Country Pilot
Improved Water Allocation for Agriculture
(Tunisia)
03-10-2022
Country background

**Water resources**

North have 60% of the country’s total water potential, the South have 23% and the Centre have only 17% of the potential.

South and Central of Tunisia have the most important potential of water.

Mediterranean climate in the north and a desert climate in the south.
Country background

1. Precipitations: 3700 Mm³/year

- Green water: Evapotranspiration 2200 Mm³/year
- Evaporation and runoff not recoverable: 800 Mm³/year

2. Blue water 4900 Mm³/year

- Surface water 2700 Mm³/year
- Groundwater 2200 Mm³/year

Source (water 2050)
Country background

1. Water resources

- **Shallow Aquifer (746 Mm3)**
  - 50% South
  - 34% Centre
  - 16% North

- **Deep Aquifer (1429 Mm3)**
  - 55% South
  - 23% Centre
  - 22% North

- **Surface water (2700 Mm3)**
  - 81% South
  - 12% Centre
  - 7% North

Groundwater

Surface water
Country background

Water demands

Total water demand (2690 Mm³/year)

- Irrigation (2140 Mm³/year)
- Domestic use (548 Mm³/year)

Public perimeters (254000 ha)

Private perimeters (181000 ha)
Main Challenges in water management

2 Country challenges

- Declining water availability per capita: TUNISA is under water poverty line
- Overexploitation /depletion of groundwater
- Increasing and competing water demand amongst sectors + Irrigation is the dominant consumptive use of water
- Climate change

Graphs and data visualizations are shown, including bar charts and line graphs.
Country challenges

Main Challenges in water allocation for agriculture

1. Water irrigation efficiency
2. Equity between existing and potential users
3. Water resources availability varies intraannually and interannually
4. Poorly organized irrigation water user associations
5. Managing spatial and temporal variability in water resources
6. Excessive use of water

Main challenges in water allocation for Agriculture
Proposed pilot area (1)
Proposed pilot area (1)

- Evaporation
- Runoff
- Infiltration
- Evapotranspiration
- North pipe line for domestic use
- Nile River
- Irrigated perimeters
  - Kairouan
  - Sousse
- Nebhana dam
- Nebhana pipe line
- Monastir
- Mahdia
- Irrigated perimeters
- Irrigation projects
- Pilot area
- Groundwater
- Exchange water
The Nebhana area is characterized by low rainfall, high evapotranspiration, general drawdown of water table and irregular water inflow to the dam.

The total water demand is about 30 Mm$^3$, in the other side, the average water inflow to the dam is about 20 Mm$^3$, Imbalance between supply and demand.

Very important system economically and socially, available data base (many studies in the region), potential of treated waste water.
Proposed pilot area (2)

Stakeholders engagement
National: Ministry of agriculture, environment, health administration, sanitation Utility (ONAS), National Water Distribution Utility (SONEDE), Secadenord, UTAP
Local: farmers, Gda’s, Crda’s, URAB, Civil society

How to engage
Mobilisation of Regional water council, identification of regional leadership

How to enforce national leadership
Validation of pilot project with the National water council
Objectives

What the pilot want to achieve?

- to improve the efficiency of water resource use through equitable allocation of water resources and to achieve a rational, regulated use of water resources
- Help the administration to better manage water allocation by improving demand management policy
- Strengthening the mission of the Concertation about water allocation, developing the capacities of the actors
Proposed activities (indicative) and time lines

Defining the water allocation improvement agenda/plan

- **Diagnostic the current water allocation system**
  - 6 months

- **Installation of a geospatial database for all perimeters**
  - 6 months

- **Improve the use of water saving system**
  - 3-5 months

- **Move towards new cropping systems less demanding in water**
  - 12-24 months

- **Frame the GDA and improve their effectiveness: professionalim**
  - 12 months

- **Develop pricing plan**
  - 12 months

- **Improve water measurement at irrigant scale**
  - 12 months

- **Fostering the use of the treated wastewater**
  - 12-24 months
Proposed activities (indicative) and time lines

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Contacting national leaders/stakeholders

- Identify key stakeholders and prepare plan communication
- Delivery of information about the project
- Informal communication

Engaging local leaders/stakeholders

- The project will be supervised by:
  - A steering committee
  - A scientific committee
  - National Coordination Committees will also be established and will be facilitated by a national focal point
Proposed activities (indicative) and time lines

1. Compile existing studies in the region
2. Evaluation by remote sensing of groundwater withdrawals for agricultural use in pilot areas (wapor, WA+..)
3. Fixing performance indicators related to productivity, water consumption, allocation rules
4. Monitoring and evaluation of performance indicators
5. Strengthen the water committee allocation
6. Use of smart technologies
7. Training on building capacity and stakeholder dialogue
8. Evaluation of policies
9. Evaluation of stakeholders rules
10. Assessing supporting governance arrangements
11. Implementing and learning/monitoring
12. Fixing performance indicators related to productivity, water consumption, allocation rules

Using existing/new studies
Capacity building and familiarization
Assessing supporting governance arrangements
Implementing and learning/monitoring
Thank You

Rahma BRINI
+21652268754
rahmabrini@yahoo.fr