ADAPTATION FUND

PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Nature-based Water Management & Data-Driven Strategy for Climate Resilience in Akkar, Lebanon

Countries: Lebanon

Thematic Focal Area[1]: Water Resource Management and Climate Resilience

Type of Implementing Entity: United Nations Agency

Implementing Entity: UN-Habitat

Executing Entity/Entities: UNICEF, North Lebanon Water Establishment (NLWE), Lebanese Agriculture Research Institute (LARI), Municipalities, Local NGOs, Academic institutions, Bureau Technique pour le Development (BTD).

Amount of Financing Requested: 5,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request: Yes ☐☒ No ☐ ☐

Amount of Requested financing for PFG: 50,000[2] (in U.S Dollars Equivalent)

Letters of Endorsement (LOE) signed for all countries: Yes ☒ ☐ No ☐ ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☒This pre-concept has been submitted before 30 June 2025

☐☐ This is the first submission ever of the pre-concept

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

[1] Thematic areas: Nonprescriptive

[2] A Project Formulation Grant (PFG) of $50,000 is being requested for the pre-concept note stage: $30,000 (20% of the $150,000) plus an additional amount of $20,000 (20% of the $100,00) which are essential at this stage. Those numbers are reflected in submitted PFG form.

Please note that pre-concept should not exceed 5 pages (in addition to this first cover page)

Project/Programme Background and Context:

Lebanon is facing a severe and worsening water crisis, driven by climate change, unsustainable management practices, and socio-political instability. The country's water resources are under stress, with total available freshwater resources estimated at approximately 714 cubic meters per capita annually (which is the result of 4 billion cubic meters to 5.6 million people residing in Lebanon), well below the 1,000 m³ threshold for water scarcity, while Lebanon maintains a relatively high level of water stress that is likely to increase in the coming years due to climate change impacts (National Water Strategy 2024 – 2035) (Climate projections indicate a 10–20% reduction in precipitation by 2040, coupled with rising temperatures that will exacerbate evaporation and drought (Fourth National Communication to the UNFCCC, 2021).

The national water challenges are numerous and can be listed as follows:
1. Groundwater Overexploitation: 70% of Lebanon's water supply comes from groundwater, but extraction rates exceed recharge by 30–50% in critical basins (MoE, 2022). Illegal wells (estimated at 60,000 nationwide) and weak enforcement have led to aquifer depletion and seawater intrusion, particularly in coastal areas.

2. Non-Revenue Water (NRW): 40% of piped water is lost due to leaks, illegal connections, and poor maintenance (NWSS 2024).

3. Sub-optimal and inefficient Wastewater treatment:
Wastewater treatment plants (WWTPs) are underfunded and non-functional, with only 25% of generated wastewater volumes reaching operational WWTP's. (Ministry of Energy and Water, 2025).

4. Climate Pressures: Increased frequency of "flash floods" (e.g., January 2024 Akkar floods) due to deforestation and degraded watersheds. In addition, prolonged droughts have reduced agricultural yields, pushing farmers to over-pump groundwater, worsening scarcity.

5. Refugee Influx: Lebanon hosts approximately 1.5 million Syrian refugees, increasing water demand by 20–30% in northern regions like Akkar (UNHCR, 2023). From March 2025, additional more than 23,500 refugees have sought refuge in Akkar (UNHCR flash update- April 2025)

Akkar's Water Crisis: A Microcosm of Lebanon's Challenges
Akkar, Lebanon's northernmost governorate, is one of the poorest and most water-stressed regions, with unique vulnerabilities that can be listed as follows:

1. Groundwater Depletion & Seawater Intrusion (SWI): Akkar's coastal aquifer is critically overexploited, with 40% of wells operating illegally (NLWE, 2023). Plus, saltwater intrusion has contaminated 30% of wells in coastal areas, rendering water unfit for drinking or irrigation (LARI, 2022). In Akkar this is noticed up to 7km from the shore (Elias and al.2025[3]).

2. Total Collapse of Wastewater Management: No functional WWTPs exist in Akkar; untreated sewage flows directly into rivers and agricultural lands, contaminating crops with E. coli and heavy metals (MoE, 2023). This has led farmers to rely on polluted water for irrigation, posing public health risks. (e.g., cholera outbreak in 2022 started in Akkar).

[3] https://doi.org/10.1080/02626667.2025.2468839

3. Ecosystem Degradation: Deforestation (loss of 35% forest cover since 2000) and abandoned terraces have reduced natural water retention, worsening floods and soil erosion (FAO, 2021). The example of Wadi Khaled, a key watershed, is drying up due to unchecked sand mining and diversion for agriculture.

4. Institutional and Data Gaps: No integrated monitoring of surface/groundwater exists, leaving policymakers without data to regulate extraction or plan interventions (NWSS 2020). This is coupled with lack of funding and technical capacity due to the financial crisis in Lebanon that leave water establishments without proper tools to maintain infrastructure.

Why This Project is Critical for Akkar?
The proposed project directly addresses Akkar's crises by:
- Filling data gaps through a real-time monitoring network (first of its kind in Lebanon).
- Piloting nature-based solutions (wetlands, Rainwater harvesting) to reduce pollution and recharge aquifers.
- Empowering local communities to support sustainable water management, aligning with Lebanon's NDC commitment to nature-based solutions (NbS).

Project/Programme Objectives:

(List the main objectives of the project/programme.)

The project aims to: (1) establish a robust water monitoring network to inform sustainable management and develop hydrogeological model of the different aquifers in Akkar; (2) pilot scalable NbS for wastewater treatment and rainwater harvesting; and (3) strengthen local capacities to ensure long-term ownership of adaptation solutions. By aligning with Lebanon's Nationally Determined Contribution (NDC) and the National Water Sector Strategy 2024 (NWSS), the project will directly contribute to national targets for water security, climate adaptation, and ecosystem restoration.

Without intervention, Akkar's water scarcity will deepen, threatening food security, public health, and social stability in a region already strained by poverty and displacement. This project offers a scalable model for Lebanon's water crisis response.

Project/Programme Components and Financing[4]:

(Fill in the table presenting the relationships among project components, outcomes, outputs and countries in which activities would be executed, and the corresponding budgets.)

Project/Programme Components	Expected Outcomes	Expected Outputs	Countries	Amount (US$)

[4] IE and EE fees calculator: https://www.adaptation-fund.org/document/ie-and-ee-fees-calculator/

1. Akkar Water Monitoring Network	*Reliable hydrological data for decision-making*	*Hydrogeological model of Akkar, SCADA system for real-time monitoring, 5 upgraded meteorological stations, Replication toolkit for other regions*	*Lebanon*	*$*	*2 197 800*
2. Nature-based Solutions (NbS)	*Improved water quality & reduced demand*	*Constructed wetlands for wastewater treatment, Rainwater harvesting (RWH) systems (Compliance with country norms (i.e. Decision 8/1 MoE 2000), Replication plan for 10+ villages*	*Lebanon*	*$*	*1 663 200*
3. Awareness & Capacity Building	*Empowered local institutions & communities*	*Trained NLWE/municipal staff (50+ people), 20 community water stewards, Gender-inclusive farming programs, Reduced groundwater extraction by 25% in the targeted area*	*Lebanon*	*$*	*405 940*
Total Program component cost				*$*	*4 266 940*
4. Project/Programme Execution cost				*$*	*341 355*
5. Total Project/Programme Cost				*$*	*4 608 295*
6. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				*$*	*391 705*
Amount of Financing Requested				*$*	*5 000 000*

Project Duration: ***3 years (36 months)*** *(In years and months)*

PART II: PROJECT/PROGRAMME JUSTIFICATION

1. Locally Led Adaptation (LLA) and Decision-Making Empowerment

The project is designed to decentralize water governance by placing adaptation planning and implementation in the hands of sub-national authorities (such as the NLWE), local stakeholders (such as municipalities), ensuring community ownership and long-term sustainability.

- *Direct Access to Finance & Decision-Making: Local institutions (e.g., NLWE, LARI) will lead data collection, NbS implementation (with municipality support).*
- *Local stakeholders will improve adaptive water management decisions by using improved groundwater and climate data to guide crop selection, regulate or close unlicensed wells and inform awareness campaigns. Selected municipalities will be trained on climate financing by IE under component 3 of this project as well as assuming responsibility of O&M of Nbs.*
- *Participatory planning and Co-Design: Communities will actively lead the identification and design of interventions (e.g., wetland construction) through focus group discussions, co-design workshops, and multi-stakeholder consultations—ensuring local ownership, institutional alignment, and long-term sustainability in line with Adaptation Fund LLA Guidelines (2023).*

- *Integration of Scientific Knowledge: create link between local academic institutions and decentralize water utilities to combine data compilation with hydrogeological modeling to understand recharge and develop strategies.*

2. Adaptation Activities and Climate Resilience Value

The project's three components address both immediate and systemic vulnerabilities in Akkar:

- *Component 1 (Monitoring Network for the entire area):*
  - *Outcome: Create hydrological and Hydrogeological database for National strategy inputs*
  - *Enforce Water Framework Directives to limit water extraction to a volume that does not exceed the annual recharge.*
  - *Allocate Water resources based on collected evidence enabling prioritization of vulnerable populations particularly in times of water scarcity.*
  - Community-level enforcement of water uses regulations, such as identifying and controlling unlicensed wells;
  - Agricultural planning, through dissemination of groundwater and weather data to farmers, enabling informed choices on planting cycles and crop selection.
  - Prioritization of NbS interventions, based on observed stress in aquifers or recharge patterns.
  - Community-led adaptation planning, supported by training and simplified tools to interpret and apply monitoring results.
  - *Innovation: SCADA system provides real-time data to NLWE, enabling dynamic water allocation during droughts (World Bank, 2023).*
- *Component 2 (NbS Interventions in one or two municipalities):*
  - *Outcome: Constructed wetlands reduce wastewater pollution by 60–80% (LIBNOR 814-2024; Decision 8/1 2000 MoE compliance), mitigating health risks (MoE, 2022).*
  - *Scalability: Pilot RWH systems on greenhouses (inspired by UNICEF model implemented in Zahle under the Water resilient solutions regional project) can expand to farmers in the municipality (UNDP, 2023).*
- *Component 3 (Capacity Building in the selected village(s) for NbS and Rainwater Harvestings):*
  - *Gender Inclusion: Targets women-led farming cooperatives (30% of trainees) to promote equitable resource access (UN Women, 2022 and UN-Habitat 2024 Al Marjeh urban farming project in Tripoli north Lebanon).*

3. Cost-Effectiveness and Execution Arrangements

- *Low-Cost, High-Impact Solutions*
  - *NbS (e.g., wetlands) cost 50% less than conventional WWTPs (if servicing less than 1,000 persons) and have lower Operation and Maintenance (O&M) demands (GIZ, 2022).*
  - *Reusing existing infrastructure (e.g., retrofitting abandoned wells with loggers to monitor the groundwater levels) minimizes capital costs.*

- *Direct Funding Mechanism:*
  - *70% of the budget will be spent on favor to local executors (NLWE, municipalities, LARI), avoiding middle-layer inefficiencies (Adaptation Fund, 2023).*

4. Alignment with National/Sub-National Strategies

The project operationalizes five key national policies:

a. *National Water Sector Strategy (NWSS 2024): Pillar 1 Enhanced Water Security: By 2035, a data management and monitoring system is fully operational at the Ministry.*
b. *NDC (2021): Supports Target 5.3 ("NbS for water security") and Target 7 ("Community-based adaptation").*
c. *Fourth National Communication (UNFCCC, 2021): Addresses Akkar's designation as a "high-risk zone" for climate-induced water stress.*
d. *MoE's National Adaptation Plan (NAP, 2023): Aligns with Priority Area 2 ("Ecosystem-based adaptation in watersheds").*
e. *LIBNOR 814-2024 Standards: Ensures treated wastewater meets reuse criteria for agriculture.*

5. Learning and Knowledge Management

- *Replication Toolkit: Documents best practices for scaling to other governorates (e.g., Baalbek-Hermel and Bekaa, facing similar depletion and BML, North and South facing the Saline Water Intrusion (SWI)).*
- *Academic Partnerships: LARI and American University of Beirut and/or Balamand University will publish case studies and host regional workshops (MoE, 2023).*

6. Consultative Process and Environmental/Social Safeguards

- *Stakeholder Engagement: Q3 2025–Q1 2026 consultations will involve NLWE, Municipalities, farmers, women's groups, and Syrian refugees (AF's "Environmental and Social Policy" compliance).*
- *Conflict Sensitivity: Ensures water access disputes are mitigated via transparent allocation (UNDP, 2022). NLWE will be able to allocate water*
- *Risk Mitigation:*
    - *Environmental: NbS design mitigate water contamination and if quality allow reuse then reduce water over-extraction following the Ecosystem-based approaches to mitigate societal challenges by improving Human well-being and biodiversity benefits (IUCN, 2021).*
    - *Social: Gender audits ensure women's participation in water committees (UN Women, 2023).*

7. Sustainability of Outcomes

- *Financial: Municipalities will levy "small tariffs" on agricultural water use to fund O&M (World Bank, 2023).*
- *Institutional: NLWE will integrate project data into the National Water Information System (NWSS 2024).*

8. Economic, Social, and Environmental Benefits

Benefit Type	***Examples***	***Reference***
Economic	*$200K/year saved by reducing groundwater pumping costs*	*NWSS 2024*
Social	*30,000+ people gain access to clean water*	*MoE 2022*
Environmental	*100,000 m3/year of wastewater treated via wetlands*	*LIBNOR 814-2024*

9. Avoidance of Duplication

- *Complements ongoing projects (e.g., AFD project on reduction of flash floods risk in Sahel Akkar, World Bank's Water Emergency Project) by adding NbS and monitoring missing in current efforts.*

10. Justification for Funding

- *Full cost of adaptation reflects:*
  - *Technical complexity of aquifer modeling ($2.2M).*
  - *Community training to ensure ownership ($400K).*
  - *NbS piloting for scalability ($1.6M).*

PART III: IMPLEMENTATION ARRANGEMENTS

Partners	***Roles and tasks***
Implementing Entity (IE): UN-Habitat	*Ensure project adheres to Adaptation Fund policies and delivers outcomes on time/ budget.* *Lead financial management and reporting to the AF.* *Provide technical oversight for NbS and monitoring components.* *Facilitate knowledge exchange with global NbS initiatives (e.g NATURA, IUCN, etc.)*
Main Executing Entity (EE): UNICEF	*Coordinate field activities, procure equipment, and manage subcontractors* *Deploy SCADA systems and piezometers (with NLWE)* *Construct wetlands and RWH systems (with NLWE, municipalities and farmers)* *Train communities and monitor gender inclusion (With A local NGO)*
Ministry of Environment (MoE) and Ministry of Energy and Water (MoEW)	*Ensure project complies with NWSS 2024 and NDC targets* *Approve hydrological and hydrogeological monitoring protocols* *Endorse replication plans for other areas/ governorates*
North Lebanon Water Establishment (NLWE)	*Operate the SCADA system and facilitate well-metering*
Lebanese Agricultural Research Institute	*Collect and disseminate meteorological data to the NLWE, MoE and MOEW and work closely with the academic institution for the publication on the*
Academic Institutions	*(e.g. AUB, Balamand University) to validate data and publish results*
Private technical consultancy firm	*Bureau Technique pour le Développement (BTD) to support technical assessment and the data collection on the field.*

Municipalities	*Lead site selection, community mobilization, and O&M planning*
Communities/ farmers	*Participate in training and steward NbS post-project.*

To note that, the project will establish a National Steering Committee chaired by MoE, to ensure multi-stakeholder ownership in order to 1) review quarterly progress reports, 2) approve budget reallocation (if any), 3) resolve conflicts, 4) facilitate permitting processes if needed, and 5) ensure sustainability of the interventions.

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[5] *Provide the name and position of the government official and indicate date of endorsement for the country participating in the proposed project/programme. The endorsement letter should be attached as an annex to the project/programme proposal.*

(Tamara El Zein, Minister, Ministry of Environment, Lebanon)	Date*: (07, 03, 2025)*

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (NDC 2021 supports Target 5.3: NbS for water security and Target 7: Community based adaptation; Fourth National Communication (UNFCCC 2021): Addresses Akkar's designation as high-risk zone for climate induced water stress; MoE's National Adaption Plan 2023: *Priority Area 2 ("Ecosystem-based adaptation in watersheds")*)) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Name & Signature Implementing Entity Coordinator	
Date: *(June, 20, 2025)*	Tel. and email:
Project Contact Person: Tarek Osseiran (UN-Habitat)	
Tel. And Email: +961 1 978399 ext 1393, +961 3 233671, tarek.osseiran@un.org	

[5] The Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

THE MINISTER

Beirut, 3/7/2025
Ref.: 2451/B/2025

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: : Endorsement for "Nature-based Water Management & Data-Driven Strategy for Climate Resilience in Akkar, Lebanon" Project

In my capacity as designated authority for the Adaptation Fund in Lebanon, I confirm that the above national grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Lebanon.

Accordingly, I am pleased to endorsed the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN-Habitat and executed by UNICEF, North Lebanon Water Establishment (NLWE), Lebanese Agriculture Research Institute (LARI), Municipalities, Local NGOs, Academic institutions, and Private technical consultancy firm.

Sincerely,

Republic of Lebanon
Ministry of Environment

Minister of Environment
Tamara El-Zein, PhD

Cc: – *United Nations Human Settlements Programme (UN House, riad El Solh, +961 1 978398, Beirut, Lebanon)*
– *MoE - DGoE - Service of Environmental Technology – Department of Air Quality*
– *MoE - Climate Change Projects*

Revised PFG Submission Form[1] (additions in red)

Project Formulation Grant (PFG)

Submission Date: **5 August 2025**

Adaptation Fund Project ID: **AF00000446**
Country/ies: Lebanon
Title of Project/Programme: Nature-based Water Management & Data-Driven Strategy for Climate Resilience in Akkar, Lebanon
Type of IE (NIE/RIE/MIE): MIE
Implementing Entity: United Nations Human Settlements Program (UN-Habitat)
Executing Entity/ies: United Nations Children's Fund (UNICEF)- Lebanese Agriculture Research Institute (LARI) – North Lebanon Water Establishment (NLWE) – Bureau Technique pour le Développement (BTD) (Private Sector Consultancy Firm)

A. Project Preparation Timeframe

Start date of PFG	For Concept note preparation (October 2025)
Completion date of PFG	End of Proposal submission (October 2026)

B. Proposed Project Preparation Activities ($)

Table 1: Pre-concept note PFG request

List of Proposed Project Preparation Activities (Pre-Concept Note stage)	Output of the PFG Activities	US$ Amount	Budget note[2]
1. Proposal development			

[1] As presented in AFB/PPRC.33/40 Annex 1.

[2] The proposal should include a detailed budget with budget notes indicating the break- down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

1.2 Support team (UN-Habitat)	Proposal template and Annexes developed in compliance with AF Standards	$7,650	UN-Habitat staff who will be contributing to data gathering and desk review for the development of the proposal, the project is requesting a 7.45k$ at the pre-concept stage out of 40k$.
	Subtotal 1:	**$7,650**	
2. Technical Assessment			
2.1 Water experts	Define the ideal locations to enable fine measurement of the wells to be equipped with associated Bill of Quantities (BOQs) and detail costing is identified.	$20,000	Fees for the water experts who will conduct the technical assessment for the selection of locations for "Piezometers" and "Abandoned Wells" to support the groundwater monitoring and "Sustainable Water Resource Management". The project is requesting a 20k$ at the pre-concept stage out of 60k$.
	Subtotal 2 (defining location):	**$20,000**	
	IE fees (8.5%)	**$2,350**	
Total Project Formulation Grant		**$30,000**	

Table 2: Additional PFG for the pre-concept note stage

List of Proposed Project Preparation Activities	Output of the PFG Activities	US$ Amount	Budget note[3]
2. Proposal development			

[3] The proposal should include a detailed budget with budget notes indicating the break- down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

1.1 Consultant fees	Proposal template and Annexes developed in compliance with AF Standards	$5,000	This related to hiring an individual consultant who will be in charge to compile all materials and develop the full proposal
	Subtotal 1:	**$5,000**	
2. Technical Assessment			
2.3 Environmental expert to develop BoQ and cost estimation	BoQ and cost estimation are prepared to ensure the selected weather stations will enable the proper data collection and real-time sharing with the different stakeholders.	$4,000	1 expert to prepare the BoQ and the cost estimate for the weather stations
	Subtotal 2 (weather stations):	**$4,000**	
2.5 NbS expert for the selection of locations	Selection of the locations to install NbS and selection of the NbS typology as well as the different locations.	$4,000	Fees for a NbS expert for 1 month
2.6 Water Experts to discuss and validate with the NEW and other stakeholders the proposed interventions	Organization of FGD with community and local stakeholders to revise and refine the proposed interventions and deeply understand their willingness to contribute and engage with in the project	$3,400	Partial fees for experts who will be conducting focus group discussions with a variety of stakeholders and analyze the outcomes for project purposes
2.7 Conduct a series of Focus Groups Discussions (FGDs) with different stakeholders:		$2,033	Logistics and expenses to conduct the initial FDGs
	Subtotal 2 (validation):	**$9,433**	
	IE fees (8.5%)	**$1,567**	
Total Project Formulation Grant		**$20,000**	

Please describe below each of the PFG activities and provide justifications for their need and for the amount of funding required:

For LLA Projects only:

If requesting additional funding for LLA projects to enable devolving decision making to the local level, please specify the activities that would directly serve to enable devolving decision making to the lowest appropriate level and enable local actors to make informed decisions on how adaptation actions are defined, prioritized, designed, and implemented:

Please provide justifications for their need and for the amount of additional funding required:

Rationale for the PFG request.

*This Project Formulation Grant request is driven by the need for the Implementing Entity (IE) and Executing Entities (EEs) to secure clarity and assurance regarding the scope of technical interventions, in order to cost them accurately in the final proposal. The PFG is structured around **three thematic areas** and **four key components**, each involving different stakeholders and institutions.*

1. Proposal Development

The IE will contract either an individual consultant or a consulting firm with demonstrated experience in preparing proposals for the Adaptation Fund. The objective is to ensure that the proposal meets the required standards of quality, precision, and comprehensiveness expected by the Fund. The consultant/firm will be responsible for drafting a robust, detailed, and technically sound submission.

2. Community Consultations and Focus Group Discussions (FGDs)

To ensure strong community ownership, consultations will be conducted at both governorate and sub-municipal levels, reaching down to the smallest community units. These FGDs will serve to:

- *Validate community understanding of local needs.*
- *Secure stakeholder input on the three proposed project components.*
- *Ensure early and active involvement of the community (including vulnerable communities), including their long-term commitment.*

This process will also solidify the engagement of the North Lebanon Water Establishment (NLWE) and the targeted municipalities in the operation and maintenance of the Nature-based Solutions (NbS) that are selected and validated by local communities.

3. Technical Assessments

These assessments aim to define the technical scope, Bill of Quantities (BoQs), and detailed intervention designs related to groundwater monitoring and the rehabilitation of weather stations.

A. Groundwater Monitoring Assessment

This technical component will focus on defining the methodology and scope for establishing an aquifer monitoring network. Key activities include:

- *Detailed review of the hydrogeological characteristics of the different aquifers in Akkar.*
- *Compilation and analysis of existing secondary data on public and private wells, with pre-selection of representative wells for monitoring.*
- *Selection of strategic locations for the installation of water meters and sensors, considering hydrological characteristics.*
- *Potential pumping tests in areas lacking sufficient hydrogeological data.*
- *Technical consultations with the Ministry of Energy and Water (MoEW), NLWE, academic institutions, and specialized consulting firms.*
- *Assessment of options for secure data storage and integration.*

B. Weather Station Rehabilitation Assessment

This assessment will evaluate the current condition of selected weather stations, which play a critical role in understanding aquifer recharge dynamics. The objective is to determine the necessary repairs and upgrades required to:

- *Restore full operational functionality.*
- *Ensure accurate, real-time climate data collection.*
- *Support effective water resource management and climate adaptation planning.*

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
UN-Habitat	*Tarek Osseiran*	August, 05, 2025	Tarek Osseiran	+961 1 978399 ext 1393, +961 3 233671	tarek.osseiran @un.org