WPS (5.3)
Final Report - Ex-Post Assessment of the Sustainability and Impact of the SWIM I Programme

Version	Document Title	Author	Review and Clearance
V1	Final Report - Ex-Post Assessment of the Sustainability and Impact of the SWIM I Programme	Meena Fernandes with research support from : Mariya Gancheva (Milieu Ltd)	Michael Scoullos, Team Leader

THE SWIM AND H2020 SUPPORT MECHANISM PROJECT (2016-2019)

The SWIM-H2020 SM is a Regional Technical Support Program that includes the following Partner Countries (PCs): Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, [Syria] and Tunisia. However, in order to ensure the coherence and effectiveness of Union financing and to foster regional co-operation, eligibility of specific actions will be extended to the Western Balkan countries (Albania, Bosnia Herzegovina and Montenegro), Turkey and Mauritania. The Program is funded by the European Neighbourhood Instrument (ENI) South/Environment. It ensures the continuation of EU's regional support to ENP South countries in the fields of water management, marine pollution prevention and adds value to other important EU-funded regional programs in related fields, in particular the SWITCH-Med program, and the Clima South program, as well as to projects under the EU bilateral programming, where environment and water are identified as priority sectors for the EU co-operation. It complements and provides operational partnerships and links with the projects labelled by the Union for the Mediterranean, project preparation facilities in particular MESHIP phase II and with the next phase of the ENPI-SEIS project on environmental information systems, whereas its work plan will be coherent with, and supportive of, the Barcelona Convention and its Mediterranean Action Plan.

The overall objective of the Program is to contribute to reduced marine pollution and a more sustainable use of scarce water resources. The Technical Assistance services are grouped in 6 work packages: WP1. Expert facility, WP2. Peer-to-peer experience sharing and dialogue, WP3. Training activities, WP4. Communication and visibility, WP5. Capitalizing the lessons learnt, good practices and success stories and WP6. Support activities.

Acknowledgements:

For the regional part of the review special thanks need to be directed to the UNEP-DHI Centre for Water and Environment. The Centre prepared the figures of this section, based on analysis of data obtained from the global survey conducted by UN-Water for the preparation of the 2012 “Status Report on the Application of Integrated Approaches to Water Resources Management” that was launched in the Rio+20 Conference on Sustainable Development (Rio de Janeiro, 20-22 June 2012).

The section on the analyses of Jordan, Lebanon and Tunisia has been based on the invaluable contribution of different stakeholders during missions to the three countries.

Disclaimer:

This document has been produced as deliverable of the WP5 Capitalizing the lessons learnt, good practices and success stories, Activity 5.3- Ex-post assessment of the sustainability and impact of the SWIM I programme (SM and Demos), of the SWIM-H2020 programme
The contents are the sole responsibility of the implementing Consortium and can in no way be taken to reflect the views of the European Union.

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS

DWWM	Decentralised Wastewater Management
DWWTR	Decentralised Wastewater Treatment and Reuse
ECOSAN	Ecological Sanitation
IWRM	Integrated Water Resource Management
MeHSIP-PPIF	Mediterranean Hot Spots Investment Programme – Project Preparation and Implementation Facility
PCs	Partner Countries
SWIM	Sustainable Water Integrated Management
SWIM-DEMO	SWIM Demonstration activity
SWIM-SM	SWIM Support Mechanism
SWIM-Sustain Water MED	Network of demonstration activities for sustainable integrated wastewater treatment and reuse in the Mediterranean
ToR	Terms of Reference
WWTP	Wastewater Treatment Plant

BACKGROUND

This report presents the findings from ex-post assessments carried out for a randomised selection of activities conducted under the SWIM-I programme (2010-2015). This work was stipulated by the SWIM-Horizon 2020 SM programme with the objective of identifying lessons learned that can contribute to ongoing SWIM-Horizon 2020 SM activities. In total, three SWIM-SM and three SWIM-DEMO activities were assessed. A common methodology guided each assessment that centred on the development of a log-frame, review of project documents, and an interview with a focal point for the activity. The selection of activities reflected the wide spectrum of work carried out under SWIM-I, as well as its geographic span. This report includes the findings from each activity assessment as well as an overview of all six assessments in relation to the objectives of the SWIM-I programme overall and a set of recommendations.

The assessments were carried out by evaluation experts over a period of 6 months (December to June 2017).

0 INTRODUCTION

Sustainable Water Integrated Management I (SWIM-I) was funded by the European Commission and implemented as a Regional Programme between 2010 and 2015 to support the implementation of sustainable water management policies and practices in the Southern Mediterranean Region. The programme addressed a need for support in the region due to high water scarcity driven by a number of natural and anthropogenic factors.

It encompassed support mechanism (SWIM-SM) projects as well as demonstration projects (SWIM-DEMO). SWIM-SM sought to provide technical assistance regarding sustainable water management policies and plans. SWIM-DEMOs focused on three specific priorities: (1) Enhancing effective water governance; (2) Adaptation to climate change; and (3) Promoting water demand management and efficiency. SWIM-SM was funded with a budget of €6.7 million and SWIM-DEMO was funded with a budget of €15 million. The primary target groups of SWIM-SM included relevant ministries (water and irrigation, agriculture and environment), municipalities, universities and research organizations, community organizations, and NGOs. Partner Countries (PCs) included Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine and Tunisia.

Qualitative feedback from partners and stakeholders during the course of the SWIM-I programme suggests that it has been successful and contributed to its objectives which were:

1. Raise awareness among the decision-makers and stakeholders in the PCs on the imminent threats on water resources, the need to implement more sustainable water consumption models and the adoption of possible solutions to meet the existing and forthcoming challenges;
2. Support PCs in designing and implementing sustainable water management policies at the national and the local levels, in liaison with existing international initiatives in the area concerned;

3. Contribute to ensuring institutional reinforcement and the development of the necessary planning and management skills, in line with Horizon 2020 objectives, and facilitate know how transfer.

The ex-post assessments provide more conclusive and robust evidence regarding the SWIM-I programme, which can also enhance the implementation of the SWIM-Horizon 2020 programme. The following sections present the methodology for the assessment, the findings of the assessment for each of the selected activities and a summary of all conclusions and possible recommendations.

1 METHODOLOGY

1.1 SELECTION OF ACTIVITIES FOR ASSESSMENT

In total, six activities were selected for assessment (the selected activities are presented in Table 1). Three of these were selected from the list of SWIM-SM activities. The remaining three were selected from the list of SWIM-DEMO activities. The activities were selected as follows.

A list of SWIM-SM and SWIM-DEMO activities was prepared. Activities, which did not involve the collaboration with a SWIM Focal Point at the time of their execution, were excluded from the list as this can significantly hamper the data collection process for this assessment given it heavily depends on the Focal Point's feedback (please refer to the section on data collection for further details). Once the list of SWIM activities was finalised, a random selection took place. The SM project activities were listed as rows in an Excel spreadsheet and each was assigned a random number using a random number generator, where the possible numbers generated were limited to the sample size (e.g. the final list contained 113 activities, then the random number generator output a number between 1 and 113). Following the assignments, the random number generator was used again to produce a number, pre-selecting one of the activities for assessment. To ensure the sample is representative of the total portfolio of activities the evaluation experts sought to select three activities that cover different PCs/regions, actions, project size (in financial terms), successes and challenges. Therefore, the random pre-selection was repeated until three representative SM activities were selected for assessment. The same process was then repeated for the DEMO activities.

Table 1 SWIM activities selected for the ex-post assessment

Activity	PCs covered	Actions covered
SWIM-SM activities		
Activity 1.2.10: National policies for the establishment of water & aquatic environment prosecution and magistrates' systems in 2 SWIM focus countries (Lebanon & Palestine)	Lebanon and Palestine	Assessments: Assessment of the relevant water policies and regulatory systems in two PCs
Activity 2.2.3A: Development and execution of a capacity development program for water & environment prosecutors and investigators	All SWIM PCs	Capacity building: Training workshop and study tours for inspectors and prosecutors from all PCs
Activity 4.1.2.4.8: Verification & validation of	Lebanon, Tunisia,	Assessments and infrastructure:

Activity	PCs covered	Actions covered
SWIM-SM activities		
adequacy & efficiency of operation of WWTP projects in Lebanon, Tunisia and Morocco	Morocco	Technical and analytical assessment of wastewater treatment projects in three PCs
SWIM-DEMO activities (all part of the SWIM-Sustain Water MED project)		
DWWTR in Jordan: Decentralized wastewater treatment and reuse at building level in a peri-urban area in Jordan	Jordan	Infrastructure: Wastewater treatment demonstration project in a PC
Regional training course: Regional Training Course 'Capacity development – ECOSAN' in Morocco	Morocco, Tunisia, Egypt and Jordan	Capacity building: Regional training covering four PCs
Exchange workshop: Egyptian-Jordanian Exchange Workshop	Egypt, Jordan	Capacity building: Exchange workshop covering two PCs

1.2 DATA COLLECTION AND COMPLETION OF LOGFRAMES

Once the six SWIM activities for assessment were selected the evaluation experts collected any relevant information sources for each of the activities through desk research. The main information sources typically included Terms of References (ToRs) and final reports for each of the SWIM activities selected. At the next step, the activities' logical frameworks (logframes) were completed using the available sources of information.

The logframes covered the objectives, inputs/ activities, outputs, results and impacts of the selected SWIM activities. For each level of the logframe project information, verifiable indicators and relevant risks or assumptions were mapped (see the logframe template presented in Table 2). In general, the information sources available defined clear objectives for the SWIM activities and reported relevant risks and assumptions. Nevertheless, the available sources did not clearly outline results/outcomes or long-term impacts pursued with the SWIM activities. Moreover, in some cases the ToRs referred to outputs such as final reports as 'expected results' and not as outputs. The sources did not define any indicators either. Nevertheless, the information available was sufficient to formulate clear impacts, results and indicators, verify the extent to which the activities met their objectives and complete the logframes.

Table 2 Logframe template for the ex-post assessment

	Project summary	Indicators	Means of verification	Risks/ assumptions
Objectives				
Impacts				
Results (Outcomes)				

	Project summary	Indicators	Means of verification	Risks/ assumptions
Outputs				
Activities (Inputs)				

1.3 FOCAL POINT INTERVIEWS

To validate and supplement the data from the information sources, the evaluation experts conducted interviews with focal points for the selected SWIM activities. The appropriate focal points were identified through discussion with the Project Director and Team Leader and included contacts who were directly involved in the implementation of the selected SWIM activities. Each focal point was typically involved with all SWIM activities in a given PC and, thus, could be consulted for multiple SWIM activities. The interviews were carried out by phone and lasted approximately 30 minutes each.

The main objective of the interviews was to verify emerging findings from the information sources available and fill remaining data gaps in order to finalise the logframes. Given the lack of details about the follow-up or results of the SWIM-activities, these interviews were important tools for understanding the impact the activities had on the ground. Therefore, the interviews were organised in parallel with the completion of the logframes allowing the evaluation expert to flag data gaps or key points for discussion with the focal points. Once interviews were schedule, the evaluation expert prepared a set of key questions, which were sent to the contacts prior to the interviews and were used to guide the discussions. After each interview an interview note was prepared summarising the main points and findings. The notes were then used to fill any remaining gaps and finalise the logframes for each of the selected SWIM activities.

A summary of the focal points interviewed and the rationale behind the interviews is presented in the following table. Specific challenges encountered in the process of contacting and interviewing focal points are discussed in more detail in section 1.5.

Table 3 Overview and rationale of the focal point interviews

Activity	Interview needed	Interview date	Notes
SWIM-SM activities			
Activity 1.2.10	Yes	Lebanon – 18 April 2017 Palestine – 3 May 2017	The interviews were used to complete the logframe as the available information sources did not provide sufficient details about the results and impacts of the activity. They also allowed the evaluation experts to gather some general information about the focal points' experience with SWIM
Activity 2.2.3A	Yes	Lebanon – 18 April 2017	The interview was used to complete the logframe as the available information sources did not provide sufficient information about the results and impacts of the activity. However, the additional information gathered offered limited insight into the long-term impacts and results of the activity.

Activity	Interview needed	Interview date	Notes
SWIM-SM activities			
Activity 4.1.2.4.8	No	Lebanon – 18 April 2017	The available information sources contained sufficient information to complete the logframes and detailed interviews with the focal points were not necessary. Nevertheless, while discussing the other SWIM activities in Lebanon, the evaluation experts scoped for relevant information or experiences concerning activity 4.1.2.4.8.
SWIM-DEMO activities			
DWWTR in Jordan	Yes	Main contact for the project SWIM-Sustain Water MED – 4 May 2017	The interview was used to complete the logframe as the available information sources did not provide sufficient information about the results and impacts of the activity. It also allowed the evaluation experts to gather some general information about the focal points' experience with SWIM
Regional training course			
Exchange workshop			

1.4 ASSESSMENT

After the finalisation of the logframes the assessment of the six SWIM activities was carried out using the information from the sources, focal point interviews and the completed logframes. As stipulated in the Technical proposal of SWIM-Horizon 2020 SM, the assessment followed the EU Evaluation Guidelines and included the standard evaluation criteria relevance, effectiveness and efficiency. The additional criteria sustainability, utility and replicability and quality of design were also considered. A set of evaluation questions for each of the criteria was outlined to form the basis for the assessment of the selected SWIM activities. More specifically, the following type questions were asked:

- **Relevance:** What needs were addressed by the activity as reflected in its objectives? To what degree were the identified needs met?
- **Effectiveness**: How well do the objectives relate to the outputs, results and impacts of the activity?
- **Efficiency**: How do inputs relate to outputs? Could fewer inputs have been used to achieve the same level of output?
- **Sustainability, utility and replicability**: is the continuation, or probable continuation, of benefits from the intervention after the end of the programme/activity possible? Are the positive results of the EU interventions likely to last once the intervention comes to an end?
- **Quality of design**: Were the beneficiaries taken into account during the design of the activity? Was it fit for purpose?

Using the logframes and the information collected the evaluation experts assessed each of the six SWIM activities answering the evaluation questions and summarising the findings in activity assessment reports (see section 2). This assessment was important for identifying factors critical to the success and challenges of SWIM activities and formulating constructive recommendations for the

improvement of the programme. Detailed findings per activity are presented in section 2, while a summary of the recommendations is available in section 3.

1.5 LIMITATIONS AND CHALLENGES

The main limitations and challenges encountered during the assessment of the SWIM activities were related to data gaps. To complete the logframes and assess the activities selected, the evaluation experts needed sufficient information about the results and impacts the activities had in the PCs. However, in the most cases the written document did not contain comprehensive information about the SWIM activities' impacts while the focal point interviews provided only limited additional insight. In particular, the available written document contained descriptive rather than quantifiable information and did not include any indicators, a clear description of the expected and/or achieved impacts or any information about the follow-up actions taken after the end of the SWIM activities. This can be explained by the budgetary and capacity limitations to follow up on projects once they are completed.

Therefore, to fill in the data gaps the evaluation experts reached out to the focal points for the SWIM projects. More specifically, the experts sought to understand whether and how the outputs of the SWIM activities were used, what relevant actions were taken locally and what the overall results and impacts of the SWIM activities were. Although the focal points interviewed provided varying degrees of detail about the actions that followed up the SWIM interventions, they all pointed out that it is too early to assess what the longer term impacts of these interventions have been. For example, four of the SWIM activities covered by this assessment focused on capacity building and soft measures whose impacts on the environment and the enforcement of environmental legislation are often indirect and take time to manifest. In addition, the response rate of the focal points contacted was slow despite the multiple reminder requests sent by the evaluation experts. Moreover, the focal points did not always have full knowledge of the outputs or the follow-up to the SWIM activities.

An overall limitation to the assessment was also the fact that the activities selected are very diverse and it is not always clear how they directly contribute to the SWIM programme objectives. It is likely that the different SWIM activities can have sustainable long-term impacts only together, however, the available information was insufficient to determine what the exact interlinkage between the activities and their results were.

2 ACTIVITY ASSESSMENT REPORTS

The following sub-sections present the activity assessment reports for the six SWIM activities selected. These reports were prepared using the overall assessment methodology described in section 1 and include a list of the information sources used, a brief description of each activity, findings for each of the assessment criteria and a summary of the activity-specific conclusions and recommendations. The completed logframes for each of the activities can be found in the Annex.

2.1 SWIM-SM

2.1.1 Activity 1.2.10: National policies for the establishment of water & aquatic environment prosecution and magistrates' systems in 2 SWIM focus countries (Lebanon & Palestine)

2.1.1.1 Information sources

The main information sources for the assessment are the activity's written outputs, which were only partly sufficient to complete the activity's logframe (see Annex). Although neither of the documents defined any specific indicators or desired impacts and results, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity. However, the available information was insufficient to verify all of the indicators, especially those pertaining to longer term results and impacts. Interviews with the activity's focal points in two countries were held in an attempt to fill in the remaining gaps but they provided general information about SWIM rather than specific details about the impacts of this activity. In summary, the main information sources were:

- Activity's Terms of Reference (ToR) - Terms of Reference TOR Activity 1.2.10, Version 7, prepared by Hosny Khordagui and reviewed by Hosny Khordagui and Vangelis Constantianos;
- Final Report for Lebanon - National Policies for the Establishment of Water & Aquatic Environment Prosecution and Magistrates Systems in Two Swim Focus Countries, Lebanon, Final version, November 2015, prepared by François Touchais, reviewed by Hosny Khordagui, Vangelis Konstantianos;
- Final Report for Palestine - National Policies for the Establishment of Water & Aquatic Environment Prosecution and Magistrates Systems in One Out of The Two Swim Focus Countries (Palestine), Version 3, prepared by Jacques Sironneau, reviewed by Hosny Khordagui;
- Interview with the SWIM focal point in Lebanon, carried out on 18 April 2017;
- Interview with the SWIM focal point in Palestine, carried out on 3 May 2017.

2.1.1.2 Activity description

Activity 1.2.10 is a SWIM-SM activity that aimed to address gaps in the Integrated Water Resource Management (IWRM) in the SWIM PCs. According to the ToR, one of the main issues identified during the IWRM regional dialogue organised by SWIM-SM was the effective governance and rule of law in the PCs were often hampered by insufficient policies, inadequate legislative and regulatory frameworks, ill prepared judiciary systems, limited technical and institutional capacities and lack of appropriate modalities and operating systems to ensure compliance through enforcement. Therefore, to support the PCs in addressing these gaps the SWIM-SM project undertook a series of activities in the period 2013-2014 to assess the degree of compliance and build the capacity of local stakeholders in enforcing compliance with the environmental legislation. The activity *National policies for the establishment of water & aquatic environment prosecution and magistrates' systems in 2 SWIM focus*

countries (Lebanon & Palestine) was one of the specific activities carried out in two PCs in order to support the establishment of prosecution and magistrate systems to enforce compliance of the regulated community with water and aquatic environment regulations.

2.1.1.3 Assessment

Relevance

In order to address the identified capacity needs in the two PCs, the general objective of activity 1.2.10 was to improve compliance with water and aquatic environment regulations in the two countries. In particular, this was to be achieved through the following specific objectives:

- to strengthen the coordination among water relevant sectors for defining the water activities classification, the permitting system and the related administrative sanctions;
- to fit a large number and most common violations experienced in each of the two SWIM focus countries in the penal sanction classification and definitions;
- to create and/or enhance a corps of specialized engineers for developing sufficient inspectorate capacity force at relevant administrative level;
- to enable prosecutors and magistrates to prosecute water and aquatic environment violations in courts of law.

These specific objectives seem to be in line with the needs that were identified in the regional dialogues prior to the start of the activity. However, the information available in the sources e.g. final reports, is not sufficient to determine if these objectives were met and the underlying needs addressed.

Effectiveness

The outputs, which were requested in the ToR under 'expected results' rather than outputs, are coherent and well-matched to the specific objectives of the activity. They aimed to produce:

1. A set of national policies and measures, in each focus country, to strengthen the integration and horizontal coordination to ensure compliance with water regulations, including clear definition of water violations, permitting and authorization systems, and their relevant administrative sanctions.
2. A list of amendments to the national penal sanction classification and definitions to fit the maximum number of most common violations experienced in each of the two SWIM focus countries.
3. A succinct framework strategy and an elaborate action oriented plan in each focus country that will lead to the creation and/or improvement of a corps of water and aquatic environment specialized engineers and technicians. This will include measures for developing adequate inspectorate capacity force at relevant administrative level.
4. A well designed feasible national capacity building training program and study tours for prosecutors and magistrates to enable them prosecute water and aquatic environment violations in courts of law.

Even though the final reports include sections outlining the required outputs, it is not clear whether these outputs have been implemented in the two PCs and have brought any specific results or

impacts such as improved compliance with the environmental legislation. The focal point for Lebanon clarified that following the study tours (SWIM activity 2.2.3A) and the finalisation of the report under this activity the environmental law in country was amended and magistrates and prosecutors were appointed to apply it. However, it is too early to determine what the exact impact of these actions is. However, the focal point for Palestine had no information about the use of the final report of this activity in the country and whether any legislative changes have been implemented as a result.

Efficiency

The scope of the work defined in the ToR was generally in line with the specific objectives of the activity. The tasks defined in the ToR were specifically focused on delivering the four desired outputs. The information available in the final reports suggests that most of the tasks envisioned in the ToR were implemented and used for the delivery of the final outputs. Nevertheless, none of the two final reports indicates how '*Task 7: Convening national consultations and preparation of final version of proposed regulations*' was implemented and whether consultations were held in both countries.

Sustainability, utility and replicability

The information sources available do not indicate how the activity was continued and what actions were undertaken after its end. Hence, it is not clear if the propositions for legislative amendments or the capacity building programme for magistrates were indeed implemented. The focal point for Lebanon clarified that legislative amendments were undertaken after the end of the activity but there is no information if similar actions were taken also in Palestine. Nevertheless, the final reports contain useful information and recommendations about possible improvements to the legislative and enforcement systems in the two PCs, which are still valid and can inform policy-makers interested in implementing changes in the future.

Quality of design

The information available in the sources suggests that the stakeholders in the target PCs were directly involved in the implementation of the activity. According to the ToR, the kick-off meetings in two countries should be held at national level within the premises of the relevant ministries and attended by stakeholders from the relevant sectors. In addition, national consultations should be held to discuss the recommendations of the final reports. The final reports indicate that the kick-off meetings attracted relevant stakeholders and allowed for discussions of the underlying policy needs in the PCs. However, neither of the reports provides information whether national consultations were held to discuss the findings of the assessment.

Stakeholder involvement proved one of the most useful parts of the activity in Lebanon. The focal point explained that the expert visit during the kick-off meeting was very useful, attracted the attention and increased the awareness of stakeholders about the importance of environmental issues. It was also very inclusive involving both current and retired governmental officials giving them an opportunity to lead the discussion and provide input regarding the institutional and policy needs in the country. It also allowed for the exchange of experience and information about the practices applied outside Lebanon.

2.1.1.4 Conclusions and recommendations

In general, the specific objectives, tasks and outputs of the activity *National policies for the establishment of water & aquatic environment prosecution and magistrates' systems in 2 SWIM focus countries (Lebanon & Palestine)* were sufficiently well designed and in principle match the overall objective of improving compliance with water and aquatic environment regulations in the two countries. Involvement of the main relevant stakeholders from the two PCs was embedded in the ToR. However, the final reports contain only the outputs requested in the ToR and summarise the outcomes of the kick-off meetings. They do not indicate whether the outputs were discussed at national consultations with stakeholders as prescribed in the ToR. Without knowing what actions have been taken since the end of the SWIM activity or whether the recommendations of the assessment have been implemented, it is not possible to determine what progress has been made towards the general objective of improving compliance with water and aquatic environmental legislation. Formulating some indicators and/or actions for tracking progress in the ToR and following up with the local contacts can facilitate the assessment of the SWIM interventions' long-term impacts.

2.1.2 Activity 2.2.3A: Development and execution of a capacity development program for water & environment prosecutors and investigators

2.1.2.1 Information sources

The main information sources for the assessment are the activity's written outputs, which were generally sufficient to complete the activity's logframe. Although neither of the documents defined any specific indicators or desired impacts and results, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity and, thus, complete the logframe (see Annex). Furthermore, an interview with the activity's focal point in Lebanon was held to complement the information from the written sources and answer some of the key assessment questions. Therefore, the main information sources were:

- Activity's Terms of Reference (ToR) - Terms of Reference *Development and execution of a capacity development program for water & environment prosecutors and investigators*, Version 3, prepared by Hosny Khordagui and reviewed by Stavros Damianidis and Vangelis Konstantianos;
- Final Report – Report on SWIM-SM 2.2.3a *Training workshop and study tour for developing the capacity of prosecutors and investigators for the enforcement of water & environment legislations*, 3-18 June 2013, The Netherlands, Spain and France;
- Training Manual - Training material for developing the capacity of prosecutors and investigators on improving compliance and enforcement of water & environment legislations, In preparation for the Training Workshop SWIM-SM in Synergy with EEA and in Collaboration with UNESCO-IHE 3 to 17 June 2013, prepared by Hosny Khordagui;
- Interview with the SWIM focal point in Lebanon, carried out on 18 April 2017.

2.1.2.2 Activity description

Activity 2.2.3A is a SWIM-SM activity that aimed to support the implementation of IWRM in the SWIM PCs. Even though the PCs have passed relevant legislation for protecting and managing their water resources and environment, compliance with this legislation remains problematic. According to the ToR, many cases of non-compliance occur without prosecution due to insufficient capacity to produce evidence or prosecute. Therefore, there was a need to improve the enforcement capacity in the PCs, including strengthening the monitoring and inspecting of environmental law compliance and the court system's efficiency. In order to address this need, the SWIM-SM activity *Development and execution of a capacity development program for water & environment prosecutors and investigators* delivered a series of study tours for relevant PCs stakeholders, particularly environmental inspectors and prosecutors. The study tours were organized in partnership with the IHE Delft Institute for Water Education (UNESCO-IHE) and held in the period 3-18 June 2013. They included a training workshop at the headquarters of UNESCO-IHE and three study tours in three different European countries (France, Spain and the Netherlands). During the study tours the PCs participants visited national institutions responsible for monitoring and enforcing compliance with environmental regulations in the three host countries and received training in different aspects related to environmental law compliance.

2.1.2.3 Assessment

Relevance

In order to address the identified capacity needs in the PCs, the general objective of activity 2.2.3A was to develop the capacity of water and environment prosecutors and investigators to ensure compliance with legislations for better IWRM. More specifically, the activity aimed to train inspectors and prosecutors to provide accredited evidence for indictment of water and environment legislations by developing their knowledge of:

- methods to prepare sound environment and water legislations and by-laws including permitting and licensing;
- recognition of best institutional and legislative structures and mechanisms needed to address water and environment violations;
- appropriate measures and techniques to be undertaken by water and environmental inspectors, regulators and prosecutors to address violations and non-compliance;
- measures for enabling community participation in preventing noncompliance with water and environment noncompliance;
- establishment and/or enhancement of accredited monitoring, auditing and reporting systems for the provision of legally accredited evidences for indictment in water and environmental violations;
- establishment of official and binding water and environment inspectorates and auditing procedures.

These six priority areas for the training are in line with the needs that were identified in the PCs prior to the start of the activity. According to the information sources available the specific objective of the

activity was met as presentations on the six priority topics were held at the three-day workshop that kicked off the activity.

Effectiveness

The activity outputs, which are available (e.g. final report and training manual), seem appropriate given the targeted results. Even though the specific presentation and training materials used at the workshop and the study tours are not available, the final report provides information about the agenda, organisation and attendance of the events. Thanks to the SWIM activity 28 participants (18 water and environment professionals and 10 prosecutors and legal advisers) from the nine SWIM PCs received training in the six priority topics and met with European counterparts during the three study tours. This is largely in line with the ToR, according to which 18 water and environment professionals (one from each sector) and 18 prosecutors (2 from each PC) should be trained.

In addition, the training manual summarises the main findings from the events and the study tours serving as a useful tool for participants to consult after the end of the activity. However, the final report does not provide information if any follow-up was undertaken after the study tours, how the participants applied the lessons learnt or whether any improvements in enforcement of the environmental legislation took place.

Efficiency

The scope of the work defined in the ToR was in line with the objectives and results targeted with the activity. The tasks defined in the ToR were exclusively focused on the organisation of the workshop and study tours outlining the steps to be taken. The ToR also lists the reports and written outputs required. The final report does not provide a detailed account of the organisation steps and, hence, it is not possible to assess whether all tasks envisioned in the ToR were necessary or efficient.

Sustainability, utility and replicability

The information sources available do not indicate whether and how the continuity of the activity will be ensured or whether any follow-up is planned. While the training manual is a useful output that can continuously inform both the participants of the study tours and their colleagues who did not attend the training in person, there is no information how the training manual has been used. Therefore, it is also not clear if any tangible improvement to the enforcement of environmental legislation in the PCs has taken place. The focal point for Lebanon and a study tour participant, confirmed that even though it is not yet possible to assess the exact impact of the SWIM I activities, the training was very useful and a good start for improving the enforcement of environmental laws. Moreover, the participants in the study tours stayed in contact with the trainers from the European institutions. Additionally, more workshops were organised in Lebanon to cover various environmental issues aiming to raise the awareness of politicians and government officials from all levels and institutions whose support to the judges/ prosecutors enforcing the law is crucial for ensuring the improvements are long-lasting.

Quality of design

It is unclear if the beneficiaries of the activity were involved in its design. The tasks defined in the ToR are exclusively related to the organisation of the workshop and study tour but they provide guidelines only for the contacts and coordination required with the European partners of the study tours. Hence, it

is unclear if stakeholders from the PCs were asked to contribute to the planning of the training or whether the training covered topics of greatest interest for the PC stakeholders. However, it is to be noted that as principle, all the activities implemented in the programme were demand-driven.

2.1.2.4 Conclusions and recommendations

In general, the specific objectives, tasks and outputs of the activity *Development and execution of a capacity development program for water & environment prosecutors and investigators* were well designed and matched the overall objective of developing the capacity of water and environment prosecutors and investigators to ensure compliance with legislations for better IWRM in the SWIM PCs. The final report provides information about the content and attendance of the workshop and study tours, while the training manual summarizes the main conclusions of the training. Nonetheless, the final outputs do not indicate how the manual has been used or whether any specific actions have been taken as a result of the training. Additionally, the ToR did not include any indicators or provisions about following up with the participants after the end of the SWIM activity. Without any follow-up it is not possible to determine if the SWIM activity has sustainable impacts. Formulating some indicators for tracking progress in the ToR and following up with the local contacts can contribute to showcasing the long-term impacts of the SWIM interventions.

2.1.3 Activity 4.1.2.4.8: Verification & validation of adequacy & efficiency of operation of WWTP projects in Lebanon, Tunisia and Morocco

2.1.3.1 Information sources

The main information sources for the assessment are the activity's written outputs, which were generally sufficient to complete the activity's logframe. Although neither of the documents defined any specific indicators or desired impacts and results, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity and, thus, complete the logframe (see Annex). Furthermore, an interview with the activity's focal point in Lebanon was held to complement the information from the written sources and answer some of the key assessment questions. Therefore, the main information sources were:

- Activity's Terms of Reference (ToR) and Annex 1 to the ToR - Terms of Reference TOR Activity 4.1/2/4.8, Version 3, prepared by Hosny Khordagui and reviewed by Hosny Khordagui and Vangelis Constantianos in coordination with Tim Young from MeHSIP, Amendments from François Guerber of UfMS;
- Final Report for Lebanon - Verification and Validation of Adequacy & Efficiency of Operation of WWTP Projects - Lebanon, Morocco and Tunisia, Lebanon, Revision 2 from 24/9/2014, prepared by Conor Kenny, reviewed by Tim Young (Team Leader MeHSIP-PPIF);
- Final Report for Tunisia - Vérification et Validation de l'Adéquation & de l'Efficacité de l'Exploitation des Projets STEP - Liban, Maroc et Tunisie, Tunisie, Revision 2 from 23/9/2014, prepared by Ahmed Yagoubi, reviewed by Alexander Nash & Tim Young (MeHSIP-PPIF);
- Final Report for Marrocco - Vérification et Validation de l'Adéquation & de l'Efficacité de l'Exploitation des Projets STEP - Liban, Maroc et Tunisie, Maroc, Revision 2 from 22/9/2014, prepared by Ahmed Yagoubi, reviewed by Alexander Nash & Tim Young (MeHSIP-PPIF);

- Interview with the SWIM focal point in Lebanon, carried out on 18 April 2017.

2.1.3.2 Activity description

SWIM activity 4.1.2.4.8 is part of a collaboration initiative between SWIM and Mediterranean Hot Spots Investment Programme – Project Preparation and Implementation Facility (MeHSIP-PPIF) of Horizon 2020, which aimed to address pollution reduction in the Mediterranean through sustainability management of infrastructure investments. As part of this collaboration a dedicated SWIM-SM project entitled '*Verification& validation of adequacy & efficiency of operation of WWTP projects in Lebanon, Tunisia and Morocco*' was implemented to assess the status of relevant infrastructure projects from the Horizon 2020 project list that had secured financing and/or were already in operation in the target countries. The activity was implemented in 2013 through field visits to the three countries and the Wastewater Treatment Plants (WWTPs) presented in the following table.

Table 4 WWTPs covered by SWIM activity 4.1.2.4.8

Country	WWTP	Details
Lebanon	Saida WWTP	Capacity: 50,000 m³/d; Population connected to the plant: 96,600; Operated by the Water Establishment
Tunisia	Choutrana 1 WWTP	Capacity: 78,000 m³/d; Population equivalent: 950,000; Operated by Office National de l'Assainissement (ONAS).
	Choutrana 2 WWTP	Capacity: 40,000 m³/d; Population equivalent: 333,000; Operated by ONAS.
Morocco	El Hoceima WWTP	Capacity: 9,600 m³/d; Population connected to the network: 57,000 inhabitants (2012); Operated by: Office National d'Electricité et de l'Eau Potable (ONEE-Branche Eau).

Source: Annex 1 of the activity's ToR

2.1.3.3 Assessment

Relevance

The general objective of this activity, as defined in the ToR, was to verify and validate the efficiency and adequacy of the three WWTP that are part of the Horizon 2020 list of projects with secured financing. In particular, the activity should provide up-to-date information on pollution reduction impact under these Horizon 2020 investment projects and outline best practices and lessons. These objectives are in line with the purpose of the SWIM- MeHSIP-PPIF collaboration. The final reports that are available suggest that these objectives were fulfilled in all three of the study countries (see the logframe in the Annex for details). Even though outside the scope of the activity, the final outputs produced such as the recommendations and best practices have the potential to also support policy-makers in the partner countries and inform wider policy objectives. However, it is not clear how these findings were used after the end of the activity.

Effectiveness

The outputs, which are defined in the ToR as 'results' rather than outputs, seem to be coherent and well-matched to the results and impacts targeted with the activity. Overall, they correspond to the underlying tasks and match the objectives:

1. An analytical assessment through field visits documenting the status of the selected WWTPs – this assessment is included in the final reports and provides up-to-date information about the status and pollution reduction impacts of the WWTPs.
2. A final report of the technical assessment including analysis and interpretation of the findings, lessons learnt, measures undertaken to overcome challenges, available opportunities, gaps to be bridged and suggested measures for improvement of future WWTPs planning and operation – the reports are the main outputs of the activity and directly address the need to provide best practices, lessons and recommendations.
3. A consolidation of the main findings and lessons learnt for potential presentation during a regional workshop – the final reports contain conclusions or consolidated versions of the main findings but do not provide information whether regional workshops were organised.

While the first two outputs are clear and match the tasks and specific objectives of the activity well, the third output is less straightforward and appears repetitive. The formulation of the desired output suggests that the required output is a consolidation of the results rather than a workshop. Consolidated findings are presented in the conclusion sections of the final reports but they are simply summarising the findings or previous two outputs. On the other hand, the reports do not indicate whether any workshops were organised or how the outputs would be used after the end of the SWIM activity.

Nevertheless, the final reports provide up-to-date information about the operation of the WWTPs and indicate that in all three cases the WWTPs contributed to pollution reduction (see details in the logframe in the Annex). The SWIM activity also helped advance the issues of waste water treatment and management by supporting the WWTPs staff. For example, in Lebanon, where waste water management is considered too costly and attracts fewer specialists, the activity had positive impacts. Thanks to the field visits the Water Establishment tried to encourage some of its engineers to develop their capacity in waste water treatment and management.

Efficiency

The ToR of the activity formulated two tasks for the three main activities/steps to be carried out, namely:

1. Task 1: Conducting field visits for site verification related to the WWTPs – the purpose of this task is to assess the status of the WWTPs;
2. Sub-Task 2.1: Preparation of a report by the visiting expert – the purpose of this task is to consolidate the findings from the field visits and the lessons learnt in a technical report;
3. Sub-Task 2.2: Presenting the results in a regional workshop – the purpose of this task is to present the results of the main findings of the assessment and report at a regional workshop Horizon 2020 regional partners and government representatives.

The activity tasks are clearly formulated and well connected to the activity's objectives. Nevertheless, the ToR does not specify how the implementation of the third task i.e. the delivery of a workshop, would be tracked. The final reports do not provide information if workshops were held. The focal point for Lebanon clarified that a workshop was indeed held for a variety of stakeholders including engineers and policy makers.

Sustainability, utility and replicability

Neither the ToR, nor the final reports specify how the long-term impact of the activity would be tracked. Therefore, it is not clear if the best practices and recommendations formulated in each country report have been implemented or if any specific improvements to the operation of the WWTPs have been undertaken.

Quality of design

The ToR does not specify how stakeholders from the targeted countries were involved in the preparation of the ToR and the implementation of the activity. Nevertheless, all three of the final reports indicate that staff and/or operators of the WWTPs covered were directly involved during the field visits by guiding the visiting experts and providing various information about the functioning of the WWTPs. No specific issues or non-cooperation were reported during the field visits.

2.1.3.4 Conclusions and recommendations

In general, the specific objectives, tasks and outputs of the activity *Verification & validation of adequacy & efficiency of operation of WWTP projects in Lebanon, Tunisia and Morocco* were well designed and match the overall objective of supporting MeHSIP-PPIF by assessing specific WWTPs from the Horizon 2020 project list. The final reports for each of the focus countries provide up-to-date information about the status of the WWTPs and best practices, lessons learnt and recommendations about the operation of the WWTPs as required in the ToR. However, the final reports do not indicate whether any workshops were organised to present the findings of the WWTP assessments as per the last task defined in the ToR. Additionally, the ToR did not include any indicators or provisions about following up with the WWTPs after the end of the SWIM activity. The outputs of the activity have the potential to inform the operators of the WWTPs about improving the efficiency of their facilities or policy-makers about the formulation of policies conductive of wastewater treatment initiatives. However, without any follow-up it is not possible to determine of the SWIM activity has sustainable impacts. Formulating some indicators for tracking progress in the ToR and following up with the local contacts can contribute to showcasing the long-term impacts of the SWIM interventions.

2.2 SWIM-DEMO

The three SWIM-DEMO activities selected are part of the SWIM DEMO project *Network of demonstration activities for sustainable integrated wastewater treatment and reuse in the Mediterranean* (SWIM-Sustain Water MED). SWIM-Sustain Water MED is funded by the EU and the German Federal Ministry of Economic Cooperation and Development and aims to address sustainable wastewater and sanitation management in four project countries (Morocco, Tunisia, Egypt and Jordan)

through demonstration projects and capacity building on different methods and technologies for wastewater treatment and reuse and rainwater management. To identify the main capacity needs in the countries a training analysis was carried out, which identified the following as main needs in the four countries:

- Operation of WWTPs – a major problem in the four countries is a lack of sufficient knowledge/experience with operation of WWTPs.
- Policies for Decentralised Wastewater Management (DWWM) – at the beginning of the project the four countries did not have relevant/specific DWWM policies, especially for remote or rural areas. There was a need to develop new or amend existing policies to facilitate DWWM.

Therefore, the project included demonstration projects in all four countries based on different wastewater treatment technologies and a series of local and regional capacity building events on topics aimed to address the above-mentioned capacity gaps. More specifically, by the end of project (March 2016) four annual regional training courses, six regional coordination meeting and one exchange workshop were delivered in addition to multiple local and online courses. The targeted participants were stakeholders from ministries, water authorities and engineers at different levels. Most of the courses and meetings attracted the same participants who took part in multiple events. This assessment in particular covered one demonstration activity (in Jordan), a regional training course and an exchange workshop (between Egyptian and Jordanian stakeholders).

2.2.1 DWWTR in Jordan: Decentralized wastewater treatment and reuse at building level in a peri-urban area in Jordan

2.2.1.1 Information sources

The main information sources for the assessment of this activity are the written outputs available on the activity's website and/or provided by the project's main contact. More specifically, the following information sources have been used:

- Activity's website[1];
- SWIM – Sustain Water MED Factsheet 2013;
- Activity's Policy Brief - Promoting Decentralised Wastewater Treatment & Reuse in Peri-Urban Jordan, Lessons Learned & Policy Recommendations;
- Activity's Final Consultancy Report – Interim Report, Mission for the Safe and Efficient Reuse of Treated Wastewater of the Jordanian Pilot Project Decentralized Wastewater Treatment Plant at the Public Security Directorate (PSD) in Moqabalain, Jordan, December 2014, Report prepared by MIRRA, GIZ contract no.: 83169994;
- Activity's Baseline Review Report – Final Report, Mission for the Safe and Efficient Reuse of Treated Wastewater of the Jordanian Pilot Project Decentralized Wastewater Treatment Plant at the Public Security Directorate (PSD) in Moqabalain, Jordan, December 2014, Report prepared by MIRRA, GIZ contract no.: 83169994;

[1] http://www.swim-sustain-water.net/index.php?id=329 (viewed 28 April 2017). All of the other information sources were retrieved from and available at the activity's website.

- Activity's Impact Assessment Report - Impact Assessment Report, Mission for the Safe and Efficient Reuse of Treated Wastewater of the Jordanian Pilot Project Decentralized Wastewater Treatment Plant at the Public Security Directorate (PSD) in Moqabalain, Jordan, March 2015, Report prepared by MIRRA, GIZ contract no.: 83169994;
- Training Report - Report of the Training Sessions on Using Treated Wastewater in Irrigation For the Public Security Directorate in Muqablaine, Jordan, 19 – 20 October 2014, Report prepared by MIRRA;
- Best Practices Manual - Best Practices Manual, Mission for the Safe and Efficient Reuse of Treated, Wastewater of the Jordanian Pilot Project Decentralized Wastewater Treatment Plant at The Public Security Directorate (PSD) in Moqabalain, Jordan, December 2014, Report prepared by MIRRA, GIZ contract no.: 83169994;
- Interview with the SWIM-Sustain Water MED main contact at GIZ, carried out 4 May 2017.

These sources provided sufficient information to complete the activity's logframe. Although neither of the documents defined any specific indicators or desired impacts and results, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity and, thus, complete the logframe (see Annex). Furthermore, an interview with the main contact for SWIM-Sustain Water MED was held to complement the information from the written sources and answer some of the key assessment questions.

2.2.1.2 Activity description

Jordan is not only one of the most water-scarce countries in the world but the quality of its water resources are further threatened by insufficient wastewater treatment is further. Therefore, the country's national water strategy aims to promote the reuse of treated wastewater for irrigation. In order to support the national strategy's goals through practical experience the SWIM-Sustain Water MED project's main objective was to showcase the benefits of Decentralised Wastewater Treatment and Reuse (DWWTR) in a pilot project at the premises of the Public Security Directorate PSD near Amman. The project included the establishment of an on-site WWTP and a reuse scheme for the treated effluent for irrigation purposes within the PSD premises. The capacity of the WWTP, which employs a Sequencing Batch Reactor-based unit complemented by a sand filter to meet relevant water reuse standards, is 150m^3/day. The costs include: JOD 332,000 investment cost for the WWTP, JOD 35,000 investment cost for the irrigation system and JOD 0.86/m^3 of running costs[2]. The establishment of the WWTP and the irrigation system was further supported by activities such as monitoring of the impacts, training and development of educational material, implemented by the consultancy Methods for Irrigation and Agriculture (MIRRA) in the period April 2014-January 2015.

2.2.1.3 Assessment

Relevance

As explained earlier the main objective of the activity was to showcase the benefits of DWWTR through a pilot project at the premises of the PSD, ultimately supporting Jordan's national water

[2] Activity's Policy Brief.

strategy to promote the reuse of treated wastewater for irrigation and safeguarding the country's limited water resources. More specifically, it aimed to:

- enable the safe and efficient reuse of the treated wastewater for the irrigation of the compound's green zone/ landscape (by outline a design and work plan for a system);
- demonstrate the benefits of reuse (by conducting at least three impact-monitoring visits from June- December 2014);
- ensure the sustainability of the pilot site as well as the possible outreach of the conclusions of the projects (by preparing best practices training materials and an awareness campaign);
- inform the public about the outcomes of the project through educational and demonstration materials as well as a demonstration garden.

These specific objectives are coherent with the identified need to demonstrate the potential of DWWTR in Jordan. Based on the information in the activity's Final Consultancy Report, it can be concluded that the specific objectives of the activity were met and the benefits of DWWTR were showcased.

Effectiveness

The outputs, which MIRRA was tasked to produce (see logframe in the Annex for details), seem to be coherent and well-matched to the results and impacts targeted with the activity *Decentralized wastewater treatment and reuse at building level in a peri-urban area in Jordan.* The different outputs provide both specific information to showcase the various benefits of the DWWTR system installed (e.g. the impact assessment report) and general information to ensure the sustainable exploitation and maintenance of similar systems beyond the end of the SWIM project (e.g. best practices manual). In addition, the activity's website contains a Policy Brief that outlines key lessons learnt and recommendations for the wider application of DWWTR systems in Jordan, which can inform policy-makers and support the development of relevant water re-use policies in the country well beyond the SWIM project.

Most notably, the outputs provide evidence for the positive impacts achieved by the activity. In particular, it was found that nearly 20,000 m^3/year of water and around 67,000 JOD/year can be saved thanks to the re-use of treated wastewater for irrigation on the PSD site. The net savings can increase to around 52,500 m^3/year and 165,000 JOD/year, if the future water use, expected as a result of the site's expansion, is considered. The on-site WWTP is also able to provide effluent that meets relevant Jordanian standards for effluent used for landscape irrigation. An important additional benefit from the re-use of treated wastewater for irrigation is the preservation of the groundwater resources on site[3]. Moreover, a series of information materials and a demonstration garden were prepared to raise awareness about the activity's results and a training for relevant PSD staff was held to ensure the WWTP and irrigation system are properly operated and maintained. Nevertheless, the written outputs available do not report how the information materials and the demonstration garden have been used after the end of the SWIM activity or whether the WWTP is operated correctly and all the benefits are being realised. The activity's main contact confirmed that the WWTP is still in operation and did not mention any specific issues since the end of the SWIM project.

[3] Activity's Impact Assessment Report.

Efficiency

The specific ToR defining the activities MIRRA was supposed to implement is not available. It can be assumed that any potential tasks related to the delivery of the outputs listed in the SWIM activity's final consultancy report. However, it is not possible to determine for sure whether all tasks/inputs were necessary and useful or if any concrete problems were encountered.

Sustainability, utility and replicability

Part of the activity's specific objectives aimed to raise awareness and inform the public of the benefits offered by DWWTR systems for irrigation in order to ensure sustainability of the pilot project in Jordan. Consequently, the outputs of the activity included various information materials (e.g. project posters, a project leaflet, a leaflet about the health and safety measures and warning signs for the garden), a best practices manual, training for the PSD staff and a demonstration garden. In addition, a policy brief summarised the main lessons learnt and policy recommendations for DWWTR in Jordan. Although these different outputs offer relevant information both for a targeted and more practical replication of the activity and general lessons and recommendations for the further development of relevant policies in the country, the available written sources do not report how these outputs have been used after the end of the SWIM project.

Nonetheless, the project's main contact confirmed that the different SWIM-Sustain Water MED activities, including this particular DEMO activity, have had positive impacts in Jordan. Thanks to the demonstration pilots and accompanying training and capacity building relevant policies for the promotion of decentralised wastewater management were adopted in Jordan.

Quality of design

According to the activity's Final Consultancy Report the main stakeholder i.e. the PSD, were involved at all steps of the activity. Particularly, the PSD was consulted during the preparation of the work plan of the reuse plan/ irrigation system. As PSD already had an irrigation system in place prior to the start of the SWIM project, the consultants from MIRRA offered an amended design, making use of all that can be used from the old irrigation system, which is the more cost-efficient option and as requested by the stakeholder.

Furthermore, a training on wastewater characteristics, treatment and reuse, safe and efficient operation and maintenance of the DWWTR irrigation system was held for 19 PSD staff members, primarily engineers and technicians. Given the participants own feedback and the consultant's assessment, it was recommended that a training clarifying the steps of wastewater treatment and a training specifically targeted at PSD staff working in the kitchen, canteen, dry cleaning and lavatories (i.e. staff whose work can directly impact the quality of the effluent used for irrigation) should be organised.

2.2.1.4 Conclusions and recommendations

In general, the SWIM-DEMO activity *Decentralized wastewater treatment and reuse at building level in a peri-urban area in Jordan* was relevant, effective and fit-for-purpose. It successfully showcased the possible water and financial savings and other environmental benefits of re-using treated wastewater and contributed to the adoption of relevant wastewater management policies. Its diverse outputs can inform both practitioners interested in implementing similar systems and policy-makers responsible for

the development of relevant policies for re-use of treated wastewater, which can in turn ensure the continuation and extension of the activity's impact beyond the end of the SWIM project. Although some more targeted training can be beneficial in the future, the main stakeholder – PSD – was involved throughout the implementation.

Nevertheless, the available information sources do not contain any indicators or plans for following up with the beneficiaries after the end of the SWIM project. Therefore, embedding some follow-up in design of the project can be recommended to ensure the impact and long-term contribution of the SWIM project are systematically tracked and reported. This can in turn be supported by clearly defined indicators for tracking progress.

2.2.2 Regional training course: Regional Training Course 'Capacity development – ECOSAN' in Morocco

2.2.2.1 Information sources

The main information sources for the assessment are the written outputs available on the activity's website and/or provided by the project's main contact. More specifically, the following information sources have been used:

- Activity's website[4];
- SWIM – Sustain Water MED Factsheet 2013;
- General Concept Note for the Capacity Building activities - Sustain Water MED: Network of demonstration activities for sustainable integrated wastewater treatment and reuse in the Mediterranean, January/February 2012, prepared by GIZ;
- Activity's Concept Note - Announcement: Capacity development – ECOSAN, June 24-28 (2013), Rabat, Morocco;
- Activity's Evaluation - Evaluation results for SWIM Regional Training Course on Decentralized Wastewater Treatment and Reuse 24th-28th 2013;
- Interview with the SWIM-Sustain Water MED main contact at GIZ, carried out 4 May 2017.

These sources provided sufficient information to complete the activity's logframe. Although neither of the documents defined any specific indicators, risks or outputs, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity and, thus, complete the logframe (see Annex). Furthermore, an interview with the main contact for SWIM-Sustain Water MED was held to complement the information from the written sources and answer some of the key assessment questions.

2.2.2.2 Activity description

The activity *Regional Training Course 'Capacity development – ECOSAN' in Morocco* is part of the capacity building events organized within the SWIM-Sustain Water MED project.

It was the first regional training course organised and took place in Rabat, Morocco in the period 24-28 June 2013. It was attended by 17 participants who were policy makers and engineers from relevant water management institutions in the participating countries. The training focused on the concept of

[4] http://www.swim-sustain-water.net/index.php?id=326 (viewed 15 May 2017).

ecological sanitation (ECOSAN) and the training methodology included practical exercises, group discussions, a site visit and lecture-style teachings providing a theoretical and practical overview of:

- Construction and installation considerations of ECOSAN technologies;
- Principles and technologies of rainwater harvesting, stormwater management and ecological management of rivers;
- Promotion of the reuse of treated wastewater and excreta for energy production and agricultural practices.

2.2.2.3 Assessment

Relevance

The general objectives of the regional training in Morocco were to 'equip' sanitation policy-makers with the relevant background information and practical know-how to assess the feasibility and implementation possibilities for ECOSAN systems in their countries and to start a regional benchmarking system between the partner countries. More specifically, the training aimed to provide a theoretical and practical overview of ECOSAN construction techniques, rainwater harvesting, stormwater management, ecological management of rivers and agricultural and energy reuse of waste water. Considering the training needs identified at the beginning of the SWIM-Sustain Water MED project, the objectives of this training activity are coherent with the needs. Based on the available activity information, it can be concluded that the specific objectives of the activity were met and the participating stakeholders learned relevant ECOSAN and rainwater management information.

Effectiveness

Although no specific outputs were defined for this activity, it can be assumed that the main outputs were the presentations and/or other training materials used during the five-day regional training course. In particular, the agenda of the course included presentations on:

- ECOSAN and rainwater harvesting pilot projects in Morocco;
- the Rural Sanitation Reuse National Program of Morocco;
- ECOSAN principles, technologies, project examples and best practices;
- rainwater management principles, tools, modelling and best practices;
- biogas digesters and the use of ECOSAN products in agriculture.

The presentations were complemented with field visits to the two pilot projects covered by the training. These outputs seem to be coherent and well-matched to the activity's objectives, results and impacts targeted with the training course. The different outputs cover a range of topics and provide both theoretical information and practical examples meeting the training's objectives.

Overall, the activity *Regional Training Course 'Capacity development – ECOSAN' in Morocco* was successful in delivering the results and impacts intended. The participants were relevant stakeholders who gain new insights into ECOSAN and rainwater management principles and projects. Moreover, at the end of the training the participants were asked to evaluate the event and provide feedback. The results of this evaluation show that the participants' satisfaction was very high. A lower evaluation score was observed for the question whether the participants can apply the acquired knowledge in their work. This can be explained by limiting local circumstances (e.g. administrative, legislative or

acceptance barriers at local level) or the fact that the ECOSAN training course in Morocco was the first in a series of regional trainings that covered additional topics, which might have been of different interest or relevance to the various participants.

Efficiency

Information about any specific terms of reference or activities undertaken to deliver the training is not available. It can be assumed that any potential tasks related to the organisation and delivery of all the outputs. However, it is not possible to determine for sure whether all tasks/inputs were necessary and useful or if any concrete problems were encountered.

Sustainability, utility and replicability

Part of the activity's specific objectives aimed to start a regional benchmarking system between the partner countries in addition to training stakeholders into specific water management practices. Consequently, in the series of local and regional training courses participants from each country presented the current situation and future plans relating to sanitation systems in their countries in order to encourage regional networking and knowledge exchange. Although the project's main contact confirmed that multiple participants joined more than one training and maintained communication after the events, the post-training networking or information exchange between the participants is not tracked. Nevertheless, the project's main contact confirm also that overall, the different SWIM-Sustain Water MED activities, including this particular DEMO activity, have had positive impacts in the participating countries leading to e.g. development of DWWM policies.

Quality of design

The activity's written outputs and information available do not indicate how the participants and relevant stakeholders were involved in the design or organisation of the training. However, the project's main contact explained that at the start of the SWIM-Sustain Water MED project a training needs assessment was performed to determine the main capacity gaps in the participating countries. Furthermore, participants at the regional training in Morocco were asked to provide not only their evaluation of the training but also their expectations. In addition, the annual SWIM meetings organised in Europe for all SWIM projects and activities served as suitable opportunities to identify further capacity gaps.

2.2.2.4 Conclusions and recommendations

Overall, the SWIM-DEMO activity *Regional Training Course 'Capacity development – ECOSAN' in Morocco* was relevant and effective achieving its target results of training relevant stakeholders in ECOSAN and rainwater management practices. In combination with the other capacity building activities and demonstration sites part of the SWIM-Sustain Water MED project, it is likely to have sustainable long-term impacts as development of relevant DWWM policies in the four participating countries can be observed. Nonetheless, the available information provides little insight into the activities undertaken to design and deliver the training, hence, its efficiency and quality of design cannot be assessed.

Therefore, tracking the implementation of the activities with detailed reports and following up on the activities impacts with pre-defined indicators can ensure the assessment of similar SWIM activities is

possible and sufficiently informative. Tracking progress with indicators can also provide valuable insight into the long-term impacts and contribution of the SWIM project.

2.2.3 Exchange workshop: Egyptian-Jordanian Exchange Workshop

2.2.3.1 Information sources

The main information sources for the assessment are the written outputs available on the activity's website and/or provided by the project's main contact. More specifically, the following information sources were used:

- Activity's website[5];
- SWIM – Sustain Water MED Factsheet 2013;
- Activity's Concept Note - Concept Note & Agenda Jordanian-Egyptian Exchange Workshop 'Decentralized Wastewater Treatment and Reuse, 20-21 August 2014, Dead Sea Spa Hotel, in Amman - Jordan;
- Summary Report - Egyptian-Jordanian Exchange Workshop 'Decentralized Wastewater Treatment and Reuse'. August 20-21, 2014, Dead Sea-Jordan, Summary Report;
- Interview with the SWIM-Sustain Water MED main contact at GIZ, carried out 4 May 2017.

These sources provided sufficient information to complete the activity's logframe. Although neither of the documents defined any specific indicators, risks or outputs, the available information was sufficient to develop relevant indicators, formulate the long-term impacts and immediate results of the activity and, thus, complete the logframe (see Annex). Furthermore, an interview with the main contact for SWIM-Sustain Water MED was held to complement the information from the written sources and answer some of the key assessment questions.

2.2.3.2 Activity description

The activity *Egyptian-Jordanian Exchange Workshop* is another capacity building event organized within the SWIM-Sustain Water MED project. The exchange workshop was organised in Amman, Jordan in the period 20-21 August 2014 and it was attended by around 20 participants from ministries, water authorities and research institutions in Egypt and Jordan. It focused on different aspects of DWWM allowing the participants to discuss the main challenges, possible solutions to these challenges and main stakeholders to involve in DWWM in their respective countries.

2.2.3.3 Assessment

Relevance

The general objective of the workshop was to support policy-makers and practitioners from Egypt and Jordan to sustainably apply DWWM systems. Additionally, the two specific objectives were to:

1. enable an exchange of DWWM experiences between Jordanian and Egyptian policy makers with an emphasis on challenges and lessons learnt regarding technical, socio-economic and political aspects;

[5] http://www.swim-sustain-water.net/index.php?id=335 (viewed 17 May 2017).

2. build cooperation bridges between wastewater management specialists from both countries.

Considering the training needs identified at the beginning of the SWIM-Sustain Water MED project, the objectives of this training activity are coherent with the needs. Based on the available activity information, it can be concluded that the specific objectives of the activity were met and the participating stakeholders exchanged relevant DWWM information.

Effectiveness

Although no specific outputs were defined for this activity, it can be assumed that the main outputs were the topics covered during the exchange workshop. In particular, the workshop included discussions on:

- A common definition of DWWM;
- Technical aspects of DWWM (treatment technology selection, capital and operation costs, land availability, operation complexity and sludge production and handling);
- Operation and maintenance aspects of DWWM (responsibility for operation and maintenance, skills for O&M, secure funds for O&M development for operational manual for most widely used treatment technologies);
- Regulation and legislations (effluent quality for discharge into water courses or reuse, fragmentation of responsibilities and WWTP site selection);
- Capacity development (plan, design and operation of DWWM systems);
- Sustainability plans (measures needed to secure sustainability).

These themes were grouped into two main topics (operation and management and institutional arrangement), which were covered in group discussions. For each of the topics the participants defined the main challenges, possible solutions to these challenges and main stakeholders to involve. The discussions were complemented with field visits to two demonstration projects in Jordan, including the Decentralised Wastewater Treatment and Reuse (DWWTR) DEMO unit at the building of the Public Security Directorate (PSD) near Amman (also covered by this ex-post assessment). These outputs (discussions and field visits) seem to be coherent and well-matched to the activity's objectives, results and impacts targeted with the exchange workshop allowing participants to actively partake in the discussions and exchange information.

Overall, the activity *Egyptian-Jordanian Exchange Workshop* was successful in delivering the results and impacts intended. The participants were relevant stakeholders from the Jordanian Ministry of Water Irrigation, the Jordanian Water Authority, the Jordan University, the holding company for water and wastewater (Egypt) and from the national research centre in Cairo (Egypt). All of them were in high positions project managers, professors, head of departments for water quality and wastewater treatment making them suitable participants at the workshop. At the end of the training the participants were also asked to evaluate the event and provide feedback. This feedback showed that the workshop was useful, but further meetings allowing to go into more detail were also necessary, especially on legislative and managerial aspects and to exchange full and pilot scales experiences.

Efficiency

Information about any specific terms of reference or activities undertaken to deliver the workshop is not available. It can be assumed that any potential tasks related to the organisation and delivery of all

the outputs. However, it is not possible to determine for sure whether all tasks/inputs were necessary and useful or if any concrete problems were encountered.

Sustainability, utility and replicability

Part of the activity's specific objectives aimed to build cooperation bridges between wastewater management specialists from both countries ultimately supporting policy-makers and practitioners from Egypt and Jordan to sustainably apply DWWM systems. Consequently, in the series of local and regional training courses and events, including this exchange workshop, participants from each country presented the current situation and future plans relating to sanitation systems in their countries in order to encourage regional networking and knowledge exchange. Although the project's main contact confirmed that multiple participants joined more than one training/ event and maintained communication after the events, the post-event networking or cooperation between the participants is not tracked. Nevertheless, the project's main contact confirm also that overall, the different SWIM-Sustain Water MED activities, including this particular DEMO activity, have had positive impacts in the participating countries leading to e.g. development of DWWM policies. In terms of the general objective of supporting sustainable application of DWWM systems, at this stage it is not possible to determine the exact impact of this particular DEMO activity. It is likely that its long-term impact will manifest over the long-term only and in combination with the impacts of the other capacity building and demonstration activities of the SWIM-Sustain Water MED project.

Quality of design

The activity's written outputs and information available suggest that the workshop participants were directly involved in the design of the event and were able to contribute substantially to its content. Participants were asked to state their expectations at the beginning of the workshop in addition to evaluating the event at the end. In particular, the participants' expectations were that the workshop will be an opportunity for:

- Experience exchange on DWWM technical aspects;
- Experience exchange on decentralized sanitation legislative, regulative and monitoring aspects;
- Experience exchange on pilot and full scale decentralized projects.

As evidenced by the discussion topics at the workshop (for details see logframe in the Annex), all of these expectations were met and the final feedback was positive. Furthermore, the design of the exchange workshop was based on the Open Space Method, where all participants could contribute ideas for the workshop's content, and focused on interactive discussions rather than topic presentations.

2.2.3.4 Conclusions and recommendations

Overall, the SWIM-DEMO activity *Egyptian-Jordanian Exchange Workshop* was relevant, fit-for-purpose in its design and effective in achieving its target results of facilitating an information exchange of DWWM experiences between Jordanian and Egyptian policy makers. In combination with the other capacity building activities and demonstration sites part of the SWIM-Sustain Water MED project, it is likely to have sustainable long-term impacts as development of relevant DWWM policies in the four participating countries can be observed. Nonetheless, the available information provides limited insight

into the specific activities undertaken to design and deliver the training, hence, its efficiency cannot be thoroughly assessed.

Therefore, tracking the implementation of the activities with detailed reports and following up on the activities impacts with pre-defined indicators can ensure the assessment of similar SWIM activities is possible and sufficiently informative. Tracking progress with indicators can also provide valuable insight into the long-term impacts and contribution of the SWIM project.

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 SWIM-SM CONCLUSIONS

In general, the three SWIM-SM activities assessed were relevant, efficient and fit-for-purpose. They had clear, specific objectives, well-designed tasks and outputs that matched the needs identified for the improvement of the compliance with water regulations, development of the capacity of local prosecutors to apply the water legislation and assessment of relevant wastewater infrastructure projects. While the available sources show that the outputs requested and defined in the ToRs were delivered and the specific objectives of the activities were achieved, they provide insufficient information about the immediate results or long-term impacts of the SWIM-SM activities. It is unclear how the outputs of the three SWIM-SM activities have been used to support the general objectives of improving water governance and water management in the PCs. Moreover, even in the cases in which the ToRs envisioned some follow-up activities, such as meetings and workshops (e.g. activities 1.2.10 and 4.1.2.4.8), the information available does not indicate whether these events ever took place. In addition, the focal points interviewed had limited information about the use/application of the SWIM-SM outputs after the end of the activities. Therefore, it is not possible to determine the extent to which the SWIM interventions have contributed to improving the compliance with water legislation or developing the capacity of prosecutors and inspectors in the PCs and whether this impact will be sustainable and long-lasting.

A summary of the findings and conclusions per assessment criterion for the SWIM-SM activities is presented in the following table.

Table 5: Summary of conclusions for SWIM-SM activities

Assessment criteria	Activity 1.2.10	Activity 2.2.3a	Activity 4.1.2.4.8
Relevance	Yes: The objectives were aligned with the regulatory needs identified.	Yes: The six priority areas for the training were aligned with the capacity needs.	Yes: The objectives were aligned with the overall purpose of the SWIM-MeHSIP-PPIF collaboration.
Effectiveness	Unclear: The utilization of the	Partial: It is unclear if participants	Unclear: Up-to-date information

Assessment criteria	Activity 1.2.10	Activity 2.2.3a	Activity 4.1.2.4.8
	outputs in the PCs following completion of the activity is unknown.	applied the lessons learned from the training.	about the operation of the WWTPs was provided but it is unclear whether any workshops were organised, as requested in the ToR.
Efficiency	Yes: The tasks defined in the ToR were specifically focused on delivering the four desired outputs.	Unclear: It could not be assessed if all tasks envisioned in the ToR were necessary or efficient.	Yes: The activity tasks were clearly formulated and well connected to the activity's objectives.
Sustainability, utility and replicability	Unclear: It is unclear what actions were taken after the completion of the activity.	Unclear: Information regarding how the training manual has been used or if any specific lessons have been applied could not be found.	Unclear: It is unclear if the best practices and recommendations have been implemented.
Quality of design (fit-for-purpose)	Yes: The stakeholders in the target PCs were directly involved in the design and implementation of the activity.	Unclear: It is unclear if and how the beneficiaries of the activity were involved in the planning and design of the study tours.	Partial: Local stakeholders were directly involved during the field visits to the WWTPs.

3.2 SWIM DEMO CONCLUSIONS

Overall, the three SWIM-DEMO activities covered were relevant, effective and fit-for-purpose. Together with the remaining activities within the SWIM-Sustain Water MED project they showcased the benefits of specific wastewater treatment technologies and trained local stakeholders in relevant theoretical and practical know-how. Even though the information from the written documentation provides no information about the follow-up to the specific activities, the focal point for the overarching SWIM project confirmed that some relevant policy developments have taken place as a result of the SWIM-DEMO interventions e.g. in Jordan. Hence, it is likely that, when taken altogether, the SWIM-DEMO activities undertaken under the SWIM-Sustain Water MED project can have sustainable long-term impacts in the four participating PCs. In addition, the diverse outputs produced during the project and available on the project's website can continuously inform interested stakeholders, ensuring the continuation and extension of the interventions' impact beyond the end of the SWIM project.

A summary of the findings and conclusions per assessment criterion for the SWIM-DEMO activities is presented in the following table.

Table 6: Summary of conclusions for SWIM-DEMO activities

Assessment criteria	DWWTR in Jordan	Regional training course	Exchange workshop
Relevance	Yes: The objectives were aligned with the identified need to demonstrate the potential of DWWTR in Jordan.	Yes: The objectives were aligned with the training needs identified at the beginning of the SWIM-Sustain Water MED project.	Yes: The objectives were aligned with the training needs identified at the beginning of the SWIM-Sustain Water MED project.
Effectiveness	Yes: The activity showcased the environmental and economic benefits of DWWTR and provided information materials as required.	Yes: The participants evaluated the training positively signaling their satisfaction with the event.	Yes: The participants evaluated the workshop positively and considered it to have been 'useful'.
Efficiency	Unclear: Whether all tasks/inputs were necessary and efficient or if any concrete problems were encountered could not be assessed.	Unclear: It could not be assessed whether all tasks/inputs were necessary and efficient or if any concrete problems were encountered.	Unclear: It could not be assessed whether all tasks/inputs were necessary and efficient or if any concrete problems were encountered.
Sustainability, utility and replicability	Unclear: It is not clear how the outputs of the activity have been used and whether it directly contributed to any specific Impacts beyond the end	Unclear: It is not clear if a regional benchmarking system was started and/or maintained after the activity.	Unclear: It is not clear if the participants continued to exchange information beyond the end of the activity.
Quality of design (fit-for-purpose)	Yes: The main stakeholder i.e. the PSD, were involved at all steps of the activity.	Yes: The participants were asked to provide not only their evaluation of the training but also their expectations prior to the event.	Yes: The participants were asked to provide not only their evaluation of the training but also their expectations prior to the event.

3.3 OBSERVATIONS AND RECOMMENDATIONS

The ex-post assessment of six SWIM activities points to several observations and recommendations for possible improvements that can, in turn, be used to enhance the implementation of the SWIM-Horizon 2020 programme. The observations and recommendations are grouped as 'general' and 'local or activity-specific' as follows.

General observations and recommendations

- It is important to **follow up on the activities** in order to understand what the impact and contribution of SWIM activities are, especially for those activities focused on 'soft measures' such as capacity building and training. One possible approach to achieve this might be to request 'exit strategies' for each of the activities financed, under which beneficiaries can plan the continuation of the activities after the funding ends ensuring the sustainability of the SWIM activities and their impacts.
- **Better documentation of the project activities** is needed to provide comprehensive information about the results of the activities and to compensate for any of the focal points' gaps of knowledge. The inclusion of more quantitative information should be encouraged wherever possible and feasible e.g. for infrastructure projects. Documentation providing qualitative information exclusively e.g. for capacity building projects, should include clear justifications for the selection and formulation of the underlying needs, objectives and desired impacts of the SWIM activities.
- It is important to distinguish between the immediate outputs of the activities (e.g. reports) and their results from the outset. **Formulation of indicators** is also needed as part of the ToRs of the activities. A general set of indicators for the SWIM programme may be developed, some of which can be reflected in each activity. This would allow for consistency in the data collected, aggregation of the project results at a more general level and comparison of the impacts of the different activities.
- Focal points/competent authorities should be enabled to follow up on individual activities and encouraged to **promote the inclusion of the SWIM activities' results in other actions** at the local level, to amplify the project's effect.
- **Cross country learning** should be encouraged, especially in projects that cover more than one PC or have strong relevance across borders e.g. through joint meetings.

Local or activity-specific observations and recommendations

- Generally, there is **a need for more demonstration projects** because they offer more hands-on experience for the beneficiaries and their impact is more tangible. While the trainings and other capacity building activities are also very useful, they are not always concrete enough for a follow-up. Supporting demonstration projects or combining trainings with practical experiences can be encouraged to the extent possible.
- **Local experts should be engaged more thoroughly at the local level**. The input from the national consultants was reported to be minimal, suggesting that a greater balance between the engagement of international and local experts is needed. Involving local experts can provide valuable insights into the implementation of the activities, facilitate the adoption of messages and can improve the local capacity, thereby supporting the overall objectives of SWIM.

ANNEX: LOGFRAMES

SWIM-SM

Activity 1.2.10: National policies for the establishment of water & aquatic environment prosecution and magistrates' systems in 3 SWIM focus countries (Lebanon & Palestine)

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The **general objective** of the activity, as defined in the ToR, is to improve compliance with water and aquatic environment regulations in the two SWIM focus countries (Lebanon & Palestine). The **specific objectives** of each of the main tasks, as defined in the ToR, are: 1. to strengthen the coordination among water relevant sectors for defining the water activities classification, the permitting system and the related administrative sanctions; 2. to fit a large number and most common violations experienced in each of the two SWIM focus countries in the penal sanction classification and definitions; 3. to create and/or enhance a corps of specialized engineers for developing sufficient inspectorate capacity force at relevant administrative level; 4. to enable prosecutors and	Possible indicators (*units of measurement*) can be**:** I. Compliance with water and aquatic environment regulations was improved (*Yes/No*). 1. strengthened coordination among water relevant sectors for defining the water activities classification, the permitting system and the related administrative sanctions (*Yes/No*); 2. incorporation of a large number and most common violations experienced in each of the two SWIM focus countries in the penal sanction classification and definitions (*Yes/No)*; 3. creation and/or enhancement of a corps of specialized engineers for developing sufficient inspectorate capacity force at relevant administrative level (*Yes/No*); 4. prosecutors and magistrates were enabled to prosecute water and aquatic environment violations in courts of law (*Yes/No*).	Findings per indicator: **Lebanon:** I. It is too early to know what the exact impact of the activity was. 1.No information in the final report or from the interview. 2-4. Yes - Following the study tour (2.2.3A) and the report of this activity (1.2.10) the environmental law was amended. Magistrates and prosecutors were appointed to apply this law. **Palestine:** I. No information in the final report. The focal point explained there was no assessment of the non-compliance before the activity. 1-4.No information in the final report or from the interview.	The risks and assumptions of the activity, as defined in the ToR, are: 1. The chronic political instability in some SWIM countries might cause delays in accomplishing the listed objectives according to schedule. This will necessitate the careful selection of the two SWIM focus countries that suffer the least from instability. 2. The SWIM-SM main assumption is that national institutions in the two SWIM focus countries will actively participate and support the project team disclosing information in a proficient and timely manner without deviation.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	magistrates to prosecute water and aquatic environment violations in courts of law.			
Impacts	Given the general objective defined in the ToR, the targeted overall impact of the activity can be formulated as: Improved compliance with water and aquatic environment regulations in the two SWIM focus countries (Lebanon & Palestine).	I. Compliance with water and aquatic environment regulation was improved (*Yes/No*).	**Lebanon:** It is too early to know what the exact impact of the activity was. It is not yet possible to assess the impact of the SWIM I activities as it takes 2-3 years to see if the amendments to the environmental law were useful. The training was very useful and a good start but now it is up to the government to offer sufficient support to the judges/ prosecutors applying the law. Only with sufficient governmental support for the implementation of the environmental laws can the compliance/ willingness to comply improve. **Palestine** I. No information in the final report. The focal point explained there was no assessment of the non-compliance before the activity.	The main assumptions for achieving the targeted impacts can be defined as: the national institutions in the SWIM countries will use the outputs of the activity and implement the propositions outlined in the final report.
Results (Outcomes)	Given the specific objectives of each main task defined in the ToR, the targeted results/outcomes of each of the main tasks can be formulated as: 1. strengthened coordination among water relevant sectors for defining the water activities classification, the permitting system and the related administrative sanctions; 2. incorporation of a large number	1. strengthened coordination among water relevant sectors for defining the water activities classification, the permitting system and the related administrative sanctions (*Yes/No*); 2. incorporation of a large number and most common violations experienced in each of the two SWIM focus countries in the penal sanction classification and definitions (*Yes/No)*; 3. creation and/or enhancement of a corps of specialized engineers for	**Lebanon:** 1.No information in the final report or from the interview. 2-4. Yes - Following the study tour (2.2.3A) and the report of this activity (1.2.10) the environmental law was amended. Magistrates and prosecutors were appointed to apply this law. **Palestine:** 1-4.No information in the final	The main assumptions for achieving the targeted results/ outcomes can be defined as: the national institutions in the SWIM countries will use the outputs of the activity and implement the propositions outlined in the final report.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	and most common violations experienced in each of the two SWIM focus countries in the penal sanction classification and definitions; 3. creation and/or enhancement of a corps of specialized engineers for developing sufficient inspectorate capacity force at relevant administrative level; 4. prosecutors and magistrates were enabled to prosecute water and aquatic environment violations in courts of law.	developing sufficient inspectorate capacity force at relevant administrative level (*Yes/No*); 4. prosecutors and magistrates were enabled to prosecute water and aquatic environment violations in courts of law (*Yes/No*).	report or from the interview.	
Outputs	The main outputs of the activity are final reports for each of two SWIM countries. The outputs of each of the main tasks, as defined in the ToR under 'expected results', are: 1. A set of national policies and measures, in each focus country, to strengthen the integration and horizontal coordination to ensure compliance with water regulations, including clear definition of water violations, permitting and authorization systems, and their relevant administrative sanctions. 2. A list of amendments to the national penal sanction classification and definitions to fit the maximum number of most common violations experienced in each of the two SWIM focus countries. 3. A succinct framework strategy and an elaborate action oriented plan in each focus country that will	I. Final report is available for each country (*Yes/No*). 1. A set of national policies and measures is included in the final report (*Yes/No* or *number of policies*); 2. A list of amendments to the sanction classification and definitions is included in the final report (*Yes/No or number of amendments*); 3. A framework and an action plan are included in the final report (*Yes/No or number of action points*); 4. A national capacity building training programme is included in the final report (*Yes/No*).	**Lebanon:** I. Yes – final report prepared by Touchais, F. November 2015. 1. Yes - Section 1 of the final report covers: 4 areas of enforcing and permitting policies; 5 types of bottlenecks for cooperation; 2 propositions how to strengthen cooperation. 2. Yes - Sections 2 and 3 of the final report cover: 2 areas of possible amendments and 13 propositions for amendments. 3. Yes - Section 4 of the final report presents an action plan with 3 main areas of intervention. 4. Yes - Section 5 of the final report presents a plan for a training programme. **Palestine:** I. Yes – final report prepared by Sironneau, J., date unknown. 1. Yes – Section 3 of the final	The main assumptions for delivering the desired outputs can be defined as: the national institutions in the SWIM countries will cooperate with the project team and support the implementation of the inputs.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	lead to the creation and/or improvement of a corps of water and aquatic environment specialized engineers and technicians. This will include measures for developing adequate inspectorate capacity force at relevant administrative level. 4. A well designed feasible national capacity building training program and study tours for prosecutors and magistrates to enable them prosecute water and aquatic environment violations in courts of law.		report presents the current policy context, gaps and options for strengthening the cooperation. Sections 8.2.1 and 8.2.2 offer recommendations. 2. Yes – Section 5 of the final report presents an assessment of the penalties and how they can be improved. Section 8.2.4 offers recommendations. 3. Yes – Section 6 of the final report outlines an action plan with 2 main options for improvement of the inspectorates. Section 8.2.5 offers recommendations. 4. Yes – Section 7 of the final report outlines a training programme based on 5 steps. Section 8.2.6 offers recommendations.	
Activities (Inputs)	The inputs, as defined in the ToR, are: 1. Task I- Organization and convening a kickoff meeting. 2. Task II- Identification and assessment of policies, technical and regulatory measures to strengthen the coordination among water relevant sectors in order to ensure compliance with water and aquatic environment regulations in the two focus countries. 3. Task III- Development and/or enhancement of administrative sanctions. 4. Task IV- Amendment of penal sanction classification and definitions to fit most common violations in the two focus	1.A kick-off meeting was organized (*Yes/No and date*); 2. A set of policies was identified and assessed (*Yes/No or number of policies*); 3. Administrative sanctions were developed and/or enhanced (*Yes/No*); 4. A list of amendments to the sanction classification and definitions was prepared (*Yes/No or number of amendments*); 5. An action plan was developed (*Yes/No*); 6. A national capacity building training programme was developed (*Yes/No*); 7. National consultations were convened and final versions of the proposed regulations were prepared	**Lebanon:** 1. A kick-off meeting was held on 15 and 16 October 2015 in Beirut. The expert visit during review of national policies (1.2.10) seemed to be one of the most useful parts of the activity. The visit attracted attention and increased the awareness about the importance of environmental issues. It was also very inclusive involving both current and retired governmental officials and giving them an opportunity to lead the discussion and provide input regarding the institutional and policy needs in the country. It also allowed for the exchange of experience and information about the practices	The main assumptions for implementing the inputs can be defined as: the national institutions in the SWIM countries will cooperate with the project team and support the implementation of the inputs.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	countries. 5. Step V- Develop an action oriented plan for designing and/or upgrading a corps of water and aquatic environment specialized engineers and expand inspectorate capacity force at relevant administrative level in the two SWIM focus countries. 6. Task VI- Designing of a national capacity building training and study tours program for prosecutors and magistrates. 7. Convening national consultations and preparation of final version of proposed regulations. 8. Task IIX: Preparation of final report.	(*Yes/No*); 8. A final report was prepared (*Yes/No*).	applied outside Lebanon. 2. Yes - Section 1 of the final report covers: 4 areas of enforcing and permitting policies; 5 types of bottlenecks for cooperation; 2 propositions how to strengthen cooperation. 3. Yes – Section 2 of the final report presents an assessment of the administrative sanctions. 4. Yes – Section 3 of the final report outlines 13 propositions for amendments. 5. Yes - Section 4 of the final report presents an action plan with 3 main areas of intervention. 6. Yes - Section 5 of the final report presents a plan for a training programme. 7. Unclear - According to the section 'Methodology of Activity 1.2.10' the stakeholder discussions and debates at the kick-off meeting lead to an agreement on a list of feasible solutions to amend the enforcement of water legislation, presented in the final report. 8. Yes – final report prepared by Touchais, F. November 2015. **Palestine:** 1. Yes - a half-a-day kick-off meeting was organized at the beginning of the mission. 2. Yes – Section 3 of the final report presents the current policy context, gaps and options for strengthening the cooperation. Sections 8.2.1 and 8.2.2 offer	

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			recommendations. 3. Yes – Section 4 of the final report presents an assessment of the administrative sanctions. Section 8.2.3 offers recommendations. 4. Yes – Section 5 of the final report presents an assessment of the penalties and how they can be improved. Section 8.2.4 offers recommendations. 5. Yes – Section 6 of the final report outlines an action plan with 2 main options for improvement of the inspectorates. Section 8.2.5 offers recommendations. 6. Yes – Section 7 of the final report outlines a training programme based on 5 steps. Section 8.2.6 offers recommendations. 7. No information in the final report or from interview. 8. Yes – final report prepared by Sironneau, J., date is unknown.	

Activity 2.2.3A: Development and execution of a capacity development program for water & environment prosecutors and investigators

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The **general objective** of the activity, as defined in the ToR, is to develop the capacity of water and	Possible indicators (*and units of measurement*) can be**:** I. Improved compliance with	Findings per indicator: I. No information in the sources. **Lebanon**: It is not yet possible to	The risks and assumptions of the activity, as defined in the ToR, are:

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	environment prosecutors and investigators to ensure compliance with legislations for better Integrated Water Resource Management (IWRM). The **specific objective** of the activity, as defined in the ToR, is to train inspectors and prosecutors to provide accredited evidence for indictment of water and environment legislations by providing capacity development in the areas: 1. methods to prepare sound environment and water legislations & by-laws including permitting and licensing; 2. recognition of best institutional and legislative structures and mechanisms needed to address water and environment violations; 3. appropriate measures and techniques to be undertaken by water and environmental inspectors, regulators and prosecutors to address violations and non-compliance; 4. measures for enabling community participation in preventing noncompliance with water and environment noncompliance; 5.establishment and/or enhancement of accredited monitoring, auditing and reporting systems for the provision of legally accredited evidences for indictment in water and environmental violations;	environmental and water legislation/ IWRM (*Yes/No*); II. The capacity of inspectors and prosecutors was developed (*Yes/No and number of trained inspectors and prosecutors in all categories*).	assess the impact of the SWIM I activities as it takes 2-3 years to see if the amendments to the environmental law were useful. The training was very useful and a good start but now it is up to the government to offer sufficient support to the judges/ prosecutors applying the law. Only with sufficient governmental support for the implementation of the environmental laws can the compliance/ willingness to comply improve. II. Yes - a total number of 18 water and environment professionals and 10 prosecutors and legal advisers from 9 SWIM-SM PCs (in total 28 trainees) participated in the training and study tour. **Lebanon**: 2 judges participated (one from the Ministry of Justice and one advising the Ministry of Environment) in the study tours and workshop in Europe in 2013.	1.Chronic political instability, massive public demonstrations, riots and strikes that might cause delays in travel arrangements and participation of trainees as scheduled. 2. Some SWIM-SM PCs do have judiciary entities to address water and environment violations. Identification of candidates for training might be a cumbersome process. 3.The SWIM-SM main assumption is that national institutions in the PCs will actively participate and support the project team disclosing information in a proficient and timely manner without delinquency. Last but not least, it is assumed that the SWIM-SM will have access to recent official information on the subject collected by collaborating organizations and key players in the region. Additionally, the hosting European institutions cooperate and provide the training.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	6. establishment of official and binding water and environment inspectorates and auditing procedures.			
Impacts	Given the general objective defined in the ToR, the targeted overall impact of the activity can be formulated as: Improved compliance with water and environment legislation and/or better IWRM, and developed capacity of environmental inspectors and prosecutors.	I. Improved compliance with environmental and water legislation/ IWRM (*Yes/No or number/ trend of non-compliance*); II. The capacity of inspectors and prosecutors was developed (*Yes/No and number of trained inspectors and prosecutors in all categories*).	I. No information in the sources. **Lebanon**: Although it is not yet possible to assess the impact of the SWIM I activities the training was very useful. Moreover, the participants in the study tour in Europe stayed in contact with the trainers from the European institutions e.g. the participating judges kept communication on certain issues even after the study tours. Additionally, more workshops were organised in Lebanon. These workshops are organised on an ad-hoc basis but cover various environmental issues aiming to raise the awareness of politicians and government officials from all levels and institutions about environmental issues and the importance of addressing these issues. The workshops are usually organised by the Ministry of Environment in collaboration with other stakeholders to ensure a wide range of participants join the workshops II. Yes – see indicators for the objectives.	The main assumptions for achieving the targeted impacts can be defined as: the national institutions in the SWIM PCs will use the outputs of the activity and implement the lessons learnt from the workshop and the study tours. Additionally, the hosting European institutions cooperate and provide the training.
Results (Outcomes)	The expected results, as defined in the ToR, are a total number of 18 water and environment professionals (one from each	I. Number of trained inspectors and prosecutors in each/ all of the categories.	I. A total number of 18 water and environment professionals and 10 prosecutors and legal advisers from 9 SWIM-SM PCs (in total 28	The main assumptions for achieving the targeted results/ outcomes can be defined as: environmental professionals

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	sector) and 18 prosecutors (2 from each PC) from 9 SWIM-SM PCs are aware and trained on the following: 1.Methods and criteria for preparing integrated environment and water legislations; 2.Best institutional and legislative structures and mechanisms to address water and environment violations; 3.Appropriate measures and techniques to address violations and noncompliance; 4.Measures for enabling community participation in preventing noncompliance with water and environment noncompliance; 5.Establishment of accredited monitoring, auditing and reporting systems for the provision of legally accredited evidences for indictment in water and environmental violations; 6. Establishment of water and environment inspectorates and auditing procedures.	1.Training on methods and criteria for preparing integrated legislations; 2.Training on best structures and mechanisms; 3. Training on appropriate measures and techniques; 4. Training on measures for enabling participation; 5. Training on monitoring, auditing and reporting systems; 6. Training on establishing inspectorates and auditing procedures.	trainees) participated in the training and study tour. 1. Module 1: Presentations on the legal and institutional framework for water management in Europe – presented on 3 June 2013. 2. Module 2: Presentations on the compliance and enforcement in France and The Netherlands – presented on 3 June 2013. 3-4. Module 3: Presentations on capacity and methods for compliance and enforcement in water management – presented on 4 June 2013. 5. Module 4: Presentations on reporting and monitoring – presented on 5 June 2013. 6. Different presentations from all 4 modules seem relevant – presented 3-5 June 2013.	and prosecutors from the SWIM PCs will participate in the organized training. Additionally, the hosting European institutions cooperate and provide the training.
Outputs	The outputs of the activity, as defined in the ToR, are: 1.A work plan detailing all aspects of executing the signed contract incl. issues to be addressed, countries and institutions for field visits, content and structure of training material, number and content of power points and case studies, time frame, schedule, provision of simultaneous	1. A work plan was prepared (*Yes/No*); 2. A training manual was prepared (*Yes/No*); 3. Number of power points and case studies developed for the training workshop; 4. An information note and an agenda were prepared (*Yes/No*); 5. A report was prepared (*Yes/No*).	1.No information in the sources. 2.Yes – a training manual, prepared by Khordagui, H. is available. 3. 12 thematic presentations were included in the agenda of the training workshop grouped in 4 modules. 4.Yes – section 5 of the final report presents the agendas of the workshop and all the study	The main assumptions for achieving the targeted results/ outcomes can be defined as: environmental professionals and prosecutors from the SWIM PCs will participate in the organized training. Additionally, the hosting European institutions cooperate and provide the training.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	translation during the training workshop and study tours, etc. 2. A training manual compiling handouts for distribution to participants during the training workshop. 3. Soft copies of 14 power points and case studies to be developed for the training workshop. 4. Information note and provisional agenda for the execution of the activity. 5. A report on the activity including the evaluation of the participants.		tours. 5.Yes – a final report is available.	
Activities (Inputs)	The inputs defined in the ToR are: TASK 1: Mobilization to include identification and contracting of an executing institution/agency and formulation of ToR for the coordination of the training workshop in terms of schedule, structure and content. TASK 2: Follow-up and coordinate with the contracted institution/agency in Europe on the organization & execution of the 3 days training workshop and the 12 days study tours in 3 European countries: 2.1 Preparation of a detailed work plan. 2.2 Organization and execution of the training workshop at the headquarters of the European institute/agency. 2.3 Organization and execution of the 12 days study tours (4 days in each one of the three European countries including travel time and	Task 1: 1.1 Number of institutions and agencies surveyed/ contracted; 1.2 A ToR was prepared for each of the contracted institution/ agency (*Yes/No*). Task 2: 2.1 A detailed work plan was prepared (*Yes/No*); 2.2 The training workshop was executed at the headquarters of the institution/ agency (*Yes/No and date*); 2.3 Three study tours were executed in three European countries (*Yes/No and dates*); 2.4 A final report on the workshop and the study tours, incl. participants' evaluation, was prepared (*Yes/No*). Task 3:	Task 1: 1.1 No information in the sources about institutions originally surveyed. Institutions that participated include: -National Water Authority (NL); -Dutch Delta Water Board (NL); -New Water Culture Foundation (ES); -Guadiana and Tagus River Basin Organizations (ES); -Ministry of Ecology, Sustainable Development and Energy (FR); -Justice Ministry (FR); -Authorities from the Provence, Alpes, Cote d'Azur Region (FR). 1.2 No information in the sources. Task 2: 2.1No information in the sources 2.2 Yes – the workshop took place 3-5 June 2013 at UNESCO-	The main assumptions for achieving the targeted results/ outcomes can be defined as: environmental professionals and prosecutors from the SWIM PCs will participate in the organized training. Additionally, the hosting European institutions cooperate and provide the training.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	weekends) to visit and experience good practices in the enforcement of water and environmental legislations. 2.4 Prepare final report on the workshop and study tours including the evaluation of the participants of the capacity building program. TASK 3: Substantive contribution: 3.1 Implement Task 1. 3.2 Prepare and deliver 5 power point presentations on technical and analytical aspects of inspection and monitoring of water & environmental laws violations. 3.3 Identify and coordinate with a senior NKE of legal background the preparation and delivery of 3 power points on legal aspects for enforcing water laws. 3.4 Identify and coordinate with the European institution organizing the training and study tour 6 power point demonstrations and identify the European agencies to be visited and issues to be discussed. 3.5 Deliver the 5 power points, instruct the participants during the training workshop and escort the trainees during the study tour to provide technical support and interpret the practical aspects of compliance and enforcement of water legislations in the visited institutions. 3.6 Represent SWIM-SM during the activities and facilitate the training sessions, study tour and ensure proper delivery of the	3.1, 3.4, 3.6 See Task 1. 3.2, 3.3, 3.5 Number of power points or presentations/topics covered. 3.7 A final report is available and it includes an evaluation of the outcomes (*Yes/No*) Task 4: See indicators 2.2 and 2.3.	IHE, Delft, the Netherlands 2.3 Yes - the following tours took place: -6-7 June 2013 study tour in the Netherlands; -10-12 June 2013 study tour in Spain; -14-18 June 2013 study tour in France. 2.4 Yes – a final report including the participants' evaluation is available. Task 3: 3.1, 3.4, 3.6 See Task 1. 3.2 Module 4: Presentations on reporting and monitoring – presented on 5 June 2013. 3.3 Module 2: Presentations on the compliance and enforcement in France and The Netherlands – presented on 3 June 2013. 3.5 Module 3: Presentations on capacity and methods for compliance and enforcement in water management – presented on 4 June 2013. 3.7 Yes - Session 'Feedback and evaluation by participants' was held at the end of the workshop training (5 June 2013); Section 4 of the final report presents the results of the evaluation from the participants. 4. Yes – see indicators 2.2 and 2.3.	

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	contracted service. 3.7 Reviewing the outcomes of the training and study tours including final reporting and evaluation. TASK 4: Convening the Training and Study Tour: the 3 days training and 12 days study tour will start at the UNESCO-IHE headquarter in Delft, Netherland, to be followed by 3 days study tour, travel to Spain and finally to France to visit government agencies and institutions in charge for monitoring, inspecting, reporting enforcing water and environment legislations.			

Activity 4.1.2.4.8: Verification & validation of adequacy & efficiency of operation of WWTP projects in Lebanon, Tunisia and Morocco

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The main/ **general objective** of this activity, as defined in the ToR, is to verify and validate the efficiency and adequacy of currently operating 3 WWTP that are part of the H2020 list of projects with secured financing. The **specific objectives** of the main tasks, as defined in the ToR, are: 1. to provide up-to-date information on pollution reduction impact under	Possible indicators (*and units of measurement*) can be: I. The efficiency and adequacy of the 3 WWTPs was verified and validated (*Yes/No or volume of impact of the 3 WWTPs*). 1. Up-to-date information on pollution reduction impact was provided (*Yes/No or volume of the impact of the 3 WWTPs*). 2. Best practices and lessons learnt were provided (*Yes/No or number of*	Findings per indicator: **Lebanon:** I. Yes – Section 2 of the final report indicates that the Saida WWTP treats 22,000 m3/d dry weather flow with a population equivalent of 290,000. 1. Yes – Section 4 of the final report indicates that the sample taken on 12 May 2013 is 50 FC /100 ml compared to 244 FC/100ml in 2007 but the data is	The risks, as defined in the ToR, are: • Political instability public demonstrations, riots and strikes that might cause delays in accomplishing consultancy objectives according to schedule or even hindering access to the target site(s). • Inadequacy of data and information on the newly

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	H2020 investment projects; 2. to provide best practices and lessons learnt in bringing H2020 investment projects to successful operation.	*best practices/ lessons*).	insufficient to be conclusive. 2. Yes – Sections 7 and 8 of the final report provide information about 7 lessons learnt and 7 recommendations. **Tunisia:** I. Yes – Section 2 of the final report indicates that the Chourtrana 2 WWTP has a treatment capacity of 333,000 PE. 1. Yes – Section 4 of the final report indicates that if the Choutrana 2 WWTP was not constructed and all the waste was thrown in the sea, then pollution reduction can be considered (of 16 tonnes of BOD per day; 17 tonnes MES per day; 41 tonnes of COD per day; 1,3 tonnes of nitrogen load per day and 126kg of phosphorus load per day). 2. Yes – Sections 7 and 8 of the final report provide information about 2 main lessons learnt and 3 recommendations. **Morocco:** I.Yes – Section 2 of the final report indicates that the Al Hoceima WWTP has a nominal capacity of 9,600m3/d and serves around 127,000 PE. 1. Yes – Section 4 of the final report indicates that if the Al Hoceima WWTP was at the end of its life and all the waste was thrown in the sea, then pollution reduction can be considered (of 4.4 tonnes of BOD per day; 4.5 tonnes MES per day; and 9.3	operating WWTPs to undertake a precise analytical assessment of their performance. • Unwillingness of project promoter to provide access to site for undeclared reasons or links to some military or restricted area. The main assumption, as defined in the ToR, is that national and local level institutions in the PCs will actively participate and support the project consultant.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			tonnes of COD per day). 2. Yes – Sections 7 and 8 of the final report provide information about 3 main lessons learnt and 7 recommendations.	
Impacts	Given the overall/ general objective of the activity defined in the ToR, the targeted impact can be defined as: the 3 WWTPs operate efficiently and adequately.	The 3 WWTPs operate efficiently and adequately (*Yes/No or volume of impact of the 3 WWTPs*).	**Lebanon:** Yes – Section 2 of the final report indicates that the Saida WWTP treats 22,000 m3/d dry weather flow with a population equivalent of 290,000. Waste water is not sufficiently addressed in Lebanon due to the high costs/ budgetary needs for this infrastructure (WWTPs). The water establishments have authority over the WWTPs but they have insufficient capacity and some reluctance to deal with WWTPs due to lack of personnel (only few engineers involved) and fear of the high costs of WWTP infrastructure. So, this activity was needed and useful for advancing the issues of waste water treatment and management in the country **Tunisia:** Yes – Section 2 of the final report indicates that the Chourtrana 2 WWTP has a treatment capacity of 333,000 PE. **Morocco:** Yes – Section 2 of the final report indicates that the Al Hoceima WWTP has a nominal capacity of 9,600m3/d and serves around 127,000 PE.	The main assumptions for achieving the targeted impact can be defined as: 1.the local institutions cooperate with the project team and provide the necessary information; 2. the provided information is accurate and complete; 3. the local institutions implement the recommendations of the final reports.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Results (Outcomes)	Given the specific objectives of the main tasks defined in the ToR, the targeted results/ outcomes of these tasks can be defined as: 1. Verification and validation of the adequacy and efficiency of the 3 WWTPs; 2. Provision of best practices and lessons learnt in bringing H2020 investment projects to successful operation.	1.The efficiency and adecuacy of the 3 WWTPs was verified and validated (*Yes/No or volume of impact of the WWTPs)*; 2. Best practices and lessons learnt are provided (*Yes/No or number of best practices/ lessons*).	**Lebanon:** 1. Yes – Section 2 of the final report indicates that the Saida WWTP treats 22,000 m3/d dry weather flow with a population equivalent (PE) of 290,000. 2. Yes – Sections 7 and 8 of the final report provide information about 7 lessons learnt and 7 recommendations. This activity had positive impacts – the water establishments tried to hire some engineers to develop their capacity in waste water treatment and managements. Engineers who were working in the establishments and were specialized in water issues were encouraged to overcome their concerns and work also on waste water. **Tunisia:** 1. Yes – Section 2 of the final report indicates that the Chourtrana 2 WWTP has a treatment capacity of 333,000 PE. 2. Yes – Sections 7 and 8 of the final report provide information about 2 main lessons learnt and 3 recommendations. **Morocco:** 1. Yes – Section 2 of the final report indicates that the Al Hoceima WWTP has a nominal capacity of 9,600m3/d and serves around 127,000 PE. 2. Yes – Sections 7 and 8 of the final report provide information about 3 main lessons learnt and 7	The main assumptions for achieving the targeted results/ outcomes can be defined as: 1.the local institutions cooperate with the project team and provide the necessary information; 2. the provided information is accurate and complete.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			recommendations.	
Outputs	The main outputs of the activity are final reports for each of 3 SWIM countries. The outputs of each of the main tasks, as defined in the ToR under 'results to be achieved', are: 1. An analytical assessment through field visits documenting the status of the selected WWTPs that Promoters confirm have been and are under operation in the three indicated countries. 2. A report by WWTP compiling the results of the technical assessment including analysis and interpretation of the findings […], lessons learnt, measures undertaken to overcome challenges, available opportunities, gaps to be bridged and suggested measures for improvement of future WWTPs planning and operation. 3. A consolidation of the main findings and lessons learnt of the assessment's results for potential presentation during a regional workshop.	I.A final report was prepared (*Yes/ No*); 1. An analytical assessment was prepared (*Yes/No*); 2. A list of best practices/ lessons was prepared (*Yes/ No or number of best practices/ lessons*); 3. A list of main findings or recommendations was prepared (*Yes/ No*).	**Lebanon:** I. Yes – one final report from September 2014, prepared by Kenny, C. 1. Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP. 2. Yes – section 7 of the final report presents a list of 7 lessons learnt. 3. Yes – section 8 of the final report provides a list of 7 recommendations. **Tunisia:** I. Yes – one final report from September 2014, prepared by Yagoubi, A. 1. Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP. 2. Yes – section 7 of the final report presents a list of 2 lessons learnt. 3. Yes – section 8 of the final report provides a list of 3 recommendations. **Morocco:** I. Yes – one final report from September 2014, prepared by Yagoubi, A. 1. Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP. 2. Yes – section 7 of the final report presents a list of 3 main lessons learnt. 3. Yes – section 8 of the final	The main assumptions for delivering the desired outputs can be defined as: 1.the local institutions cooperate with the project team and provide the necessary information; 2. the provided information is accurate and complete.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			report provides a list of 7 recommendations.	
Activities (Inputs)	The inputs, as defined in the ToR, are: 1. Task 1: Conduct Field Visits for Site Verification Related to Waste Water Treatment Plants; 2. Sub-Task 2.1: Preparation of Report by NKE; 3. Sub-Task 2.2: Presenting the results in a regional Workshop.	1. Field visits were undertaken (*Yes/No or number of field visits);* 2. A final report with the structure defined in the ToR was prepared (*Yes/No*); 3. A presentation of the findings was delivered at a regional workshop (*Yes/No*).	**Lebanon:** 1.1 Yes – the WWTP was visited by a team of experts on 19 September 2013. Both the field visit and the workshop were useful. The field visit presented an opportunity for a more focused, hands-on experience. It also encouraged engineers who were not specialized in waste water to get involved and improve their confidence and skills in dealing with waste water issues. The workshop on the other hand allowed for the involvement of a wider group of stakeholders and facilitated communication between technical experts and policy-makers. 1.2 Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP and it includes the two logical processes in the checklist and the majority of the additional issues in the technical checklist. 2. Yes – the final report from September 2014, prepared by Kenny, C. contains the structure defined in the ToR. 3. Yes – the workshop took place after the activity. Both technical people (engineers) and policy makers took place. Thanks to the workshop communication between ministry and participants was established. There are plans to organise more workshops like	The main assumptions for implementing the inputs can be defined as: 1.the local institutions cooperate with the project team and provide the necessary information; 2. the provided information is accurate and complete.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			this to implement the national waste water strategy plan (it is implemented only at 5% for the moment due to the high budgetary needs and subsequent maintenance costs of WWTP infrastructure). No information how the recommendations were used. **Tunisia:** 1.1 Yes – the WWTP was visited by a team of experts on 24 October 2013. 1.2 Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP and it includes the two logical processes in the checklist and the majority of the additional issues in the technical checklist. 2. Yes – the final report from September 2014, prepared by Yagoubi, A. contains the structure defined in the ToR. 3. No information – section 8 of the final report provides a list of 3 recommendations but there is no information about a workshop. **Morocco:** 1.1 Yes – the WWTP was visited by a team of experts on 25-27 September 2013. 1.2 Yes – sections 2, 3, 4, 5 and 6 of the final report present the assessment of the WWTP and it includes the two logical processes in the checklist and the majority of the additional issues in the technical checklist.	

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			2. Yes – the final report from September 2014, prepared by Yagoubi, A. contains the structure defined in the ToR. 3. No information – section 8 of the final report provides a list of 7 recommendations but there is no information about a workshop.	

SWIM-DEMO

DWWTR in Jordan: Decentralized wastewater treatment and reuse at building level in a peri-urban area in Jordan

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The **general objective** of the activity is to: demonstrate effective and context-adapted Decentralised Wastewater Treatment and Reuse (DWWTR) for consideration in national policy-making in Jordan (through a DWWTR pilot project implemented at the newly built Public Security Directorate (PSD) in Moqablane, a peri-urban area of Amman, Jordan). The **specific objectives** of the reuse mission are to: - enable the safe and efficient reuse of the treated wastewater for the irrigation of the	Possible indicators (measurement unit): I. The effectiveness of DWWTR was demonstrated (Yes/No) 1.Safe and efficient reuse of treated wastewater for irrigation was enabled (Yes/No) 2.The benefits of reuse were demonstrated (Yes/No) 3.The sustainability of the pilot was ensured (Yes/No) 4.The public was informed about the	Findings per indicator: I. Yes – the Impact Assessment found that compared to the current water use, a net water saving of just below 20,000m3/year (or around 1,654m3/month) and financial savings of around 67,000 JOD/year (or around 5,579 JOD/month) were possible thanks to the re-use of TWW for irrigation on the site. When the expected future water use is considered, the net savings increase to around 52,500m3/year (or 4,378 m3/month) and around 165,000JOD/year (or 13,751	The main risks and assumptions for this activity can be defined as: 1.The designed work plan and irrigation system is implemented and operated correctly (e.g. the best practices are applied, the most suitable personnel is trained on how to use the system). 2.The potential water and financial savings and other benefits are realized. 3.The quality of the effluent after treatment continues to meet the national standard for

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	compound's green zone/ landscape (by outline a design and work plan for a system); - demonstrate the benefits of reuse (by conducting at least three impact-monitoring visits from June- December 2014); - ensure the sustainability of the pilot site as well as the possible outreach of the conclusions of the projects (by preparing best practices training materials and an awareness campaign); - Inform the public about the outcomes of the project through educational and demonstration materials as well as a demonstration garden.	outcomes of the project (Yes/No).	JOD/month). 1. Yes - On heavy metals and microbiology of TWW, it was found that the WWTP is able to provide effluent that meets the Jordanian Standard (JS 893:2006) with regards to effluent used for landscape irrigation. 2. Yes - the Impact Assessment reported that the reuse of TWW enabled financial savings thanks to the elimination of groundwater purchases and the elimination of sewage fees. In addition, the replacement of groundwater as irrigation water allows for the preservation of the groundwater resources on site. 3. Yes – a Best Practices Manual, a Policy Brief, various educational and demonstration materials and a demonstration garden were developed to provide information about the project and its conclusions. 4.Yes – assuming that the educational materials and the demonstration garden are used to inform the public.	heavy metals and microbiology. 4. The educational and demonstration materials (and other outputs of the activity) and the demonstration garden are used to inform the public.
Impacts	The overall impact of the activity can be defined as: effective and context-adapted DWWTR in a peri-urban area of Amman, Jordan.	I. The effectiveness of DWWTR was demonstrated (Yes/No)	I. Yes – see indicators for the objectives.	1.The designed work plan and irrigation system is implemented and operated correctly (e.g. the best practices are applied, the most suitable personnel is trained on how to use the system). 2.The potential water and

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
				financial savings and other benefits are realized.
Results (Outcomes)	The specific results/outcomes of the activity can be defined as: - safe and efficient reuse of the treated wastewater for the irrigation of the compound's green zone/ landscape; - benefits of reuse of the treated wastewater; - sustainability of the pilot site and possible outreach; - the public is informed about the outcomes of the project.	1.Safe and efficient reuse of treated wastewater for irrigation was enabled (Yes/No) 2.The benefits of reuse were demonstrated (Yes/No) 3.The sustainability of the pilot was ensure (Yes/No) 4.The public was informed about the outcomes of the project (Yes/No).	1.Yes – see indicators for the objectives. 2.Yes – see indicators for the objectives. 3. Yes – see indicators for the objectives. 4. Yes – see indicators for the objectives.	1.The designed work plan and irrigation system is implemented and operated correctly (e.g. the best practices are applied, the most suitable personnel is trained on how to use the system). 2.The potential water and financial savings and other benefits are realized. 3.The quality of the effluent after treatment continues to meet the national standard for heavy metals and microbiology. 4. The educational and demonstration materials (and other outputs of the activity) and the demonstration garden are used to inform the public.
Outputs	According to the final consultancy report, the outputs requested are: 1. A baseline report review 2. A work plan of the reuse plan/ irrigation system 3. An impact assessment 4. A best practices manual for the PSD landscape irrigation system 5. A training on the operation and maintenance of the irrigation system at PSD 6. Educational and demonstration material 7. A demonstration garden 8. A consultancy report	1. A baseline report review was prepared (Yes/No) 2. A work plan of the reuse plan/ irrigation system was prepared (Yes/No) 3. An impact assessment was prepared (Yes/No) 4. A best practices manual for the PSD landscape irrigation system was prepared (Yes/No) 5. A training on the operation and maintenance of the irrigation system at PSD was carried out (Yes/No) 6. Educational and demonstration material was prepared (Yes/No)	1.Yes – a Baseline Report Review dated December 2014 is available. 2. Yes - a complete reuse irrigation system was designed, the parameters of the system can be adapted according to the meteorological conditions or the types of plants being irrigated. The installation of a filtration unit was also recommended. Summary information about the design can be found in the Consultancy Report. 3. Yes – an Impact Assessment dated March 2015 is available.	1.The designed work plan and irrigation system is implemented and operated correctly (e.g. the best practices are applied, the most suitable personnel is trained on how to use the system). 2.The potential water and financial savings and other benefits are realized. 3.The quality of the effluent after treatment continues to meet the national standard for heavy metals and microbiology.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
		7. A demonstration garden was developed (Yes/No) 8. A consultancy report was prepared (Yes/No).	4. Yes – a Best Practices Manual dated December 2014 is available. 5. Yes – Training Sessions on 'Using Treated Wastewater in Irrigation' for the PSD took place 19 – 20 October 2014. 6. Yes – MIRRA designed several materials such as two project poster, a project leaflet, warning signs, two demonstration garden posters and a leaflet about the health and safety measures. Overview of the progress with the design of these materials is provided in the Consultancy Report. 7. Yes - The demonstration garden of about 300m2 shows the different irrigation systems and plants that thrive under TWW conditions (MIRRA handed the garden over to GIZ SWIM on the 27th of November, 2014). 8. Yes - a Final Consultancy Report dated December 2014 is available.	4. The educational and demonstration materials (and other outputs of the activity) and the demonstration garden are used to inform the public.
Activities (Inputs)	According to the final consultancy report MIRRA was tasked to: 1. Review the report "Baseline Assessment Study for SWIM-Sustain Water MED". 2. Design and work plan of the reuse plan/ irrigation system. 3. Monitor impacts of the reuse of treated wastewater. 4. Prepare a Best Practices Manual for the PSD Landscape Irrigation System.	1. A baseline report review was prepared (Yes/No) 2. A work plan of the reuse plan/ irrigation system was prepared (Yes/No) 3. An impact assessment was prepared (Yes/No) 4. A best practices manual for the PSD landscape irrigation system was prepared (Yes/No) 5. A training on the operation and maintenance of the irrigation system at	1. Yes – a Baseline Report Review dated December 2014 is available. It highlights additional elements not present in the original document such as possible health impacts for PSD staff coming in contact with the TWW at different stages of the treatment and reuse process, the legal and policy framework; crop pattern and suitable plants, as well as rainfall patterns (amount,	1.The designed work plan and irrigation system is implemented and operated correctly (e.g. the best practices are applied, the most suitable personnel is trained on how to use the system). 2.The potential water and financial savings and other benefits are realized. 3.The quality of the effluent

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	5. Provide training on the operation and maintenance of the irrigation system at PSD. 6. Prepare educational and demonstration material. 7. Develop/ maintain a demonstration garden. 8. Prepare a consultancy report.	PSD was carried out (Yes/No) 6. Educational and demonstration material was prepared (Yes/No) 7. A demonstration garden was developed (Yes/No) 8. A consultancy report was prepared (Yes/No).	frequency, intensity). 2. Yes - a complete reuse irrigation system was designed. As PSD had already an irrigation system in place, the consultants (MIRRA) offered an amended design, making use of all that can be used from the old irrigation system (which is the more cost-efficient option). 3. Yes – an Impact Assessment dated March 2015 is available. MIRRA carried out soil and water quality analyses for major chemical compounds and calculated the incurred water and financial savings. 4. Yes – a Best Practices Manual dated December 2014 is available. 5. Yes - MIRRA's team conducted a two-day training for 10 PSD personnel on the 19th and 20th of October, 2014 6. Yes – MIRRA designed several materials such as two project poster, a project leaflet, warning signs, two demonstration garden posters and a leaflet about the health and safety measures. Overview of the progress with the design of these materials is provided in the Consultancy Report. 7. Yes - The demonstration garden of about 300m2 shows the different irrigation systems and plants that thrive under TWW conditions (MIRRA handed the garden over to GIZ SWIM on the	after treatment continues to meet the national standard for heavy metals and microbiology. 4. The educational and demonstration materials (and other outputs of the activity) and the demonstration garden are used to inform the public.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			27th of November, 2014). 8. Yes - a Final Consultancy Report dated December 2014 is available.	

Regional training course: Regional Training Course 'Capacity development – ECOSAN', June 24-28 2013, Rabat, Morocco

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The **general objectives** of the training are to: I.equip policy-makers related to sanitation issues with the relevant background information and practical know-how in order to assess feasibility and implementation possibilities for ecological sanitation (ECOSAN) systems in their countries. II.start a regional benchmarking system between partner countries. The **specific objective** is to: provide a theoretical and practical overview of ECOSAN construction techniques, rainwater harvesting, stormwater management and ecological management of rivers and agricultural and energy reuse of waste water.	Possible indicators (measurement unit): I.Relevant policy-makers in Morocco have background knowledge and practical know-how of ECOSAN systems (Yes/No) II.A regional benchmarking system between partner countries exists (Yes/No) 1.The participants were provided with a theoretical and practical overview of the relevant topics (Yes/No)	Findings per indicator: I.Yes – the course provided a theoretical and practical overview of: -Construction and installation considerations of ecological sanitation technologies. -Principles and technologies of rainwater harvesting, stormwater management and ecological management of rivers. -Promote the reuse of treated wastewater and excreta for energy production and agricultural practices. Participants' satisfaction of the training lies at 92% and is thus very high. The lowest evaluation score of 81% is observed with the question whether participants can apply the acquired knowledge in their work. This can be explained by looking at the participants' answers to the question: '*Will you apply the acquired knowledge to*	The main risks and assumptions for this activity can be defined as: 1.The training targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the partner countries are willing to participate and share experiences at the training course. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the training. 4. The participants are willing to implement the lessons learnt and outputs from the training.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			your work?'. Some participants explain that the overall awareness level of effected populations in their countries is too low for replication others point to the large number of authorities that need to be involved before moving to actions. II. Unclear - In order to encourage regional networking and knowledge exchange, participants from each country presented the current situation and future plans relating to sanitation systems in their countries, describing also their expectations of the training. 1.Yes - the preliminary agenda included training on all of the targeted issues: - presentations of pilot projects (Pilot projects on ecological sanitation in the rural area of Dayet Ifrah and on ecological sanitation and rainwater harvesting in the rural area of Ait Idir); - presentation of the Rural Sanitation Reuse National Program of Morocco PNAR; -presentations of ECOSAN principles, technologies, project examples and best practices; - presentation of the principle, construction and operation of Urine Diverting Dry Toilets (UDDT); -presentations on rainwater	

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			management principles, tools, modeling (example of a pilot project for modeling of rainwater management in Bouskoura basin and best practices; -presentations on constructed wetlands; -presentations on biogas digesters; -presentations on use of ECOSAN products in agriculture; -field visits to rural ecological sanitation pilot project of Dayet Ifrah and the pilot anaerobic wastewater treatment plant of the Agronomic and Veterinary Institute Hassan II in Rabat.	
Impacts	The long-term impact can be defined as: I.Policy-makers related to sanitation issues have relevant background knowledge and practical know-how in order to assess feasibility and implementation possibilities for ECOSAN systems in Morocco. II. A regional benchmarking system between partner countries exists.	I. Relevant policy-makers in Morocco gained background knowledge and practical know-how of ECOSAN systems (Yes/No) II.A regional benchmarking system between partner countries exists (Yes/No)	I.Yes – see findings for the objectives. II. Unclear – see findings for the objectives.	1.The training targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the partner countries are willing to participate and share experiences at the training course. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the training.
Results (Outcomes)	The results/outcomes of the specific objectives can be defined as: The participants have a theoretical and practical overview of	1.The participants were provided with a theoretical and practical overview of the relevant topics (Yes/No)	1. Yes – see findings for the objectives.	1.The training targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	construction techniques, rainwater harvesting, stormwater management and ecological management of rivers and agricultural and energy reuse of waste water.			partner countries are willing to participate and share experiences at the training course. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the training. 4. The participants are willing to implement the lessons learnt and outputs from the training.
Outputs	1.A training course concept and agenda 2.Presentation materials for use during the course 3.A summary report/ evaluation 4.Field visits	1.A training course concept and agenda is available (Yes/No) 2.Presentation materials were used during the course (Yes/No) 3.A summary report is available (Yes/No) 4.Field visits took place (Yes/No), number and date of the field visits	1.Yes – a concept note with a preliminary agenda is available. 2.Yes – All material used during the training (notably presentations) is available on the project's website. 3.Yes – an evaluation of the results, together with participants' feedback is available on the project's website. 4. Yes – a field trip to rural ecological sanitation pilot project of Dayet Ifrah was planned for 27 June 2013 and a visit of the pilot anaerobic wastewater treatment plant of the Agronomic and Veterinary Institute Hassan II in Rabat was planned for 28 June 2013.	4. The participants are willing to implement the lessons learnt and outputs from the training.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Activities (Inputs)	A training course for professionals in the partner countries of SWIM Sustain Water MED who deal with planning, promoting, designing, operating or managing sanitation systems for urban, peri-urban or rural areas. Participants are typically employed by government departments (water, wastewater, environment, health, municipalities, agriculture, and energy), civil society organizations and/or research institutions/ universities.	1.A training course took place with the targeted participants (Yes/No)	1.Yes – a training course was held 24-28 June 2013 in Rabat, Morocco. This training covered the targeted topics and was attended by 17 participants from the partner countries Jordan, Tunisia, Egypt and Morocco. The participants included wastewater engineers from middle management, representatives of the wastewater institutions in their countries like Environment Ministry and ONAS in Tunisia, Ministry of Environment, Mineral and Water in Morocco, Ministry of Water and Irrigation and the Balqa University in Jordan and the Holding Company for water and Wastewater in Egypt. The course covered a period of 5 full working days. The training methodology included lecture-style teachings, practical exercises, group discussions and a site visit.	1.The training targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the partner countries are willing to participate and share experiences at the training course. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the training. 4. The participants are willing to implement the lessons learnt and outputs from the training.

Exchange workshop: Egyptian-Jordanian Exchange Workshop, 20-21 August 2014, in Amman, Jordan

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Objectives	The **general objective** of the workshop is: to support policy-makers and practitioners from both countries to sustainably apply decentralized wastewater	Possible indicators (measurement unit): 1. Experiences about technical, socio-economic and political aspects of DWWM were shared (Yes/No)	Findings per indicator: 1. Yes – the participants discussed: • A common definition of DWWM;	The main risks and assumptions for this activity can be defined as: 1.The exchange workshop targeted the most relevant

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	management (DWWM) systems. The **specific objectives** are to: 1. enable an exchange of DWWM experiences between Jordanian and Egyptian policy makers with an emphasis on challenges and lessons learnt regarding technical, socio-economic and political aspects. 2. build cooperation bridges between wastewater management specialists from both countries.	2.The specialists stayed in contact after the workshop (Yes/No)	• Technical aspects (Treatment technology selection, capital and operation costs, land availability, operation complexity and sludge production and handling); • Operation and maintenance aspects (Responsibility for operation and maintenance, skills for O&M, secure funds for O&M development for operational manual for most widely used treatment technologies); • Regulation and legislations (Effluent quality for discharge into water courses or reuse, fragmentation of responsibilities and WWTP site selection); • Capacity development (for plan, design and operation of decentralized systems); • Sustainability plan (Measures needed to secure sustainability). These themes were grouped into two main topics, which were covered in group discussions. For each of the topics the participants defined the main challenges, possible solutions to these challenges and main stakeholders to involve. Two field visits to DEMO sites in Jordan were also planned: -Visit to the Fuheis Demonstration Site; -Visit to the SWM demonstration	stakeholders. 2.Pocily-makers and other relevant stakeholders from the two countries are willing to participate and share experiences at the workshop. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the workshop.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
			site at the Public Security Directorate (PSD) in Moqablaine. 2.Unclear - feedback from the participants showed that although the workshop was useful, further meetings were required to go into more detail. There were recommendations to organise a follow-up workshop focused on legislative and managerial aspects and to exchange full and pilot scales experiences. *Side note from the summary report: SWIM 5th Regional meeting, which was held 3-4 of December 2014 in Sharm El Shaikh - Egypt, provided a platform for further discussions in this field.	
Impacts	The long-term impact can be defined as: sustainable application of DWWM systems in both countries	DWWM systems are applied sustainably in both countries (Yes/No)	Unclear – it is not possible to determine what the long-term impacts of the workshop are at this stage.	4. The participants are willing to implement the lessons learnt and outputs from the exchange workshop.
Results (Outcomes)	The results/outcomes of the specific objectives can be defined as: 1.Exchange of experiences between policy-makers from both countries was enabled/facilitated 2.Cooperation between management specialists from both countries was established.	1. Experiences (challenges, lessons learnt) with DWWM were shared (Yes/No) 2.The specialists stayed in the contact after the workshop (Yes/No)	1. Yes – see indicators for objectives. 2. Unclear – see indicators for objectives.	1.The exchange workshop targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the two countries are willing to participate and share experiences at the workshop. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the workshop.
Outputs	1.A workshop concept and agenda	1.A workshop concept and agenda are	1.Yes – a concept note with a preliminary agenda was provided	4. The participants are willing to implement the lessons

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
	2.Presentation materials/ discussion topics at the workshop 3.A summary report for the workshop 4.Field visits	available (Yes/No) 2.Presentation materials/ list of discussion topics were used during the workshop (Yes/No) 3.A summary report is available (Yes/No) 4.Field visits took place (Yes/No), number and date of the field visits	by the project's contact. 2.Yes – discussions on different topics were held (see indicator for objectives). 3. Yes – a five-page summary report of the exchange workshop is available on the SWIM-Sustain Water MED website. 4. Yes – two field visits were planned for 21 August 2017.	learnt and outputs from the exchange workshop.
Activities (Inputs)	An exchange workshop for the target groups: -Public sector: Water, Water Utilities, Agriculture, Environment, Health, and Energy, Municipalities -Educational Institutions; Universities and Research Centers -Partners of NICE and the Jordanian and Egyptian SWIM Sustain Water MED pilot projects	A workshop took place (Yes/No)	Yes – a workshop was held August 20-21, 2014, in Amman, Jordan. It was based on the Open Space Method where all participants could contribute ideas for the workshop's content. The workshop was attended by around 20 participants from the Jordanian Ministry of Water Irrigation, the Jordanian Water Authority, Jordan University, the holding company for water and wastewater (Egypt) and from the national research centre in Cairo (Egypt); all of them were in high positions project managers, professors, head of departments for water quality and wastewater treatment.	1.The exchange workshop targeted the most relevant stakeholders. 2.Pocily-makers and other relevant stakeholders from the two countries are willing to participate and share experiences at the workshop. 3. Policy-makers and other relevant stakeholders from the two countries are willing to continue the exchange of experience in another format, after the workshop.