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River Basin Management Workshop

Monday 14 November 2022





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Q&A



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About LEWAP



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**LEbanese Water
Actors Platform**

About LEWAP

- ▶ LEWAP stands for LEbanese Water Actors Platform
- ▶ LEWAP aims at sharing information and experiences among actors in the water and sanitation sector

Objectives of LEWAP

Collect, analyze and spread information about water and sanitation in Lebanon;

Facilitate multi-actors exchanges;

Strengthen the capacity of local actors;

Support local and international actors in project development.



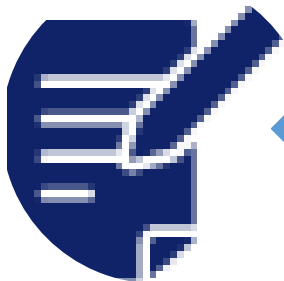
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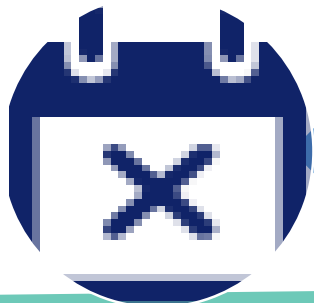
Information sharing:

- Mardi LEWAP on wastewater reuse (IWMI/LARI)
- Quarterly Newsletter on latest updates
- Thematic paper on IWRM and Water Energy
- Mapping of stabilization and solarization projects under the WASH Cluster
- Database of actors, organizations, publications and projects



Exchange between actors:

- UoB-LEWAP student chapter: Qadisha and Zahle
- Support and follow up with local municipalities in project development: Antoura, Zahle, Zgharta-Ehden, Zouk Mikael
- Regular meetings with institutional actors
- Support to university students through research grant program under HawkaMaa-EU
- Coordination with civil society and local NGOs under the network developed with LebRelief under the HawkaMaa-EU and under the 3RF



Workshops/Conferences:

- Water energy nexus with IFI and Oxfam
- River Basin Management workshop with ACTED under HawkaMaa-EU
- Public Public Partnership workshop with WW-GVC and Nahnoo under HawkaMaa-EU

HawkaMaa-EU

LEWAP activities in 2022



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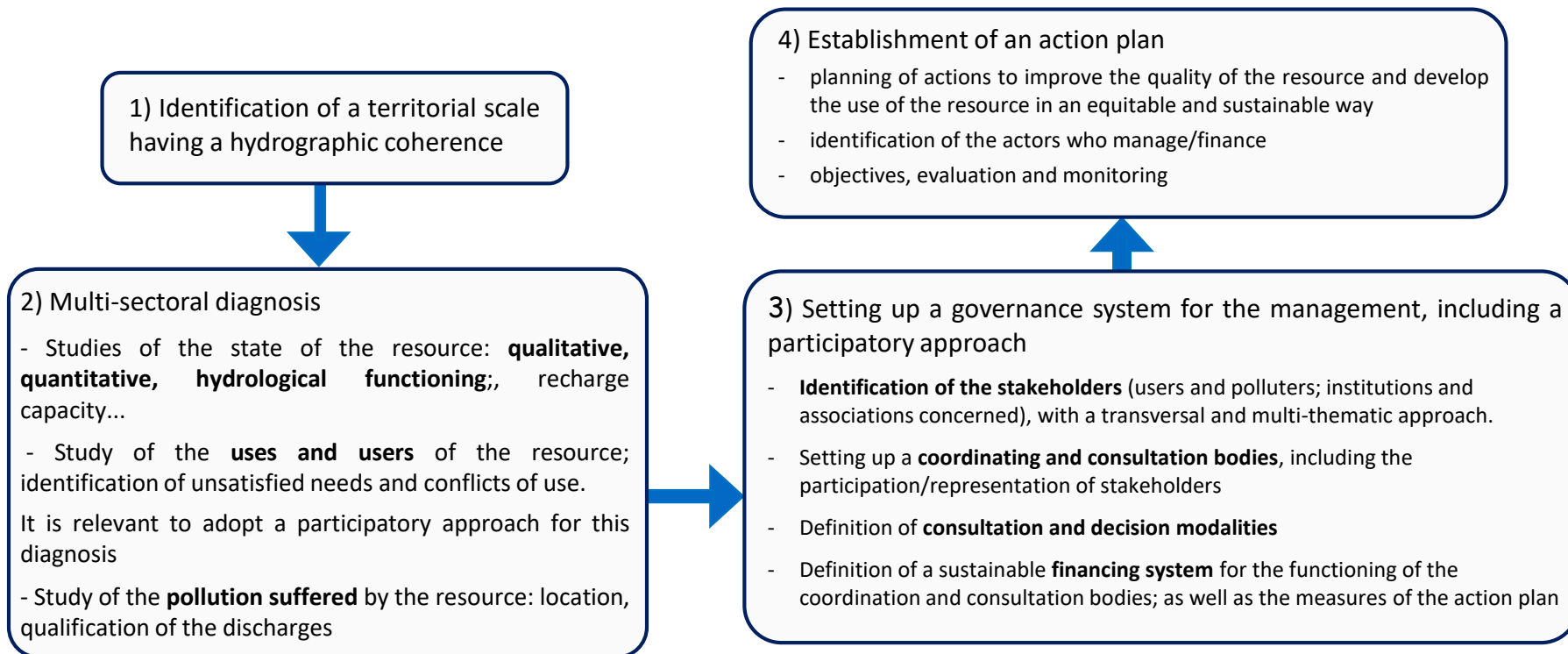
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What is Integrated Water Resource Management (IWRM) ?

IWRM project : elements that seem essential

not exhaustive

IWRM projects do not necessarily address all of these aspects



IWRM should not only be a "project", but a working system

At the end of the project phase, it is expected that :

- to support technically and financially the actions aiming at contributing to the preservation of water resources
- to keep the local actors in concertations around water resources issues
- to share knowledge on water resources



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Integrated Water Resource Management (IWRM) in Lebanon



IWRM in Lebanon

Water sector framework based on the 221 law (2000), amended by law n°377 (2001)

- 4 regional public water establishments have all responsibilities for water management and sanitation services
- Litani River Authority

Water Law 2018, updated October 2020.

- planning master plan for water resources (Art. 16)
- river basins as essential elements (Art. 21).
- It is also in MoEW national strategy.

The MoEW has integrated IWRM into its strategy and is working to define a conceptual framework

Decision Support System (DSS) : integrated modeling approach (hydrologic analysis; assessment of water resources use/demand; water resources management; water resources planning; scenario evaluation; analysis of alternatives; integration of future projections; and water quality modeling)



IWRM in Lebanon

To facilitate a river basin approach to resource management, 2 needs emerge:

- ✓ A unified and shared cartography of river basins.

Several works have been done towards this, separately by the CNRSL (Lebanese National Council for Scientific Research), the Ministry of Energy and Water, FAO (United Nations Food and Agriculture Organization), and UNESCWA (United Nations Economic and Social Commission for Western Asia)

- ✓ The definition of governance models at the river basin level.

Role of WEs ?

- National institutions aren't willing to add yet another authority which would add to overlapping competences and lack of communication.
- According to the Water Law, Water basins plans are intended to be developed by the concerned Water Establishment,
- The administrative division / hydrological profiles (river basins sometimes overlapping two or three regions, managed by different WEs).

Public-public partnerships between WEs and municipalities : potential solution for river basin management ? (Article 58 of the 2020 Water Law)



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Integrated Water Resource Management (IWRM) in France

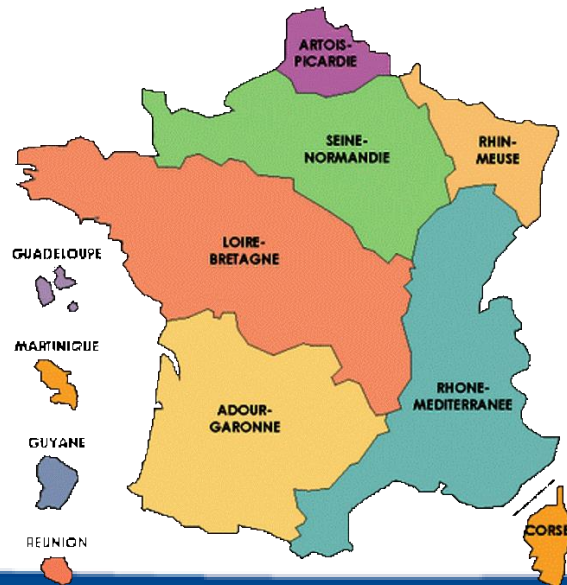
IWRM in France - major and sub river basin

6 Water Agencies

Master Plan for Water Development and Management – “SDAGE”: Guidelines and objectives for 6 years

Basin Committee, ≈ 200 members, representatives of

- ✓ the state and of deconcentrated public institutions (20%)
- ✓ local authorities of different levels (40%)
- ✓ economic users: agriculture, industry, tourism, power generation, etc. (20%)
- ✓ non-economic users: environmental protection associations, consumer associations... (20%)

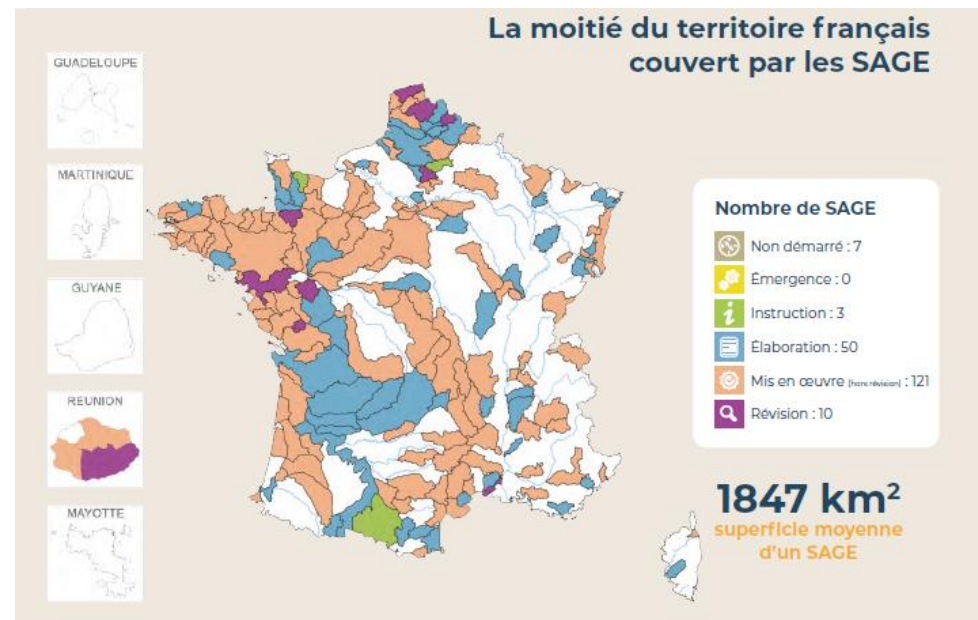


Water development and management plan "SAGE"

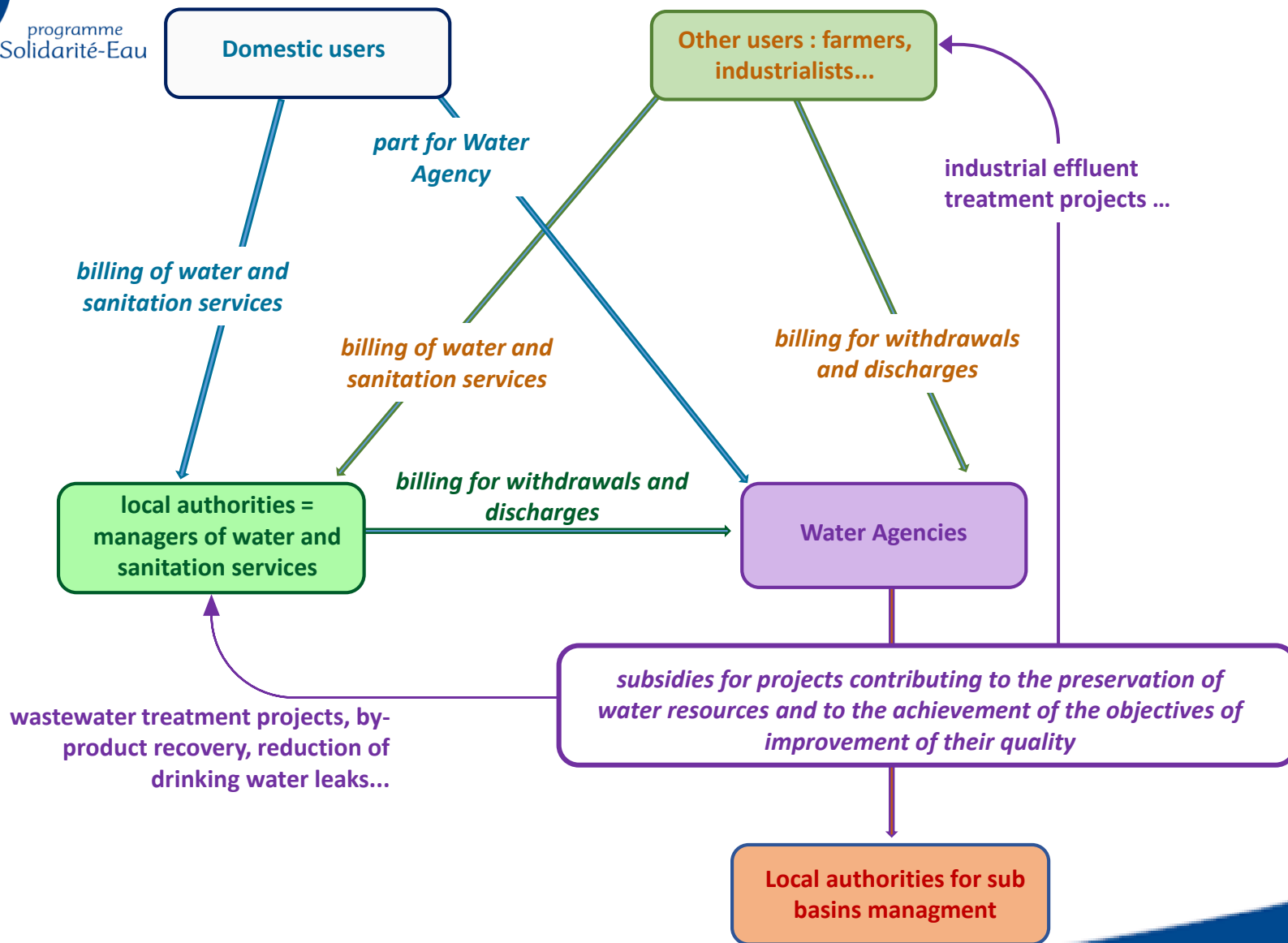
- ✓ established in sensitive sub-basins
- ✓ organization in charge: local organizations in charge of river management, inter-municipalities...

Local committee

- ✓ Water agencies provide financing, technical and methodological support



IWRM in France - financial mechanism



IWRM in France - main principles

- ✓ Principle of "**polluter and withdrawer / payer**".
- ✓ **Equalization**: collection of a share on the users' bill and redistribution in the form of subsidies for projects that preserve water resources
- ✓ **Equity** in the distribution of resources among different types of users
- ✓ **Preserve** water resources (quantity, quality)
- ✓ Progress towards the **quality improvement** objectives set for water resources



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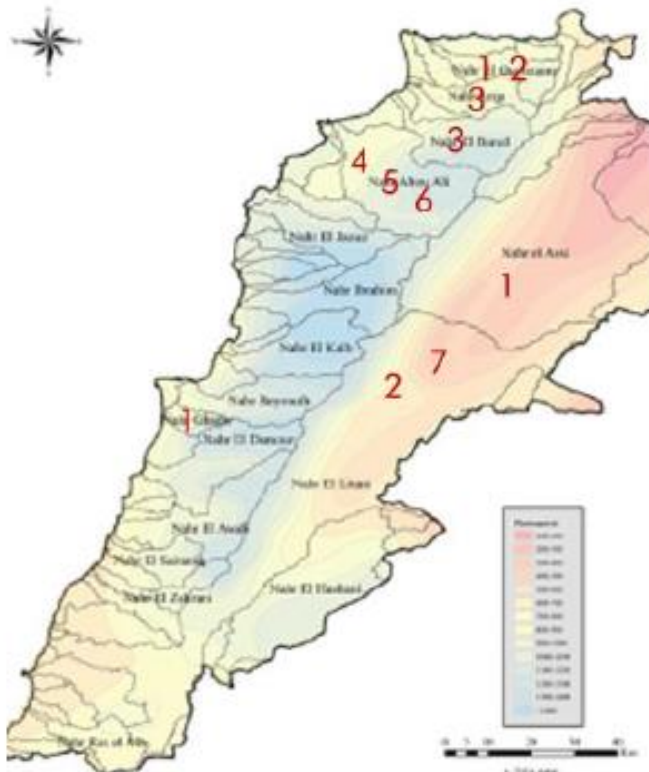
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On-going projects in Lebanon

Projects in Lebanon



1. Integrated Water Resource Management (HawkaMaa-EU): El-Ostuan, El-Assi, El-Ghadir
2. Flood Risk Management with an integrated approach: El-Ostuan, Litani
3. Improved Water Resources Management at regional level in Lebanon: El-Barid, Arqa
4. Creation of an Agency for urban planning and territorial development in the Nahr Abou Ali Basin (AUDETA): Abou Ali
5. Development of touristic strategy in the Caza of Bcharré: Abou Ali
6. Valorization of tourism and cultural heritage in Zgharta-Ehden: Abou Ali
7. Groundwater study for potable water adduction in Zahlé: Litani

1. HawkaMaa-EU Project



Adopt a demand-based approach to resource management; identifying measures to respond to the lack of public networks and to water pollution.



2021-2023



EU MADAD fund



ACTED, WeWorld-GVC, LebRelief, ACF, Solidarités International.



Local actors involvement, governance model, water and wastewater management

Al Ostuan (Akkar)
Al-Ghadir (Mount Lebanon)
Al-Aassi (Bekaa).

2. Flood risk assessment with an integrated approach



Defining an action plan for flood protection; Establishing an alarm and response mechanism; Implementing river committee



2020-2024

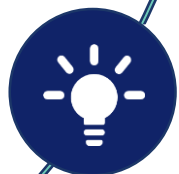
Al Ostuan (Akkar)
Ghzayel (Bekaa)



AFD (Agence Française de Développement), DANIDA (Danish International Development Agency).



Solidarités International, Lebanese Red Cross, French Red Cross, CNRS Lebanon.



River basin approach to risk management, looking into river committees

3. Improved water resources management at regional level in Lebanon



Improving performances and resources planning capacities of North Lebanon Water Establishment through provision of means to monitor water resources; developing data sharing amongst stakeholders



2018-2022

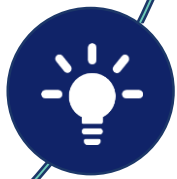
Al Barid (Akkar)
Arqa (Akkar)



Swiss Agency for Development and Cooperation



UN Food and Agriculture Organization (FAO)



Water governance approach, water quality and quantity monitoring, farmers water productivity

4. Creation of an Agency for urban planning and territorial development in the Nahr Abou Ali Basin (AUDETA)



Establishing an urban agency which will be acting as a focal point for all urban and territorial development projects implemented at the river basin level



2019-2021

Abou Ali



Cités Unies Liban/Bureau Technique des Villes Libanaises, Fédération Nationale des Agences d'Urbanisme, Agence d'urbanisme Flandre-Dunkerque, French Ministry of Europe and Foreign Affairs (MEAE).



Communauté Urbaine de Dunkerque, municipality of Tripoli, and municipality of Zgharta-Ehden



River basin approach, atlas of existing resources, integrated approach

5. Development of touristic strategy in Caza of Bsharré



Contributing to Caza of Bsharré touristic strategy



2019-ongoing

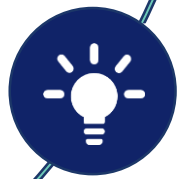
About Ali



Corail Développement, Tetraktys, Water Agency Rhone Méditerranée Corse.



Ville de Chambéry, Grand Chambéry agglomeration ,
Région Auvergne-Rhone Alpes, Caza of Bcharré.



Territorial dialogue with NLWE, knowledge improvement on
water resources and climate change

6. Valorization of tourism and cultural heritage in Zgharta - Ehden



Valorization of tourism and cultural heritage and development a municipal service for water



2017-ongoing

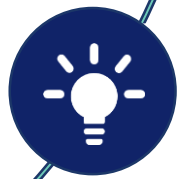
Abou Ali



BRL Ingénierie, Water Agency Rhone Méditerranée Corse, French Ministry of Europe and Foreign Affairs (MEAE).



Département de l'Aude, municipality of Zgharta-Ehden.



Wastewater management, river contract, AUDETA.

7. Groundwater study for potable water in Zahlé



Resource protection in urban and rural environment through the contribution to urban development scheme.



2017-ongoing

Berdawni (Qaa Er Rim)



Montpellier Méditerranée Métropole, Water Agency
Rhone Méditerranée Corse.



APIEU Montpellier, Municipality of Zahlé



Groundwater recharge, platform of local actors (governance),
agro-ecology



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Questions and Answers



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River Basin Management Plan Under HawkaMaa- EU



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Development of River Basin Management Plan – HawkaMaa-EU



Al Ostuan

Al Assi

Ghadir

Municipalities

50

50

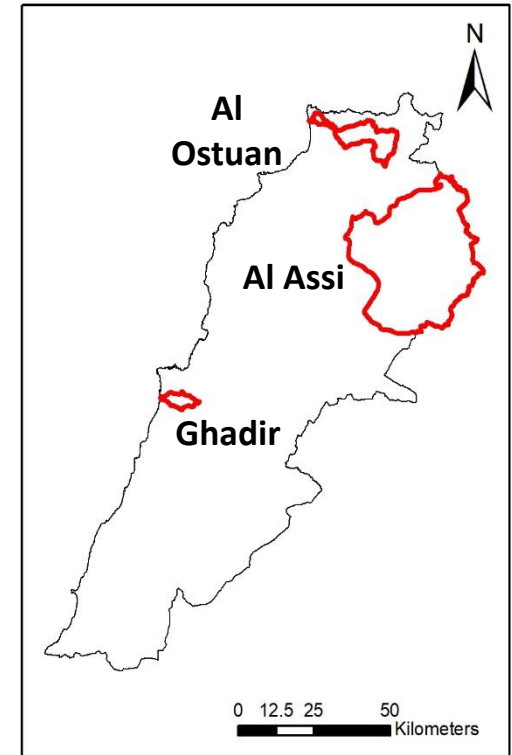
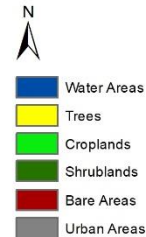
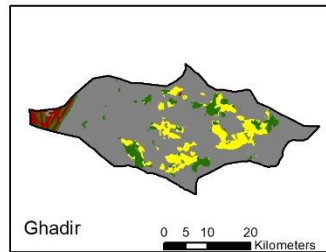
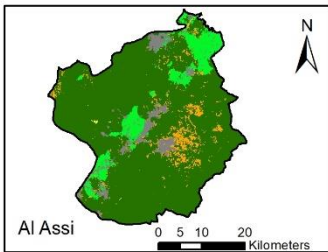
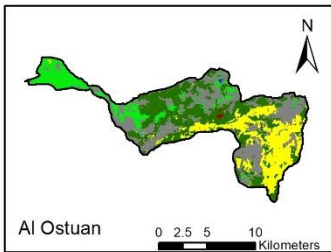
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Vegetation
Cover

50%

70%

40%



Stakeholder Identification

Multi-stakeholder identification:

- Identifying main stakeholder categories.
- Establishing contact with potential stakeholders.
- Identifying focal point with each stakeholder group.

Users	Depend, profit or impact water resources
Regulators/Managers	Responsibility of protection and management of water bodies
Advisors	Provide research, knowledge or financial support



Modelling

Water Balance Model

**Water Evaluation and Planning
WEAP**

*Serves as a Decision Support
System*

**Water availability
Water Quality
Demand
Unmet demand**

**Water
Sampling**

Climate Projections

13 years
2023-2035

Demographic Projections

- Projected population growth
- Increase in domestic daily
consumption

Baseline Scenario



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Progress

Preliminary
selection of
measures

Translation into
model scenarios

Evaluation in
terms of cost and
benefit

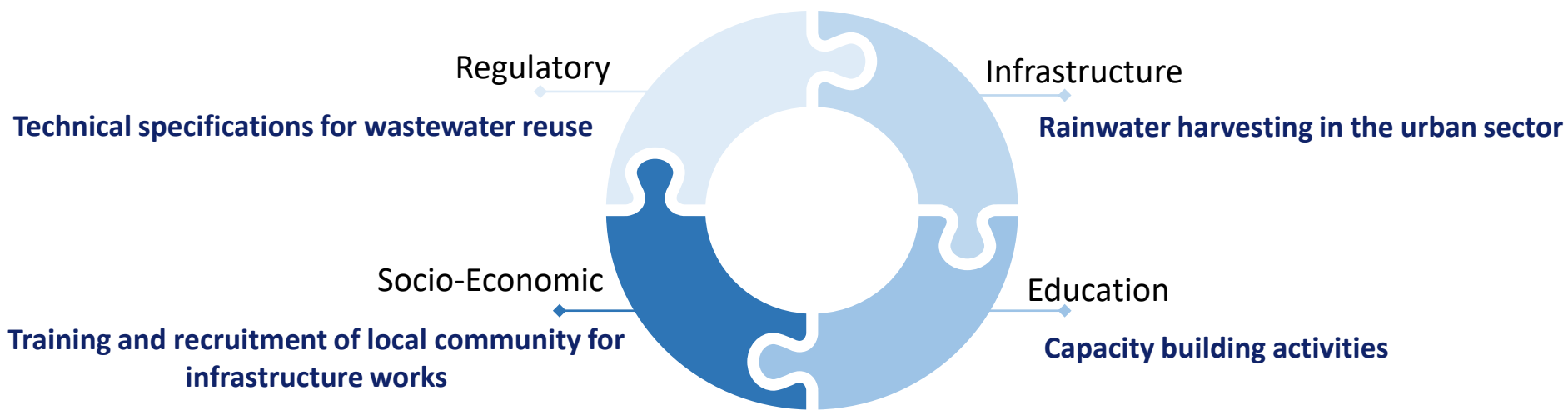
Development of
detailed action plan

Preliminary Selection of Measures

Conduction of stakeholder consultations to

Identify Challenges

Propose and Prioritize Solutions



Comprehensive & Interdisciplinary

Model Scenarios and Cost/Benefit Analysis



Stakeholder group X identified that WW is not being collected in their area knowing that there is an inactive WWTP due to lack of maintenance.

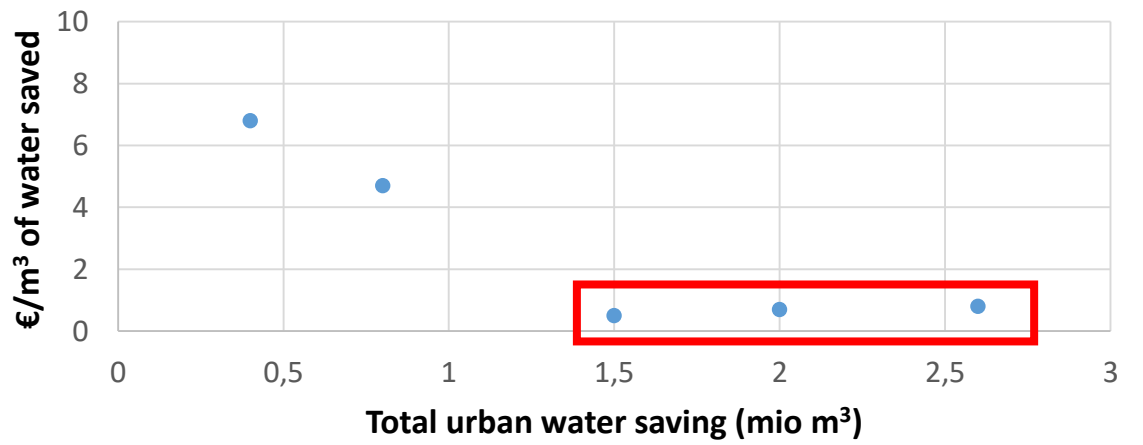


Stakeholder group Y proposed that the WWTP should be rehabilitated and operating once again.



Wastewater reuse and return flow

Scenario
Measure(s) included
Implementation
Simulation parameters
Assessment of results





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Program of Measures

I. Description	Description of implemented activity in terms of what is its objectives and why are we implementing it as relevant to model results.
II. Target	Who is affected by this intervention or measure, is it a stakeholder group, sector or area?
III. Activity breakdown	Order of major activities to be implemented (General)
IV. Program of measure timeline	Timeline for the mentioned activities.
V. Constraints	What are the limitations or restrictions to the proposed intervention?
VI. Cost breakdown	A measure would be adopted as long as the cost estimate analysis appears to be feasible, otherwise, adjust the measure or change it to develop a new cost efficient one.



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Thank you for participating

Any questions?

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