerte, Tunisia

Lessons Learnt and Recommendations

Upon completion of a large project such as the SWIM-H2020 Support Mechanism, the lessons learnt should include the key elements and conditions that enabled the successful operation and completion of the project, as well as those that inhibited, delayed or reduced the impact of some activities. The purpose of this section is to provide distilled 'wisdom', to guide not only the follow-up of the SWIM-H2020 SM, but also to inform other relevant projects.

- One of the project's major assets was the combination of the demand-driven Expert Facility's national needs with relevant regional activities which played an important role in developing sustainable water management policies and practices and an integrated approach to pollution reduction with regional impact.
- Another major asset of the project was the strong political commitment from Partner Countries, as well as the trust developed between the political leadership, the EU, the Focal Points and the project team. Undoubtedly, this was facilitated by the continuity provided by the previous phases of SWIM SM and Horizon 2020 CB/MEP, the use of results from other relevant projects and previous investments, as well as the systematic and meaningful dialogues with the project counterparts, authorities and stakeholders, carried out from planning and inception phases until the end of the project. The regular on-the-ground presence of the project team, the use of bottom-up approaches and gender considerations ensured target results and was vital for retaining a sense of ownership, responsiveness and engagement of different stakeholders, including, importantly, civil society and the private sector.
- Deep knowledge of the region and of the bilateral and national dynamics are great assets, as well as the capacity to carry out transparent consultations at the root of every demand-driven activity.
- The promotion of continuity of efforts to address regional and national challenges proved important to create the conditions for long-term sustainability. Continuity is not static. It involves gradual expansion and deepening of themes and the addressing of emerging issues. At the same time, it helps to strengthen confidence and build trust among all the parties involved.
- The diplomatic way in which inter-and intra-institutional cooperation and coordination was facilitated at national level is an important factor to streamline activities, enhance common understanding of issues, reduce overlaps and stimulate synergies in order to promote and apply policies that touch upon the mandates of different ministries/agencies.
- A key factor of success was the project's flexibility which allowed it to address emerging themes. This flexibility should be increased in the future and coupled with adequate provisions. Some funds could be reserved in the initial planning stages of the project for later use to address emerging demands.

- The assessment of the capacity building and training activities indicated that in order to be successful, those activities need to present up-to-date, high-quality theoretical knowledge coupled with practical experience that is adapted to the absorption capacity of the target groups. In order to enhance skills and competences, trainings should be interactive, well-structured and supported by well-chosen reader-friendly material. Successful capacity building requires a balanced mix of traditional and innovative methods, including distance and e-learning, peer-to-peer, training of trainers and hands-on interventions. The length of capacity-building activities should be neither too short, nor too long (two to three days) and, if possible, be combined with study visits/hands-on activities. Selection criteria should be applied in order to ensure appropriate participation, while requirements should be clearly outlined. Committed peers in Peer-to-Peer exercises played a key role, contributing to the success of the exercise, in contrast to cases where peers were not as committed.
- Success in addressing critical regional and cross-cutting issues requires parallel systematic work and synergies at different levels, from local to regional and national to international, involving Partner Countries, stakeholders and the key regional organisations and institutions (Union for the Mediterranean, UN Environment/Mediterranean Action Plan, etc).
- SWIM-H2020 SM activities need to be continued and go 'deeper' in the future, making sure that there are, to the extent possible, follow-up activities to keep the parties connected. This will facilitate further replication and upscaling of innovative approaches from national to regional level, as well as strengthening the national implementation of regional processes, strategies, action plans, etc.
- Law enforcement is a weak point in most Partner Countries. This has a negative impact on efforts to promote and apply some of the suggested technical assistance interventions. Partner Countries should invest more in efforts to improve conditions in this domain.
- The frequent changes to the persons involved in the project – from political leadership to Focal Points and the administration – results in a loss of continuity and memory of the programme, reducing its impact and sustainability.
- Although rigorous progress and performance monitoring, as applied in this project, ensures reduced deviations from the work plan and fewer mistakes, the corresponding administrative burden should be alleviated.
- The interviews with the participants confirm that practically all have gained a lot from the project. More than half of them were able to make meaningful recommendations to their hierarchy and directly contribute to the formulation or reform of policies in their country.

The Way Forward

"The EU, through the ENI South and Horizon 2020 Initiative for a Cleaner Mediterranean, is playing its full part in supporting the Partner Countries in their efforts to fulfil their regional and national commitments to address environmental pollution and secure access to water. Regional programs such as SWIM-H2020 SM contribute to the stability and prosperity of the Mediterranean region.

The long-term vision and commitment shared by the Partner Countries and institutional partners under the Horizon 2020 Initiative, provided a sense of continuity beyond the narrow time limits of a project. The tangible, needs-based activities that addressed key and emerging issues encouraged the targeted stakeholders to undertake follow up actions and replicate interventions that are important for the region.

The level of success and impact of a project such as SWIM-H2020 SM is directly related to the quality of design and preparation, the calibre of the expertise provided and the deep understanding of the Mediterranean region. The sense of collective ownership by the Partner Countries and their commitment to sustain the results achieved is recognition of its value. It is vital that the momentum generated by SWIM-H2020 SM is maintained and inspires future steps."



Algeria

Ms Hassina Hammouche,
SWIM Focal Point

“We have implemented three one-time and comprehensive support actions in the framework of the SWIM-H2020 SM. Their participatory nature has allowed participants to optimally absorb their results, and we were able to launch a dynamic in the fields of non-resource water management, protection of water resources and awareness raising for the reuse of treated wastewater in Algeria. This dynamic must absolutely be maintained and expanded to the country and the whole region. ”

Egypt

Ms Dina Mamdouh,
SWIM Focal Point

“Great effort, great activities, great will, great hopes, commitment, continued effort, dedication, perseverance, persistence in delivering the planned work under any circumstances and any situations means one thing: success. This is what I always found from all the SWIM-H2020 SM project staff I dealt with, so great thanks. ”

Jordan

Mr Adli Kandah,
Director General of the
Association of Banks in Jordan (ABJ)

“The Association's involvement in the project activities allowed for a truly meaningful exchange of experiences and lessons learned with other countries. These exchanges were catalytic for ABJ to conduct a study on the role of Jordanian banks in financing water sector projects. ABJ is committed to continue the on-going dialogue that is critical in moving the water financing agenda forward, both in Jordan and the wider region. ”

Mediterranean Sea

Lebanon

Ms Marie Therese Merhej Seif,
Founder & President of HEAD, UN
Environment Regional Facilitator for
Civil Society Organizations for West
Asia Region

“Opportunities for active participation in SWIM-H2020 SM regional and national activities were frequent in its three-year course. I even felt as a contributor to the project's design during its inception phase. As a woman heading an NGO based in a city such as Byblos that faces many environmental challenges, the project's understanding of my needs and at the same time the acknowledgement of my multiplier role and has been very gratifying. ”

Morocco

Mr Abdelaziz Elhoujjaji,
Head of the province's water utility,
In charge of water, Ministry of
Equipment, State secretary

“I seize this opportunity to thank the whole SWIM-H2020 team for the quality of the debates and for the initiatives that were launched, as well as for their suggestions that will require countries to cooperate for an integrated water management around the Mediterranean. ”

Palestine

Ms Majeda Alawneh,
SWIM Focal Point

“The SWIM-H2020 SM project was a good opportunity for countries to network, for knowledge and experience to be exchanged. Fruits can be collected after the full implementation of the gained experience which can be achieved through more pilots. ”

Tunisia

Mr Arafet Ben Marzou,
Exploralis (NGO representative)

“This dynamic training allowed the participants to discover a way of management in the northern part of the Mediterranean, so it gives you another way of thinking and dialogue. The networking and relations built during the training and information exchange panel between the participants was very useful. We work on a river between Tunisia and Algeria, same as the situation Albania and Montenegro... the practical output was great. ”

Consortium Partners:

- LDK Consultants Engineers and Planners S.A., Greece (lead company)
- Arab Countries Utilities Association (ACWUA), Jordan
- Arab Network for Environment and Development (RAED), Egypt
- Association of Cities & Regions for Recycling and Sustainable Resource Management (ACR+), Belgium
- Catalan Waste Agency (hosting institution of Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC)), Spain
- EEIG UT-SEMIDE, France
- GLOBE ONE Ltd, Greece
- Haskoning DHV Nederland B.V., Netherlands
- LDK Consultants Europe S.A., Belgium
- Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE), Greece
- Milieu Ltd, Belgium
- National and Kapodistrian University of Athens, Greece
- Umweltbundesamt GmbH, Austria
- WS Atkins International Ltd, United Kingdom

SWIM-H2020 SM Team:

Mr Stavros Damianidis (stavros@ldk.gr)

- Project Director

Professor Michael Scoullios (scoullios@swim-h2020.eu)

- Team Leader

Ms Suzan Taha (taha@swim-h2020.eu)

- Water Expert

Mr Anis Ismail (a.ismail@swim-h2020.eu)

- Environment Expert

Contracting Authority:

Directorate-General Neighbourhood and Enlargement Negotiations
(DG NEAR)

Unit NEAR B2 – Regional Programmes Neighbourhood South

NEAR-B2@ec.europa.eu

www.swim-h2020.eu  

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