



# SWIM-Sustain Water MED

**Presented by Dr Ismail Al Baz**  
**Barcelona, Spain on the 15<sup>th</sup> of December, 2014**





## In a nutshell...

### Objective:

- Capacity of sustainable integrated management of non-conventional water resources of partner organizations based on IWRM is improved.
- Good practices of sustainable integrated wastewater treatment technologies in the partner countries are demonstrated.

### Target Group:

- Policy-makers from the water, environmental, agricultural sector and
- Water users in rural and peri-urban areas

### Funding:

EU and BMZ

### Duration:

2012-2015

### Implementation Consortium:

- GIZ (4 countries)
- Water and wastewater authorities/utilities (4 countries)
- 3 environmental consulting organisations
- 1 academic institution





## In a nutshell...cont'd



### MOROCCO

Partner: Water Basin Agency of Souss-Massa et Draa (ABH-SMD)

Location: Ait Idir Village (South Atlas Mountains)

Focus: Eco-sanitation and rainwater management



### TUNISIA

Partner: National Sanitation Office (ONAS)

Location: Oueljet El Khodher in the Medenine Governorate (SE)

Focus: Participatory wastewater quality monitoring and control



### EGYPT

Partner: Holding Company for Water and Wastewater (HCWW)

Location: Al Gezayra Village in the Ismailia Governorate

Focus: Decentralized Wastewater Treatment and Reuse (rural level)



### JORDAN

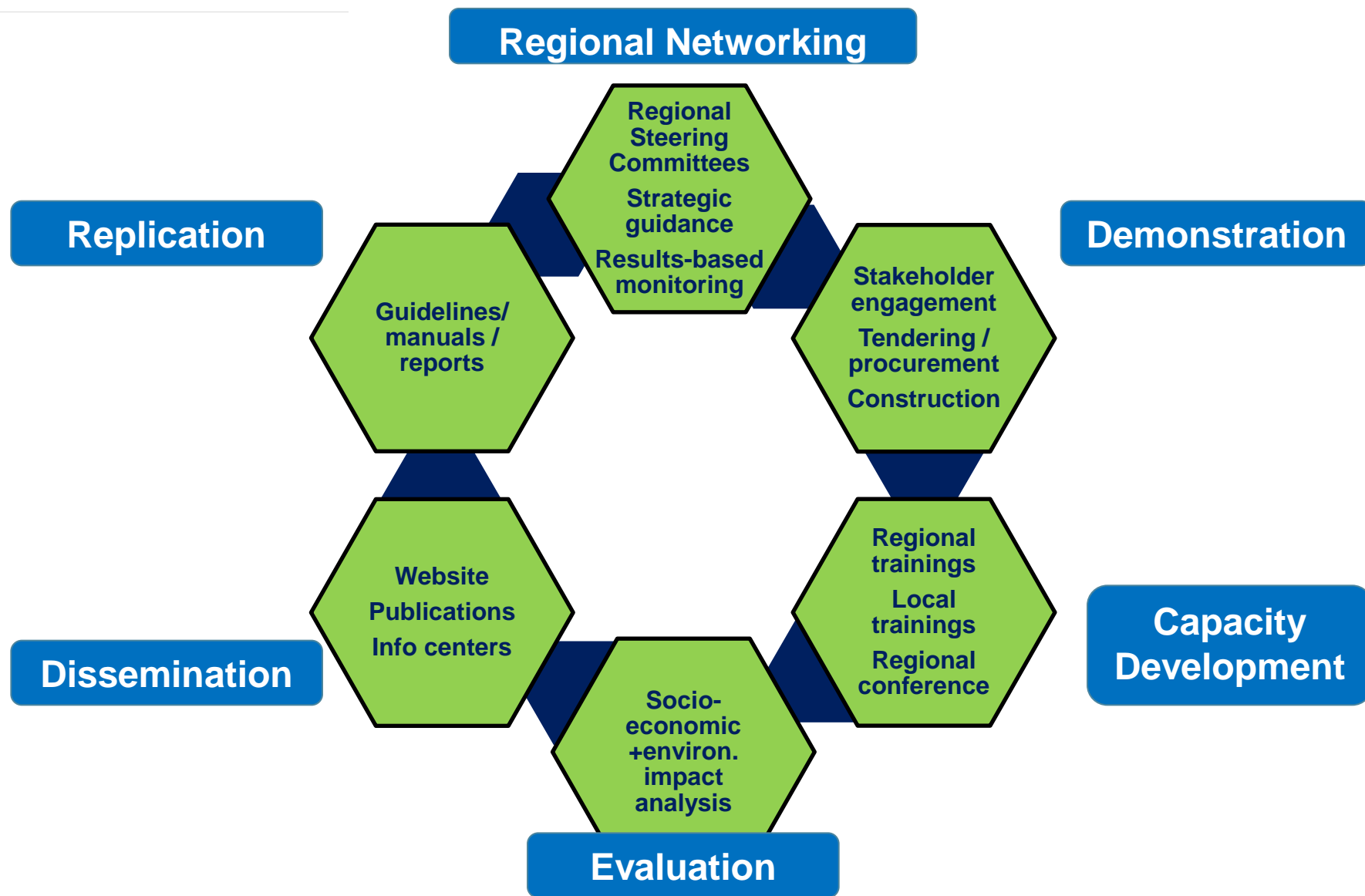
Partners: Al Balqa Applied University (BAU), IUCN

Location: Public Security Directorate near Amman

Focus: Decentralized Wastewater Treatment and Reuse (peri-urban level)

# SWIM-Sustain Water MED

## Key Output Processes





## Achievements

### Demonstration

- 4 x Baseline assessment studies (taking into account Socioeconomic/Environmental aspects) are conducted.
- In Jordan, decentralized wastewater treatment plant (SBR Technology) as well as a demo-garden for safe reuse practices are constructed, operation started on 22 June 2014.
- In Tunisia, the tertiary treatment system (sand filter) as well as water quality monitoring system in Oueljet El Khodher WWTP have been established.
- Construction of demonstration plants in Egypt and Morocco is in progress.





# أثر استخدام المياه العادمة المعالجة في مديرية الأمن العام

## Impacts of Treated Wastewater Reuse at the Public Security Directorate (PSD)



مديرية الأمن العام  
Public Security Directorate (PSD)

مقدار التوفير في المياه  
نتيجة إعادة الاستخدام  
(4,378 م<sup>3</sup>/شهر) (52,536 م<sup>3</sup>/سنة)

SAVINGS THROUGH  
REUSE PRACTICES

(4,378 m<sup>3</sup>/month) (52,536 m<sup>3</sup>/year)

مقدار التوفير المالي نتيجة احلال  
المياه العادمة المعالجة محل المياه  
العذبة لري حدائق المديرية

(12,695 دينار/شهر) (151,687 دينار/سنة)

COST SAVINGS THROUGH  
REPLACING FRESHWATER WITH  
TREATED WASTEWATER

(12,695 JOD/month) (151,687 JOD/year)

مقدار التوفير المالي نتيجة  
خفض استخدام الأسمدة

(208 دينار/شهر) (2,500 دينار/سنة)

COST SAVINGS THROUGH  
REDUCED FERTILIZER USAGE

(208 JOD/month) (2,500 JOD/year)



Reuse the generated treated wastewater  
for the irrigation of the compound's  
green areas

استخدام المياه العادمة المعالجة  
لري المزروعات في حديقة المديرية

## تنقية المياه العادمة TREATMENT

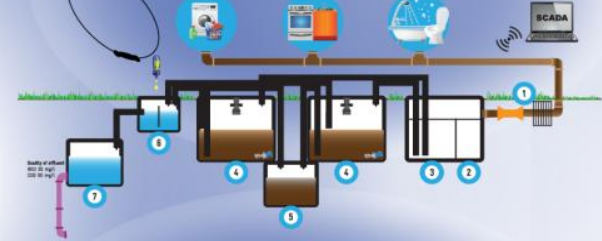
كمية المياه العادمة المنتجة  
(5,850 م<sup>3</sup>/شهر) (70,200 م<sup>3</sup>/سنة)

GENERATED WASTEWATER

(5,850 m<sup>3</sup>/month) (70,200 m<sup>3</sup>/year)

تنقية المياه العادمة باستخدام  
تقنية مفاعل التدفق التسلسلي

TREATMENT OF WASTEWATER BY USING  
THE SEQUENCING BATCH REACTOR (SBR)  
TECHNOLOGY



التوفير المالي الناتج عن تنقية  
المياه العادمة والتوقف عن نقلها  
وطرحها.

(14,927 دينار/شهر) (52,536 دينار/سنة)

COST SAVINGS THROUGH THE  
TREATMENT OF WASTEWATER  
VS THE DUMPING OF SEWAGE

(14,927 JOD/month) (52,536 JOD/year)

## REUSE إعادة استخدام المياه العادمة

Water & Soil Quality  
Monitoring  
نظام مراقبة  
نوعية المياه  
والترربة

Policy  
Recommendations  
التوصيات  
الداعمة  
للقرار

Health & Sanitation  
Guidelines  
مبادئ استخدام  
الآمن الصحي

Capacity  
Building  
رفع القدرات

Awareness  
زيادة التوعية

الاسعار تشمل التكاليف الرأسمالية  
لشبكة الري ومحطة تنقية المياه العادمة.

The price tags refer to the total investment for  
the irrigation system and the treatment plant.



## Achievements

# Capacity Development

- 5 x regional workshops, 100 participants, 2012 – 2014 conducted.
- Several local workshops and training courses conducted mainly targeted at the smooth functioning of the plants.
- 2 x regional exchange workshops Tunisia-Jordan, Egypt-Jordan, 50 participants, 2013 – 2014 conducted
- 1 x E-learning course ‘urban sanitation’ conducted in 2014





## Achievements

### Evaluation

- A common framework for Impact Assessments has been established and applied by counter parts
- EIA in Jordan and Egypt conducted
- Evaluation and socioeconomic/environmental impact missions in 4 x PC conducted.



### Dissemination

- The project website was launched and is operating (<http://swim-sustain-water.eu>).
- Regional factsheet/flyers (Ar/Eng/Fr) disseminated
- Regional conference with 150 participants successfully organized, 1-2 Dec 2014 in Sharm El Sheikh, Egypt
- Project was presented at international and regional conferences.





## Achievements

# Regional Networking

- 3 x Regional trainings have been conducted.
- 6 x Regional coordination meetings organized.
- 2 x regional exchange workshops held (Jordanian-Tunisian workshop in 2013 on the 'Safe Reuse of Treated Wastewater in Agriculture, Jordanian-Egyptian workshop on 'Decentralized Wastewater Management' in 2014)
- Regional Conference, 150 participants, Sharm El Sheikh, Egypt, 1-2 Dec 2014





## Replication

- All 4 pilot projects have active Steering Committees that ensure alignment to national strategies (i.e. regular meetings, approval of implementation steps).
- Sand filter (Tunisia), Ait Idir (Morocco) Pilot Plants to be implemented in other areas.
- Close cooperation with long-term projects at policy-level (Morocco -> GIZ AGIRE; Tunisia -> GIZ CCC; Egypt -> GIZ WP; Jordan -> UFZ NICE).
- Compendium, reuse best practice guide ( Jordan), rain water management catalogue (Morocco), WQM manual (Tunisia) to be disseminated and applied in the PC



# Lessons Learned for future projects

- **Need for more budget flexibility to ensure an integrative approach to rural sanitation problems, i.e. Egypt: not only the treatment process but also the sewer system.**
- **Need for simplified EU tender procedures, budget management and sufficient implementation time (minimum 48 months)**
- **Website including tools (chat meetings) is an efficient communication modalities for regional projects with different partners**
- **Language between the Francophone/Anglophone countries is challenge**
- **Consider from the beginning a link to longer-term projects to ensure sustainability of pilot projects**



# Lessons Learned at national policy-making level

- **Need for more long-term policy support to create enabling environment for decentralized sanitation systems, there is need for:**
  - **More political commitment towards integrated rural development**
  - **simplified EIA procedures**
  - **relaxed reuse standards**
  - **centralized management of decentralized wastewater treatment and reuse systems**
  - **an employment / skills training of private sector for the design, construction and O&M of decentralized sanitation systems**
  - **a manual for O&M of decentralized sanitation systems**



# Thank you for your attention

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