



Empowering Municipal Governance for Climate Resilience Using WEF Nexus Approach

The MENA Region Initiative as a model of the NEXUS Approach to Renewable Energy Technologies

MINARET II

Empowering Municipal Governance for Climate Resilience Using WEF Nexus Approach

Access to Finance at Municipal Level

Final Report

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1. Background

The MENA Region Initiative as a Model of the NEXUS Approach to Renewable Energy Technologies" (MINARET) focused in its first phase on applying a set of context-specific critical interlinkages between water, food, and energy used as inputs into systems for providing essential services to inhabitants. These natural resources were intricately linked and integrated to create the NEXUS model, which was locally and regionally applied at the municipal level in (Jordan, Lebanon, and Tunisia) to determine value and future needs. MINARET was also successful in understanding municipalities' developmental and consumer roles, core mandates, opportunities, and challenges in order to catalyze municipalities to use NEXUS thinking to increase resource efficiency and improve livelihood.

In its phase two, MINARET aims to improve people's lives by assisting municipal governments in securing the funds and developing the skills required to deliver high-quality public services, particularly in the area of natural resource management.

Through implementing renewable energy resources, energy efficiency practices, water management strategies, and food security technologies, the initiative aims to increase the resilience of the associated municipalities to climate change.

In addition, the project seeks to strengthen the institutional capacities of pertinent governmental authorities involved in the project through the promotion of policy dialogue, the implementation of capacity-building programs, and the provision of inter-municipal regional cooperation to enhance good governance. The NEXUS Model was created by project stakeholders and partners using a participatory method, and it was used to construct a number of demonstration projects that were intended to address the needs of the municipalities and guarantee an enhanced status for sustainable livelihoods.

2. Objective and Scope of the Assignment

The main objective of this assignment is to equip the participating municipalities with the knowledge, tools, and skills necessary to identify, develop and sustain sustainable initiatives, which will ultimately improve the services provided by municipalities to their residents and increase community resilience to the effects of climate change.

This assignment also aimed to help municipalities identify the key regulatory barriers that impede access to local and/or international financial resources, approach potential investors, and form partnerships with those who are interested in implementing WEF nexus projects.

The assignment also aimed to build capabilities at each municipality to enable profitable engagements with the private sector, and hold networking events to maximize the potential benefit for each municipality.

To achieve these objectives, the consultant worked with five selected municipalities in Jordan, Lebanon, and Tunisia in close collaboration with the MINARET project Management team. These municipalities are:

- Manouba Municipality- Tunis
- Raoued Municipality – Tunis
- Greater Ajloun Municipality -Jordan
- Greater Ma'an municipality – Jordan
- Semqanieh Municipality - Lebanon

3. Methodology used and Main Steps

In accordance with the assignment TOR and the offer submitted to RSS/NERC, the consultant worked with the involved municipalities using the methodology outlined below, in close collaboration with the MINARET management team:

a) Hold meetings with MINARET Team

Several meetings were held with the MINARET management team to facilitate and support the consultant mission in approaching targeted municipalities in order to effectively deliver the required tasks.

b) Review of relevant available documents and assessments

The consultant reviewed relevant reports delivered during phase 1 of the MINARET project to clearly identify legal constraints, particularly regarding empowerment at the municipal level when it comes to investments. Furthermore, the consultant has conducted necessary desktop research on the available regulatory framework for each country to determine whether any updates to existing laws/bylaws related to municipal sustainable investment have been made.

c) Identification available investment opportunities

The consultant has worked with municipalities in the three countries on issues related to project identification, project development, operation, and commissioning in close collaboration with the MINARET Team. This has been accomplished through training workshops held in each country with the goal of identifying and prioritizing investment opportunities related to energy and climate change projects for municipal staff, with a particular emphasis on the water, energy, and food nexus.

d) Approaching interested investors

The consultant held in-depth discussions with municipal mayors and staff about potential investors and financing resources for their potential projects. It was clearly agreed that preparing a clear and bankable project proposals is the most appealing way to attract investors/funds.

e) Networking actions

The consultant has effectively participated in the regional event, which was held in Beirut/Lebanon on February 24, 2023, under the patronage of the Lebanon Minister of Environment. The consultant presented the results of the above activities and lessons learned to the participants from the three countries, including representatives from the five targeted municipalities and active participation from donors, local organizations, and international agencies.

4. Assessment of Investment Environment

The consultant reviewed relevant reports delivered during phase 1 of the MINARET project to clearly identify legal constraints, particularly regarding empowerment at the municipal level when it comes to investments. Furthermore, the consultant has conducted necessary desktop research on the available regulatory framework for each country to determine whether any updates to existing laws/bylaws related to municipal sustainable investment have been made.

It was clearly found that almost all municipalities face the same barriers to attracting investments. These barriers can be summarized as follows:

- a) Lack of capacities and specific skills, such as a shortage of qualified human resources capable of identifying and designing investment projects, assessing project financing schemes, and developing technical capacities in energy efficiency, renewable energy, and water technologies. Lack of WEF nexus knowledge and understanding of how these three pillars are interlinked.
- b) Institutional and regulatory barriers, which include heavy regulation and long procedures regarding public procurement process, difficulties to set up PPP projects
- c) Lack of citizens awareness; Interest of citizens focusing on conventional municipality services (lighting, road and, sanitation, waste collect, etc.).
- d) Climate investments are not usually top priority for municipalities
- e) Access to finance; Most municipalities lack clear regulations that allow them to approach financing resources, such as loans or grants for some municipalities. The following are the main limitations:
 - Municipalities usually bind by regulation to a sole public financial institution, regarding loans
 - Lack of creditworthiness of the major part of municipalities, hindering their access to loan for climate projects.
 - Limited financial capacity of municipalities to finance projects on their own cashflow.
 - Lack of capacity and skills to mobilize grants from donors under green financing
 - Difficulties to draw private investments as leverage (regulation, lack of experiences of partnership with private sector, etc.).

After reviewing current municipal/local government laws and regulations in Jordan, it was found that the government of Jordan has issued a new law called “Local Administration Law No. 23/2021”. By this Law, the government has canceled the previous municipal law and the decentralization law. This law allows municipalities to get loans from local and international banks to finance and implement their projects. The law has also allowed the municipalities to establish partnerships with investors and private sector as well.

The situation in Tunisia is almost similar to the Jordan case but still there some gaps in other regulations (STEG) that don’t allow municipalities to get benefit from renewable energy installations, as these laws prevent municipalities to install renewable energy projects away from their facilities and feed them with clean power. The Tunisian laws allow municipalities to enter PPP projects and potentially establish an investment fund.

In case of Lebanon, the Lebanese laws prevent municipalities from using any commercial financing instruments including investment funds. Also, municipalities are not allowed to have commercial bank accounts or invest in conventional financial products and partnerships with the private sector are not covered in the Lebanese Municipal Law.

On the other hand, Municipalities in Lebanon are given significant decentralization and decision-making authority.

5. Identify Investment Opportunities

In cooperation with MINARET team, the consultant has conducted three training workshops, one in each country. The aim of these training workshops is to identify and prioritize for the municipality staff; investment opportunities related to energy and climate change projects, with particular focusing as much as possible on water energy and food nexus.

To motivate the attendees to actively contribute to attaining the workshop's goal. A participatory interactive workshop approach was used, where the most significant focus was given to discussions and working groups.

The consultant delivered three presentations dealt with several topics. The first presentation addressed sustainable development and links among the three elements or pillars of sustainable development and its relation with natural resources especially water, energy and food.



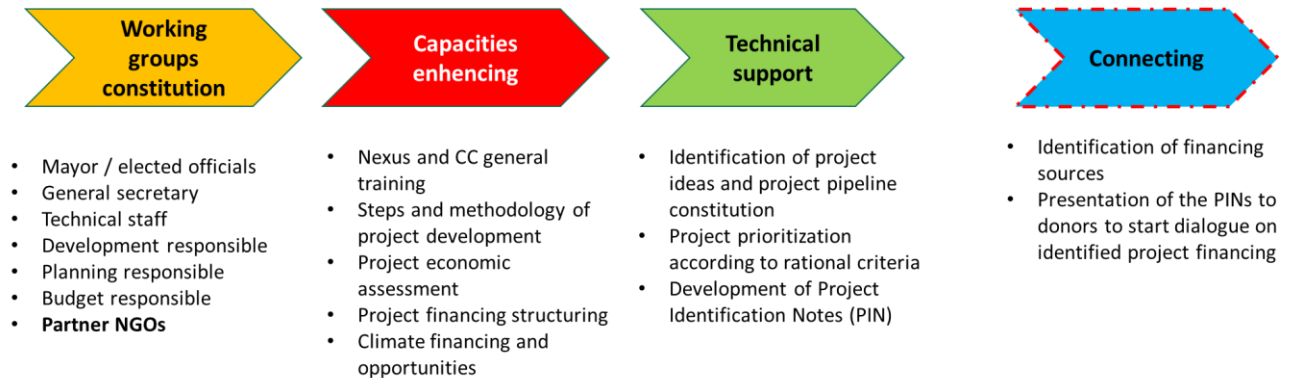
The second one focused on how to develop sustainable projects related to WEF nexus, while the third one focused on the basic concepts and methods for the economic and financial evaluation of sustainable projects. The figure below depicts the main steps that should be considered when developing sustainable projects.



Working groups were formed with the goal to foster effective and constructive interaction and to make it easier for participants to share ideas and information. These working groups were

conducted with the aim of presenting projects' ideas on renewable energy and energy efficiency, as well as projects' ideas related to the water, energy, and food nexus, and how to prepare a project concept note. Each municipality's working group members collaborated to identify a preliminary portfolio of sustainable development projects for each municipality. The topics of energy efficiency, renewable energy, transportation, including e-mobility and modifying vehicle routes, green spaces, sustainable buildings, waste management & treatment, and others were tackled¹.

The figure below summarizes how MENARET supported the targeted municipalities



The figure below depicts some photographs taken during consultation workshops held in Jordan, Lebanon, and Tunisia.



¹ More details on consultation workshops are described in Annex 1.

As a result of the workshops, the participants were able to identify several interesting projects' ideas, which they then analyzed with the assistance of the consultant. The table below shows some of the project's ideas, which will require more in-depth analysis in the form of technical and financial feasibility studies before being presented to potential donors or investors.

	Projects Ideas	Objectives	Municipality /Country	Potential sources of financing	Estimated cost	Preliminary evaluation of the projects (relevancy to WEF Nexus) Score : out of (10)
1.	Construction of a Green Building (multi-story building) including the Establishment a smart bus stop (new public transport complex).	<ul style="list-style-type: none"> Improving municipality services to the community Reduction of Carbon Emission Solve part of the traffic problem Providing Safe street crossing for families, especially school students Offering new job opportunities Waste separation and recycling Resource efficiency including water and energy. Enhancing tourism activities, especially for historical sites in the city center. 	Ajloun /Jordan	<ul style="list-style-type: none"> Cities Development Bank Grants (donors) Loans Investors 	2,575,800 (JoD)	7
2.	Integrated Environment project, which includes : <ul style="list-style-type: none"> Using electric vehicles (EV) including Garbage Compactors. Recycling of Vehicles Burned oil waste Establishing Municipality revolving/saving fund to be used for funding of future WEF nexus and climate change projects. Activate existing municipal waste separation and treatment facility to produce organic fertilizer, in addition to the possibility of selling solid separated waste. 	<ul style="list-style-type: none"> Improving municipality services to the community by obtaining some financial revenues. Reduction of Carbon Emissions by reducing electricity and fuel consumption Reducing transportation and municipal waste collection expenses Reducing waste disposal Offering new job opportunities. Increase the percentage of green areas coverage 	Ma'an /Jordan	<ul style="list-style-type: none"> Cities Development Bank Grants (donors) Loans Investors 	2,740,000 (JoD)	7
3.	Integrated Environment Market : Establishing an environmentally friendly daily municipal market that includes shops with small spaces, shipping containers and a car park equipped with photovoltaic panels to conduct all types of trade, as well as a rest area, sanitary	<ul style="list-style-type: none"> Sustainable building Job creation CO2 emission reduction Green energy Water harvesting 	Manouba /Tunis	<ul style="list-style-type: none"> Private sector under PPP approach CPSCCL Contribution of the municipality 	2,000,000 (€)	7

	facilities, and a green space with a rainwater collection tank.					
4.	A typical communal garden project for urban farming : Set up a community training platform at the GDA of Sidi Amor for the development of aquaponics adapted to the local Tunisian climate and constraints	<ul style="list-style-type: none"> Establish a local innovation network in Raoued proposing innovative solutions based on Nexus Energy – Water - Food and strengthen the conditions for more resilient communities to CC. 	Raoued /Tunis	<ul style="list-style-type: none"> GDA of Sidi Amor Municipality International Donors FAO 	500,000 (€)	7
5.	Transforming Municipality Building Area to a fully Green Area with a bio-diesel production plant”.	<ul style="list-style-type: none"> Less carbon emissions due to cleaner combustion Spreading awareness about recycling between citizens especially that bio-diesel is made of used cooking oil which can be considered as an available resource. Reducing water and soil pollution due to the fact that citizens previously used to get rid of used cooking oil either by disposing it in the sewage or in their gardens. Reducing municipality costs for cleaning blocked manholes in the sewage system. Supports families by providing acceptable heating diesel fuel prices. By- products-such as glycerol which can be used later for different purposes when treated. 	Semqanieh /Lebanon	<ul style="list-style-type: none"> Private sector International donors 	120,000 (USD)	7
6.	Hydropower Generation : Waster water treament Restoring water springs	<ul style="list-style-type: none"> The project’s golden goal is to optimize the water exploitation in order to cover the water and power supply gaps between the need and what the state and the locals provide. It will directly affect the population's well being and addressing economic challenges in the region especially for the agriculture sector 	Chouf Area /Lebanon	<ul style="list-style-type: none"> Private sector International donors 	41,000,000 (USD)	10

According to the table above, all projects are aiming to achieve a variety of goals in accordance with each country's national climate change strategies and NDCs. An initial evaluation for the presented projects has been done. The main criteria followed for this evaluation are the project’s relevancy to the WEF nexus approach.

When we apply this approach to these projects, we will discover that they are all linked to the WEF nexus in a way or another. Each project approaches WEF nexus from a different perspective, as they all dealt with water issues (water harvesting), energy production (solar energy), and planting.

When we have a closer eye at the projects' ideas and their objectives, we will find that when water is available, using hydropower technology is much more efficient, provide reliable and constant electricity, has high response to the impact of climate change as it helps regulate and store water to mitigate the effects of extreme weather conditions such as floods and droughts, enhance agriculture activities and food security, provide clean drinking water, and create more job opportunities.

To gain a clearer picture of the presented projects, it is recommended to carry out detailed technical and financial feasibility studies for these projects, particularly those with the highest response to climate change in terms of mitigation and adaptation.

7. General overview on SECAPs Projects

One of the main goals of MINARET II is to strengthen municipal capacities to plan and manage climate change adaptation and mitigation measures by developing Sustainable Energy and Climate Action Plans (SECAPS), which qualify municipalities to join the Covenant of Mayors (CoM).

As known, SECAP is intended to provide a detailed overview of a municipality's energy situation and GHG emissions while also defining quantifiable actions to reduce emissions, identify energy efficiency measures, and adopt renewable energy targets. It also suggests ways to adapt to climate change while taking into account local risks such as floods and heat waves. Another objective is to act to alleviate energy poverty. SECAP can provide municipalities several benefits, these are but not limited to:

- Define intervention points
- Easier access to grants and looking for new funding sources
- Reduce costs
- Sustainable energy use
- Cleaner, more livable neighborhoods

MINARET II has resulted in the development of five SECAPs. These SECAPs addressed GHG emissions reduction in various sectors within each municipality, such as municipal buildings and all related facilities, tertiary sector, transportation (public and private), residential sector, land use, waste and waste water, and livestock. SECAPs also addressed adaptation status, risk assessments for climate change, and adaptation actions.

Several mitigation and adaptation actions have been proposed in the SECAPs reports developed for the five municipalities to avoid 40% (around **497,881** tn CO₂ eq) of total GHG emissions by 2030 for all municipalities. These actions include but not limited to:

- Replacement of inefficient equipment with efficient ones such LED lamps, efficient air conditioners and other efficient home appliances.
- Installation of Solar PV systems and solar water heaters system.
- Several actions to reduce transportation sector's emissions such as replacement of old fleet

with new efficient ones, using e-mobility, change rout directions, cycling, carpooling.

- Biofuel production
- Hydropower production
- Water management and waste water reuse.
- Green areas and planting trees
- Adaptation actions such as developing local adaptation strategy & action plan, developing an early warning system to alert citizens in the case of extreme weather events, promote water-harvesting techniques, improving building efficiency for adapting to increased heat in urban centers.

8. Attracting Potential Investors

Based on the review of available documents, and discussions with Municipalities' Mayors and concerned staff, municipalities in the three countries have access to different potential investors and donors. Identifying these investors and pitching project ideas to them necessitates localized research and the preparation of appropriate investment pitches. The following types of investors have been identified.

Jordan

a) The Cities and Villages Development Bank (CVDB) aims to achieve comprehensive local development in the municipalities, support their projects and help them carry out their duties through the following:

- Providing banking services and credit facilities, including interest free services and facilities, to municipalities.
- Providing banking services and credit facilities for partnership projects between municipalities and the private sector.
- Managing and controlling grants and loans and verifying their use in the expenditures assigned to municipalities.

The bank signed a 45 million Euro facility with the European Investment Bank to be used for energy efficiency and renewable energy projects. The bank is expected to become an anchor investor in several municipal projects in Jordan.

b) Innovative Startups and SMEs Fund (“ISSF”), established in response to the first recommendation of the Jordanian Economic Policy Council, The Innovative Startups and SMEs Fund (“ISSF”) is a private sector managed fund making investments in innovative startups and early stage SMEs. The ISSF promotes entrepreneurship and contribute to job creation in Jordan by increasing private, early stage equity finance for innovative small and

medium enterprises (SMEs). The ISSF aims at investing in Jordanian companies, providing investment support to partner investors, as well as improve the quality and variety of services provided by intermediaries and networks dedicated to the creation of deal-flow in Jordan's ecosystem.

c) Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) - It is established at the Ministry of Energy and Mineral Resources (MEMR) to provide necessary funding for EE and RE measures at end-user's level. It supports any program and financial mechanism allowing RE and EE users to access financing from banks, local and international financial institutions.

d) International Donors and Banks

Tunis

a) Tunisian Communal Loan Fund (CPSCL) – the Fund main objectives are:

- Encourage local governments to invest by mobilizing the resources needed to finance the projects included in their investment plans.
- Increase the volume of the Common Fund for Local Authorities (FCCL), improve tax collection rates, and streamline operating expenses to improve municipal resources.
- Improve local government management potential by establishing training and retraining programs for municipal and regional executives and introducing modern management tools such as data processing and cost accounting.
- Provide Human and Material Resources Required for the Local Authorities Loans and Support Fund to fulfill its role of financing local authority investment projects.

b) International Donors and Banks

c) Green Climate Fund – Ministry of Environment / Tunisia

- Applicable to large projects, because of high transaction costs
- Need to demonstrate the investment criteria of the fund (paradigm shift, impact potential, Sustainable development potential, efficiency, etc.)
- The contact to the GCF has to through the country GCF Focal Point
- Project needed to be approved by the National Designated Authority
- Need to go through an Accredited Entity

Lebanon

Currently, Lebanon is in the midst of a deep and unprecedented economic, financial, and social crisis that necessitates the smooth operation of all of its institutions. Following years of massive

economic contraction, in combination with a 95% devaluation of its currency, the Lebanese middle class has practically vanished. In March 2020, the World Bank devalued Lebanon to a lower-middle income country.

a) International Donors and Banks

b) Green Climate Fund – Ministry of Environment/Lebanon

- Applicable to large projects, because of high transaction costs
- Need to demonstrate the investment criteria of the fund (paradigm shift, impact potential, Sustainable development potential, efficiency, etc.)
- The contact to the GCF has to through the country GCF Focal Point
- Project needed to be approved by the National Designated Authority
- Need to go through an Accredited Entity

9. Networking and Events

The consultant has effectively participated in the project's final event held in Beirut/Lebanon. A comprehensive presentation was delivered to the event's audience highlighted the overall accomplished tasks of Access to Finance assignment. The main points addressed in the presentation are:

- Importance of Water- Energy - Food nexus approach in addressing climate change issues.
- Role of municipalities in promoting climate transition.
- Barriers to climate investment in the municipalities.
- How MENARET supported the targeted municipalities?
- Financing opportunities and sources
- Climate / green Financing
- Learned lessons and recommendations

10. Conclusion and Recommendations

Based on previous discussions and the outcomes of policy dialog events, as well as available relevant material, the following recommendations should be considered to empower municipalities and enhance their role in implementing WEF nexus and climate change projects:

- The role of municipalities is essential in the implementation of public climate policies (mitigation and adaptation).
- They should show the way and give the example to citizens and local stockholders
- To be efficient, the municipalities should cooperate with strategic local stockholders to identify and develop smart and relevant projects: NOGs, local governmental administration, etc.

- Municipalities can play a crucial role in raising awareness, attracting investment, engaging communities and producing knowledge among their communities.
- There is a need to develop policies that will enable and empower municipalities to better access finance and implement WEF projects.
- Leverage the private sector's interest in investing in the energy sector to help finance nexus RE projects with low-interest loans, especially in the agricultural sector.
- Small municipalities are too small to rise interesting funding from climate funds: need to develop common also larger projects.
- Municipalities need capacity building and initial support to develop climate / nexus projects: the results of MENARET show it
- The countries / donors should build on the results of MENARET to go further.