

Under the Patronage of His Excellency **Eng. Abdulrahman bin Abdulmohsen AlFadley**
Minister of Environment, Water & Agriculture

منتدى المياه السعودي
saudi water forum

SWF 2024



Groundwater management : Aquifer Contracts a New Approach to Management

By : Eng Charafat Afailal, Expert on water resources,
Former Minister in charge of water, Morocco



29 April – 01 May 2024



Hilton Riyadh Hotel & Residences
Riyadh, Saudi Arabia

Organized by

وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation (SWCC)



شركة المياه الوطنية
National Water Company



الشركة السعودية لشركات المياه
Saudi Water Partnership Company



المؤسسة العامة للمياه
Saudi Water Partnership Company



منظم المياه
Water Regulator



المركز الوطني لكفاءة وترشيد المياه
NATIONAL WATER EFFICIENCY AND CONSERVATION CENTER
MAEE



Organizing Partners



Groundwater : Strategic Role

Strategic role

- Primary source of fresh water in many parts of the world (Supply 90% of rural population in Morocco)
- Socioeconomic development (Irrigate 40% of irrigated land)
- The unique alternative during drought periods

Advantages of groundwater use

- Free and easy access (Not visible)
- Good regulatory
- Low cost (capex & opex)

Groundwater management constraints

- **Alarming level of over abstraction : (Morocco : annual recharge 4MMm³, annual discharge 5MMm³, deficit 1MMm³)**
- **Alarming depletion of the main strategic aquifers**
- **Risk of marine intrusion, deterioration of groundwater quality**
- **Illegal abstraction**
- **Conflicts between users during droughts periods**

Groundwater management : legal frameworks

- Moroccan water law/Constitution /SNDD
- Public water domain
- Well drilling authorization
- Abstraction permits
- Payment of fees
- Water police to control public water domain including ground water
- Delineating source water protection zones (Perimeters of protection and / or prohibition)

Aquifer contract: new mode of groundwater governance

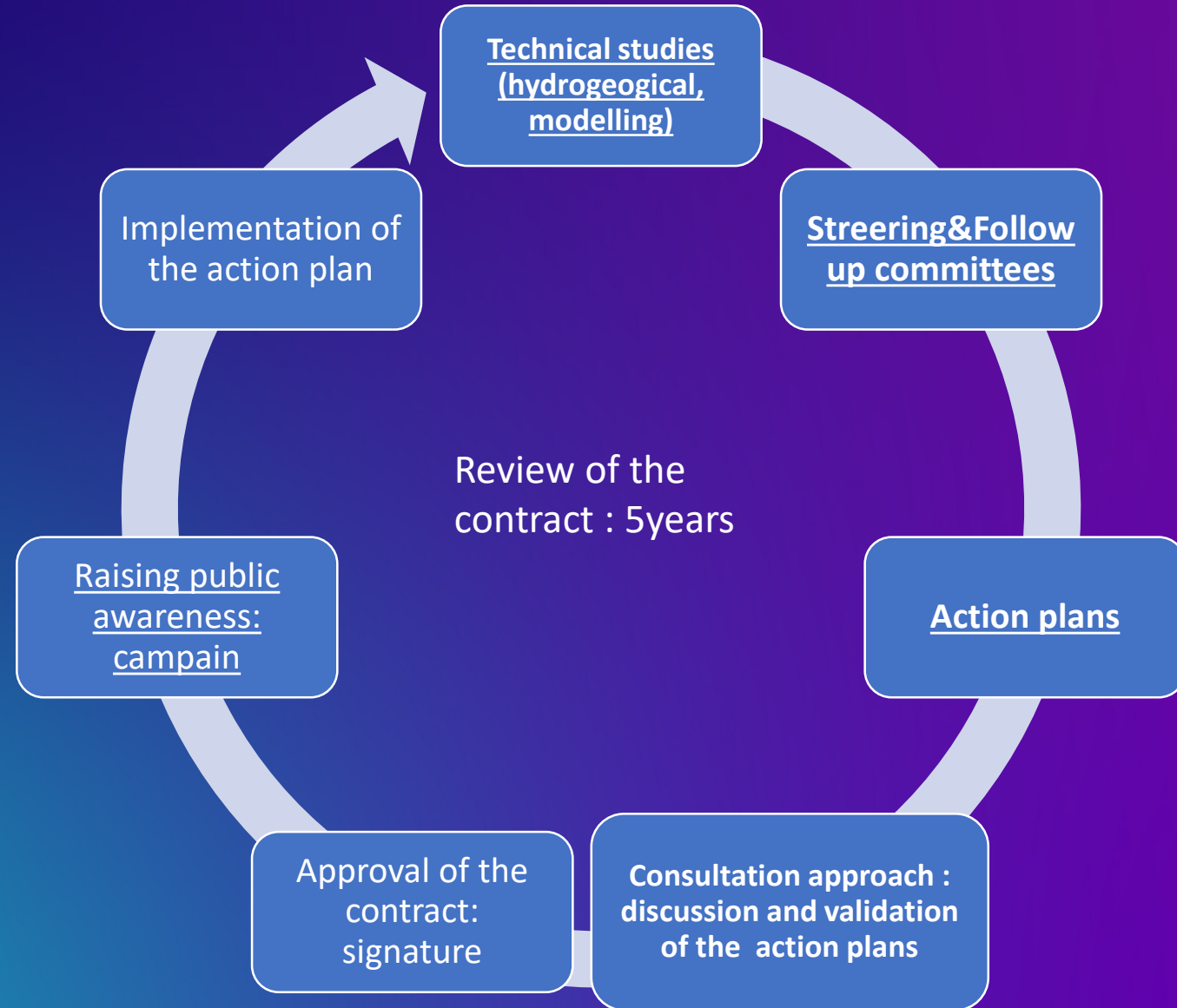
The strategic targets of the aquifer contract are:

- Restoring the aquifer balance
- Satisfying the demand of all water users
- Setting a sustainable model of groundwater management,

Aims and objectives

- Technical and financial agreement between partners and stakeholders (Government, users, farmers, elected bodies...)
- Approach based on consultation, participation and accountability of stakeholders
- Defining specific measures : controlling depletion, protecting the resource, restoring the aquifer balance
- Saving investments by satisfying users needs

developing the Aquifer Contract: Different stages



Step 1 : Technical study

- **Hydrogeological study**
- **Mathematical Modelling**
- **Diagnosis of the current situation and its socio-economic impacts in case nothing has been done**

- [back](#)

Step 2: Steering and follow up committee of the aquifer contract

- Steering committee chaired by the *Wali* (Higher Level of Regional/Local Authority)
- Follow up committee chaired by the Basin Agency, in charge of :
 - ✓ Defining the sustainable model of the aquifer
 - ✓ Defining the action plan and mobilizing funds
 - ✓ implementing the action plan
 - ✓ Following up

Action plan

Short-term

- ✓ Regularization of illegal wells
- ✓ Performance and fight against Water loss
- ✓ Restriction of cultivated area
- ✓ Payment of water fees
- ✓ Aquifer recharge
- ✓ Depollution /sanitation

Back

Action plan

Medium and long term

- ✓ Mobilizing the additional resources (dams construction)
- ✓ Encouraging water reuse
- ✓ Artificial recharge
- ✓ Encouraging rainfall harvesting
- ✓ Modernizing of the irrigation system

[Back](#)

Raising Public awareness : meeting , consultation ...



Under the Patronage of His Excellency **Eng. Abdulrahman bin Abdulmohsen AlFadley**
Minister of Environment, Water & Agriculture

منتدى المياه السعودي

saudi water forum **SWF 2024**



THANK YOU!



29 April – 01 May 2024



Hilton Riyadh Hotel & Residences
Riyadh, Saudi Arabia

Organized by

وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



المؤسسة العامة لتحلية المياه المالحة
Saline Water Conversion Corporation (SWCC)



شركة المياه الوطنية
National Water Company



الشركة السعودية لشراكات المياه
Saudi Water Partnership Company



المؤسسة العامة للمياه
Saudi Water Partnership Company



منظم المياه
Water Regulator



المركز الوطني لكفاءة وترشيد المياه
NATIONAL WATER EFFICIENCY AND CONSERVATION CENTER
MAEE



Organizing Partners