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Tailor-Made Socio Economic Approaches for Integrated Water Management in Rural to Urban Mutations

SoWat

Ranya AMER, Tarek HOSNY, Eslam SALAMA, Dina IHAB, Sherif ABU EL-MAGD, Harrison PIENAAR, Fhumulani RAMUKHWATHO, Pascal BREIL, Philippe NAMOUR

Aim and Innovation

- Propose **new solutions** to water scarcity due to climate change based on **Natural Based Solutions (NBS)**, in three countries **EG, SA and FR**;
- Build capacity and **empower local communities** with knowhow on sustainable water management practices to promote SMEs;
- Support the economies** by protecting human health and creating more sustainable job opportunities

Objectives

- Stimulate cooperation** between African and EU stakeholders in the areas of water innovation, research, policy, and capacity development.
- Drive Africa-EU cooperation by **sharing innovation** for local challenges and boosting sustainable market and investment opportunities.
- Reinforce **Water & Climate Change** research and (social) innovation (R&I) cooperation.

Communication Strategy

- Improve societal awareness** by interaction with the **local community and NGOs** on NBS implementation.
- Assist capacity development** by interaction, training and communication of project outputs.
- Dissemination and address policy** and decision-makers to adopt projects outputs through.

EGYPT



- Assist **Naga Diab local farmers**, small village in **Alexandria**, to enhance **high salted soil and water quality**.
- NBS** to reuse the domestic **wastewater** for better water quality and crops.



Public participation Strategy

- "Future Protectors" NGO**
- Hearing then deciding**
- Sharing decisions**
- Prototype to be Start-ups**

SOUTH AFRICA

System optimization challenges – algae growth for bio-energy

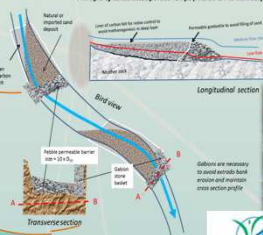
- Assist **Mosselbay local municipality** to enhance wastewater quality treatment.
- Hydrological modeling** of Brandwacht WWTP –
- Improve algae growth** and resultant algae production for bio-energy.



FRANCE

Prospective design of constructed **porous ramps to trap organic matter** during low flows and process it during medium to high flow periods.

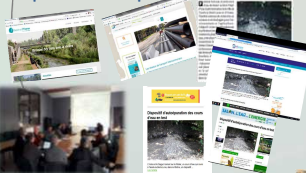
Principle of constructed porous ramps (P. Breil & Ph. Namour)



Implementation phase
September 2019



Field implementation, dissemination & partnerships



- Local politicians, fishing association, river basin and sewer system managers, and scientists partnership**
- where and how to implement low cost & nature based solutions,?**
- improve the **highly degraded ecology** of intermittent urban rivers.

Design of Pilot system

- Septic tank of 0.4 m³
- Input flux of 40 L per days
- Biofilter design for 10 days residence time

