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LEBANON'S NATIONAL ADAPTATION PLAN

STRATEGY & ROADMAP

Advancing climate resilience in Lebanon

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FOREWORD

It is with great honor and responsibility that I present Lebanon's First National Adaptation Plan, a landmark achievement in Lebanon's climate journey. This Plan embodies the strong and determined commitment of the Lebanese Government to addressing climate change as a global challenge with national implications, and to strengthening resilience for present and future generations.

Lebanon stands at a critical juncture, facing the compounded impacts of climate change, economic fragility, and the aftermath of conflict. These pressures continue to shape our national reality, undermining livelihoods, straining ecosystems, and deepening social and economic vulnerabilities. In this context, advancing climate resilience is not a choice but a necessity for recovery and stability.

It is against this backdrop that Lebanon's National Adaptation Plan: Strategy and Roadmap has been developed. The plan sets the course for a more resilient future. It provides a long-term framework to manage climate risks, protect vital resources, and strengthen institutional capacities across all sectors. Rooted in national priorities and informed by the country's national sectoral strategies and consultations, the roadmap identifies clear adaptation actions to safeguard water, food, health, biodiversity, and infrastructure, ensuring that no community is left behind.

This effort reflects an unprecedented whole-of-government approach. It is not the result of one ministry, one team, or one year of work, but the culmination of nearly two decades of accumulated knowledge and national commitment to climate resilience. It reaffirms Lebanon's dedication to its international obligations under the Paris Agreement and the Sustainable Development Goals while also recognizing that adaptation is, above all, a national duty—essential to securing a safe, healthy, and prosperous future for our people.

By translating evidence into policy and policy into action, the NAP moves Lebanon from intention to implementation. It positions adaptation as a driver of stability: strengthening livelihoods, reducing risks, attracting green investment, and supporting a just and lasting recovery. As part of our institutional strengthening, the Ministry of Environment is also advancing toward an updated organizational structure that embeds climate considerations at its core.

I extend my appreciation to the United Nations Development Programme for its technical support and to the Green Climate Fund for its financial contribution. I also thank all national partners and experts whose engagement has ensured that this document remains nationally led and inclusive in vision and purpose.

Lebanon's National Adaptation Plan is a call to action. It reminds us that building resilience begins with collective resolve, and that through cooperation, we can transform vulnerability into strength and recovery into renewal.

Tamara Elzein, PhD

Minister of Environment

FOREWORD

Climate change remains one of the defining challenges of our time. For Lebanon, the urgency of adaptation is amplified by the combined effects of a prolonged economic crisis, environmental degradation, and the lingering impacts of conflict. The United Nations Development Programme (UNDP) remains steadfast in its effort to advocate for urgent, inclusive, and sustained climate action, and to strengthen global and national efforts under the Paris Agreement to ensure a safer and more climate-resilient future for all.

As a longstanding partner in Lebanon's climate agenda, UNDP is proud to support the Government of Lebanon in the development of its National Adaptation Plan: Strategy and Roadmap which provides a comprehensive framework to enhance national resilience and guide adaptation efforts across priority sectors, water, agriculture, forestry, public health, biodiversity, urban infrastructure, disaster risk reduction, and tourism, ensuring that climate action is firmly embedded in Lebanon's recovery and development agenda. By translating scientific evidence into policy and action, the strategy supports the government's broader vision to integrate adaptation into national planning, governance, and finance, even under challenging fiscal and institutional conditions.

A key strength of this roadmap lies in its inclusive and participatory approach. Developed under the leadership of the Ministry of Environment, with the support of UNDP, and through close collaboration with line ministries, civil society, academia, and the private sector, it reflects Lebanon's commitment to collective action and national ownership. It also aligns with the country's international commitments under the Paris Agreement and the Sustainable Development Goals, reinforcing that climate resilience is essential to sustainable development.

We extend our deep appreciation to the Green Climate Fund (GCF) for its invaluable support in enabling the formulation of this Plan. The GCF's continued partnership remains essential in empowering countries like Lebanon to advance adaptation planning, strengthen institutional readiness, and mobilize climate finance for long-term resilience.

UNDP reaffirms its commitment to continue working alongside the Government of Lebanon and all partners to turn this Plan into action, ensuring that adaptation becomes a driver of resilience, stability, and long-term prosperity for all.

Blerta Aliko

UNDP Resident Representative

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List of Acronyms

AF	Adaptation Fund
CAS	Central Administration of Statistics
CBO	Community-Based Organization
CCA	Climate Change Adaptation
CDD	Consecutive Dry Days
CDR	Council for Development and Reconstruction
CNRS	National Council for Scientific Research
CSO	Civil Society Organization
CoP	Conference of Parties
COPD	Chronic Obstructive Pulmonary Disease
DGUP	Directorate General of Urban Planning
DMO	Destination Marketing Organizations
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EEZ	Exclusive Economic Zone
EIB	European Investment Bank
ESU	Epidemiological Surveillance Unit
ETF	Enhanced Transparency Framework
GBF	Global Biodiversity Framework
GCF	Green Climate Fund
GEF	Global Environment Facility
GGA	Global Goal on Adaptation
GIS	Geographic Information System
GPP	Green Public Procurement
IFI	International Financial Institution
IKI	Germany's International Climate Initiative
IMF	International Monetary Fund.
IPCC	Intergovernmental Panel on Climate Change
IsDB	Islamic Development Bank
LACCFs	Local Authority Climate Change Forums
LARI	Lebanese Agriculture Research Institute
LEV	Lebanon's Economic Vision
LGIF	Lebanon Green Investment Facility
LT-LEDS	Long Term - Low Emission Development Strategy
MAP	Mediterranean Action Plan
M&E	Monitoring and Evaluation
MEA	Multilateral Environmental Agreements
METT	Management Effectiveness Tracking Tool

MDBs	Multilateral Development Banks
MISCAL	Management Information System for Climate Action in Lebanon
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoF	Ministry of Finance
MoIM	Ministry of Interior and Municipalities
MoPH	Ministry of Public Health
MoPWT	Ministry of Public Works and Transport
MoT	Ministry of Tourism
MRV	Measurement, Reporting, and Verification
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy and Action Plan
NbS	Nature-based Solutions
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NPMPLT	National Physical Master Plan of the Lebanese Territory
NWSS	National Water Sector Strategy
PA	Protected Area
PPP	Public-Private Partnership
RE	Renewable Energy
RSF	Resilience and Sustainability Facility
RST	Resilience and Sustainability Trust
SDGs	Sustainable Development Goals
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TWG	Technical Working Group
UN	United Nations
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UfM	Union for the Mediterranean
WBGT	Wet-Bulb Globe Temperature
WMO	World Meteorological Organization

Executive Summary

Lebanon is increasingly vulnerable to the adverse impacts of climate change, including rising temperatures, declining precipitation, prolonged droughts, and more frequent extreme weather events. These climate risks threaten water security, food systems, public health, biodiversity, tourism, urban infrastructure, and economic development. Lebanon's complex topography and socio-economic challenges further compound these vulnerabilities, requiring a robust and forward-looking national strategy to enhance climate resilience.

The National Adaptation Plan (NAP) provides a strategic framework for Lebanon's response to climate change. It defines the country's vision for a climate-resilient future and outlines a coherent set of objectives, outcomes, and interventions to reduce climate risks and strengthen adaptive capacities across priority sectors and enabling systems.

The NAP aligns with Lebanon's international commitments under the Paris Agreement, the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction, the Kunming-Montreal Global Biodiversity Framework (GBF), and other global frameworks. It builds on a strong foundation of national strategies, including the National Water Sector Strategy (2024–2035), the National Agriculture Strategy (2020–2025), the Ministry of Agriculture Strategic Directions (2025–2026), the National Strategy for Forest Fire Management (2024), the National Biodiversity Strategy and Action Plan (2025–2030), the Lebanon National Health Strategy: Vision 2030, the Ministry of Tourism Vision 2035, and Lebanon's Economic Vision. At the same time, the NAP recognizes that Lebanon's compounded crises, including the economic collapse, governance constraints, and refugee pressures, shape both the feasibility and the urgency of adaptation action. The NAP provides an integrated framework that combines strategic direction with a practical roadmap for financing, implementing, and monitoring adaptation actions over the 2025–2035 period.

Adaptation Goal and Vision

The NAP envisions a climate-resilient Lebanon where ecosystems, communities, and economic sectors thrive through sustainable and adaptive development. The overarching goal is to reduce climate vulnerabilities, strengthen adaptive capacities, and promote risk-informed development that protects lives, livelihoods, and ecosystems.

Strategic Objectives and Outcomes

The NAP sets out twelve strategic objectives, categorized into sector-specific and enabling priorities. These objectives are accompanied by strategic outcomes that represent the expected results of implementing the NAP:

- Sectoral objectives address resilience in agriculture, water resources, biodiversity, forestry, urban infrastructure, tourism, public health, and disaster risk reduction.
- Enabling objectives focus on strengthening governance and policy, finance and investment, data and monitoring, and stakeholder engagement.

Priority Adaptation Interventions

The NAP identifies a comprehensive set of prioritized adaptation measures across all sectors and enablers. These interventions were developed through a participatory process and are designed to address key climate risks, promote ecosystem-based and nature-based solutions, enhance institutional capacity, and ensure inclusive and equitable adaptation efforts. An indicative Implementation Plan, detailing activities is provided as an annex to the NAP.

Financing Strategy

A multi-pillar financing strategy is proposed to mobilize and sustain adaptation investments. It includes blended finance, public-private partnerships, access to international climate finance, innovative financial instruments (e.g., resilience bonds, insurance schemes), and strengthened budgetary integration. The strategy emphasizes the importance of removing financial and regulatory barriers and improving the enabling environment for private sector engagement.

Implementation and Institutional Coordination

The NAP establishes a coordination framework for climate adaptation, to be implemented under the leadership of the Ministry of Environment in collaboration with national ministries, sectoral taskforces, and local authorities. The NAP outlines a multi-level coordination system for effective adaptation governance, comprising:

- The Nationally Determined Contributions (NDC) Committee as the national oversight body.
- The Adaptation Technical Working Group (TWG) for technical coordination.
- Sectoral Adaptation Taskforces for sector-specific implementation.
- Local Authority Climate Change Forums (LACCFs) for decentralized adaptation planning and community engagement.

A detailed Implementation Plan **(Annex II)** accompanies the NAP to guide the prioritization and sequencing of adaptation actions across key sectors. In order to provide a clear starting point for the short term period (2026–2028), the NAP identifies a first set of priority actions, including rapid measures such as: establishing foundational climate-risk and suitability assessments across agriculture, water, and biodiversity and health; operationalizing key digital systems for early warning and data integration; and piloting adaptation solutions in high-risk areas to demonstrate feasibility and unlock larger-scale investments. Together with the Monitoring and Evaluation Framework, the NAP offers a comprehensive pathway to climate-resilient development supported by institutional strengthening, financing mobilization, and inclusive stakeholder engagement.

Monitoring and Evaluation

A results-based Monitoring and Evaluation (M&E) framework is embedded in the NAP to track progress, assess outcomes, and inform adaptive management. The framework includes key indicators aligned with the strategic outcomes, structured reporting mechanisms, and a participatory, gender-responsive approach to ensure transparency, accountability, and continuous learning.

Research, Data, Innovation and Knowledge Management

The NAP emphasizes the critical role of research, innovation, and knowledge management in adaptation planning and implementation. It outlines priorities for climate science development, improved data systems, applied research, digital solutions, and innovation partnerships. It also promotes inclusive learning platforms, communities of practice, and cooperation to enhance technical capacity and knowledge exchange.

Legal and Policy Framework

The roadmap identifies existing policy foundations while highlighting key legal and institutional gaps affecting adaptation implementation. Recommended reforms include clarifying mandates, improving policy coherence, strengthening enforcement mechanisms, and institutionalizing adaptation budgeting and finance frameworks. A more enabling legal environment will be essential for mainstreaming adaptation across sectors and governance levels.

International and Regional Cooperation

Recognizing the importance of global and regional partnerships, the NAP promotes enhanced cooperation with multilateral organizations, international donors, research networks, capacity-building institutions and initiatives aimed at strengthening national and local technical, institutional, and human capacities, as well as regional adaptation initiatives. Special emphasis is placed on cross-border collaboration on water resource management, disaster risk reduction, biodiversity conservation, infrastructure resilience, health, food security, tourism, and climate finance.

Costing and Budget Needs

No independent costing exercise was conducted under the NAP. Instead, the roadmap identifies and structures the activities required to advance adaptation priorities. The costing of adaptation interventions will be undertaken under the NDC Implementation Plan, which provides the financial estimates for each activity. This integrated approach ensures coherence between strategic NDC priorities and the NAP roadmap, avoids duplication of financial assessments, and consolidates Lebanon's climate finance architecture under a unified framework.

1. Introduction

Lebanon is among the most climate-vulnerable countries in the Mediterranean region, facing increasing temperatures, erratic rainfall, and prolonged droughts. These changes exacerbate water scarcity, food insecurity, and disaster risks, impacting public health, ecosystems, and key economic sectors such as agriculture, tourism, and urban infrastructure.

Located on the eastern Mediterranean coast, Lebanon's varied topography, ranging from coastal plains to high mountain ranges and fertile inland valleys, contributes to Geographically differentiated vulnerabilities. Coastal areas are highly exposed to coastal erosion, and extreme weather events, while mountainous regions face reduced snowpack, changing precipitation patterns, and prolonged dry spells, threatening water availability and ecosystem stability. The Beqaa Valley, Lebanon's agricultural heartland, is increasingly affected by droughts and temperature extremes, posing risks to food security, rural livelihoods, and water resources. Given these geographic and climatic factors, Lebanon's National Adaptation Plan: Strategy and Roadmap (NAP) must adopt a differentiated approach, ensuring tailored interventions for diverse landscapes and communities.

To address these risks and enhance climate resilience, Lebanon's National Adaptation Plan: Strategy and Roadmap (NAP) has been developed as a comprehensive framework for mainstreaming climate adaptation across sectors, institutions, and governance levels. The NAP defines Lebanon's Climate Change Adaptation (CCA) Strategy goals, priorities, and interventions for adaptation, while also setting out a roadmap for implementation to translate these priorities into concrete actions.

As such, the NAP is in line with global adaptation frameworks, such as:

- The Paris Agreement, under which Lebanon is committed to enhancing climate resilience by developing and implementing its NAP. This aligns with the agreement's broader goals of strengthening adaptive capacity, reducing vulnerability, and contributing to the Global Goal on Adaptation (GGA).
- The United Nations Sustainable Development Goals (SDGs), particularly SDG 13 (Climate Action), which calls for urgent measures to combat climate, as well as SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), SDG 14 (Life Below Water), SDG 15 (Life on Land), and SDG 11 (Sustainable Cities and Communities).
- The Sendai Framework for Disaster Risk Reduction (2015 – 2030), which emphasizes risk-informed development and resilience-building.
- The National Biodiversity Strategy and Action Plan (NBSAP), UN Convention to Combat Desertification (UNCCD), and UN Convention on Biological Diversity (UNCBD), which highlight ecosystem-based adaptation approaches and the integration of biodiversity into climate resilience planning.

Lebanon's Ministry of Environment (MoE) leads national climate change efforts, overseeing the implementation of adaptation and mitigation strategies in coordination with key ministries, municipalities, and stakeholders. MoE plays a central role in aligning Lebanon's climate action with its international commitments, such as the NAP and NDCs.

1.1 Purpose and Strategic Focus of the NAP

The NAP provides a national framework for climate adaptation by:

- Integrating adaptation into national policies and sectoral strategies to ensure climate resilience is embedded across development planning and decision-making.
- Strengthening institutional coordination mechanisms at both national and local levels to facilitate effective governance and implementation.
- Enhancing climate finance mobilization by facilitating access to public, private, and international funding sources.
- Promoting risk-informed, inclusive adaptation planning that prioritizes women and vulnerable populations, and fosters local engagement.

1.2 Approach to Developing the NAP

The development of Lebanon's NAP followed a structured, participatory process to ensure alignment with national priorities, sectoral vulnerabilities, and international commitments.

1.2.1 Identifying Priorities

The NAP prioritizes adaptation efforts based on Lebanon's climate risks, socio-economic vulnerabilities, and implementability of action. The process included:

- Risk and vulnerability assessments to determine sectoral and cross-cutting climate impacts.
- Stakeholder engagement to ensure national and local perspectives were integrated.
- Policy and institutional analysis to align adaptation actions with existing strategies and commitments.

Priority Sectors and Enablers

Eight **priority sectors** were identified based on the adaptation priorities outlined in Lebanon's 2021 updated Nationally Determined Contribution (NDC) and its new Nationally Determined Contribution 3.0 (NDC 3.0), reflecting the country's most climate-sensitive areas:

- *Agriculture, Water Resources, Biodiversity, Forestry, Urban Infrastructure, Tourism, Public Health, and Disaster Risk Reduction.*

In addition to sectoral adaptation, four types of **enabling factors** were identified based on stakeholder-defined challenges and a strategic assessment of Lebanon's adaptation landscape. These include governance, finance, data, and stakeholder engagement, which are essential for effective and sustained implementation of adaptation efforts. The enabling priorities were informed by findings from desk study, stakeholder consultations and a national SWOT analysis, ensuring that the NAP addresses both systemic barriers and opportunities for strengthening adaptation readiness:

- *Governance and Policy, Finance and Investment, Data and Monitoring, and Stakeholder Engagement.*

1.2.2 Structuring Lebanon's Climate Change Adaptation (CCA) Strategy:

The NAP follows a logical, results-based structure that begins with Lebanon's climate risk profile and rationale for adaptation. This sets the foundation for the country's CCA vision, goal, and strategic objectives, which are then translated into sectoral and enabling outcomes, supported by prioritized interventions and cross-cutting enablers under the NAP roadmap. The institutional framework, financing strategy, and monitoring system ensure implementation and tracking. Research, innovation, and international cooperation reinforce the evidence-based approach and ensure sustainability.

1.2.2.1 Structure of the National Adaptation Plan

Section	Purpose and Content	Contribution to Strategic Coherence
Climate Risks and Vulnerabilities in Lebanon	Presents Lebanon's climate risk profile, sectoral vulnerabilities, and socioeconomic challenges. Includes a SWOT analysis and rationale for the development of the NAP.	Provides the science-based evidence and justification for priority setting across the NAP.
Climate Change Adaptation Strategy	Articulates Lebanon's strategy, including its vision, guiding principles, goal, strategic objectives, outcomes, and sector- and enabler-specific interventions.	Forms the backbone of the NAP, linking risk analysis to actionable priorities.
NAP Roadmap	Outlines the overarching structure of the National Adaptation Plan, encompassing the key components and elements presented below, including strategic, institutional, financial, and technical dimensions.	Ensures overall coherence, integration, and alignment across the subsequent components outlined in the NAP for effective and sustainable implementation.
Financing Strategy	Outlines financing pillars including public-private partnerships, access to climate finance, and innovative instruments.	Anchors financial sustainability of adaptation implementation and links directly to enabler-specific objectives and strategic outcomes.
Legal and Policy Framework	Reviews existing policies, identifies regulatory gaps, and outlines reform priorities.	Provides enabling conditions for mainstreaming adaptation in national and sectoral policies.
Institutional Frameworks for Adaptation Governance	Details the multi-level coordination architecture (MoE, NDC Committee, TWG, sectoral taskforces, LACCFs).	Clarifies roles and responsibilities across governance levels, ensuring vertical and horizontal coherence.
Monitoring and Evaluation	Leverages on outcome-level indicators developed under the National Enhanced Transparency Framework (ETF) and MISCAL[1], institutional responsibilities, and feedback mechanisms.	Ensures accountability and adaptive management across all objectives and interventions.
Research, Data, Innovation, and Knowledge Management	Describes systems for generating, managing, and applying climate data and knowledge. Promotes innovation and continuous learning.	Supports evidence-based implementation and links strongly to M&E, capacity-building, and strategic outcomes.
International Cooperation and Partnerships	Outlines Lebanon's approach to global and regional collaboration, cross-border initiatives, and leveraging technical and financial support.	Reinforces Lebanon's alignment with international commitments and enhances adaptive capacity through partnerships.

1 CBIT: Capacity building initiative for transparency project implemented by UNDP; MISCAL: Lebanon's national platform for Monitoring, Information Sharing, and Climate Action Learning, used for reporting and tracking progress on climate change commitments

1.2.3 Selecting Adaptation Measures

The adaptation measures included in the roadmap were identified through a structured process to ensure they are effective, feasible, and aligned with Lebanon's climate adaptation priorities. The selection process involved:

- **Reviewing existing strategies**: Adaptation-related elements were first identified from national and sectoral policies, including Lebanon's 2015 Intended Nationally Determined Contributions (INDC), and its Nationally Determined Contributions.
- **Aligning with international commitments**: Measures were assessed for coherence with the Paris Agreement, the Sendai Framework, the Sustainable Development Goals (SDGs), the Convention on Biological Diversity (UNCBD) including the Kunming-Montreal Global Biodiversity Framework (GBF), and the United Nations Convention to Combat Desertification (UNCCD).
- **Applying multi-criteria prioritization**: Actions were evaluated based on effectiveness, feasibility, and social impact, ensuring that high-priority measures receive focused implementation efforts.
- **Stakeholder validation**: The proposed measures were reviewed and refined through consultations with national institutions, sectoral experts, and key stakeholders to ensure they are context-specific, actionable, and address real implementation needs.

2. Climate Risks and Vulnerabilities in Lebanon

2.1 Climate Risk Profile

Lebanon is experiencing accelerated climate change impacts, with rising temperatures, declining precipitation, prolonged droughts, and increasing extreme weather events posing major risks across multiple sectors. Annual mean temperatures have already increased by 1.6°C between 1950 and 2020, with projections showing further increases of 1.8°C to 2.1°C by 2060 under high-emission scenarios (SSP5-8.5: fossil-fuelled development scenario). Heatwaves will intensify, with up to 12–13 additional hot days above 35°C annually by 2041–2060, disproportionately impacting urban areas and vulnerable populations (MoE/UNDP/GEF, 2024).

Declining precipitation, projected to decrease on average by 1.5 to 7.1 mm per month by mid-century under high-emission scenario, with seasonal and regional variations, will exacerbate water shortages for agriculture and domestic supply, with limited impacts on small-scale hydropower production. The country's wettest season (winter) may experience a 3–14% reduction in precipitation, leading to lower snow accumulation, earlier snowmelt, and reduced groundwater recharge, intensifying drought risks. Meanwhile, Consecutive Dry Days (CDD) are projected to increase up to six days annually, particularly in southern and inland Lebanon, further stressing water resources. Sea level rise of 30–80 cm by 2100 will also threaten coastal infrastructure, freshwater aquifers, and economic activities in major cities such as Beirut, Tripoli, and Saida.

Lebanon has a long history of extreme weather events, including recurrent wildfires, flash floods, and heatwaves, which have intensified over recent decades. Flood incidents have significantly increased since 2015, while wildfire risks are expected to double by the end of the century, particularly in Chouf, Akkar, and Mount Lebanon. Without urgent adaptation measures, Lebanon faces deepening economic and social vulnerabilities, potential displacement pressures, and increasing challenges in managing climate-induced risks across sectors.

2.2 Socioeconomic and Governance Vulnerabilities

Lebanon's climate vulnerabilities are compounded by socio-economic instability, limiting the country's capacity to adapt effectively. The ongoing economic crisis has left over 80% of the population multidimensionally poor, limiting investment in climate resilience (e.g., water storage, resilient housing, renewable energy). Hyperinflation and currency devaluation have further restricted access to adaptation solutions, widening inequalities in climate resilience.

Key sectors, including agriculture and tourism, face rising risks from extreme weather, resource scarcity, and infrastructure damage. As businesses and households struggle with increasing adaptation costs, the risk of job loss, economic displacement, and widening income inequality is growing. Lebanon's financial and insurance sectors remain ill-prepared for climate-related shocks, with limited climate risk insurance available.

Concurrently, climate change is exacerbating displacement. Conflict in Lebanon has resulted in the displacement of a total of 986,192 people who have since returned as of October 2025, noting that these returns are not considered permanent and represent a snapshot in time, with 64,417 still remaining displaced as of October 2025, despite the ceasefire reached in November 2024. Lebanon also remains a major host for Syrian refugees, with 1.5 million estimated to have been residing in the country as of

2024 (354,060 are estimated to have returned as of end 2024 following the conflict and collapse of the Assad regime), further straining public services and infrastructure (IOM, 2024; UNHCR, 2024).

From an institutional perspective, Lebanon's ranking in the **2024 ND-GAIN Country Index** highlights significant governance and financial constraints in adaptation planning. While Lebanon's policy frameworks are aligned with global climate commitments, adaptation remains sector-specific and donor-driven, with limited national financing. Local governments lack financial and technical capacity, and disaster preparedness is weakened by the absence of a multi-hazard early warning system.

Box 1: Summary of Stakeholder Perspectives on Climate Adaptation Needs and Priorities in Lebanon

A stakeholder gap analysis was conducted as part of the development of Lebanon's National Adaptation Plan to assess current challenges, opportunities, and priorities for climate adaptation. The analysis captured insights from respondents representing government institutions, United Nations agencies, NGOs, research institutions, and academia.

Findings from this process provided valuable perspectives on key enablers and constraints affecting adaptation planning and implementation across sectors. Stakeholders consistently emphasized the importance of adequate funding, technical capacity, community engagement, and institutional coordination as core determinants of effective adaptation. However, several persistent barriers were also highlighted, including insufficient financing, unclear policy guidance, weak institutional frameworks, and infrastructure limitations.

While some progress has been made in integrating adaptation into national and sectoral policies, respondents generally perceived the level of integration to be moderate or limited. Water, agriculture, biodiversity and forestry, and disaster risk reduction were identified as the sectors where adaptation is most successfully mainstreamed to date.

Stakeholders also proposed a range of policy and operational improvements, including stronger enforcement mechanisms, better coordination across institutions, and targeted capacity-building. Enhancing access to climate finance, promoting innovation, and leveraging existing partnerships were seen as key opportunities to accelerate adaptation efforts.

In addition to qualitative insights, stakeholders also rated several aspects of adaptation implementation on a scale of 1 (very poor) to 5 (very good). Results (see **Fig. 1**) indicate that the effectiveness of adaptation measures outlined in Lebanon's Nationally Determined Contribution (NDCs) and sectoral strategies is perceived as moderately effective (mean score 2.88). Coordination between local and national adaptation policies received the lowest rating (mean score 2.52), suggesting a need for improved vertical integration. Ratings for gender integration (2.80) and the success of empowerment initiatives for women, youth, and marginalized groups (3.02) suggest moderate but uneven progress on inclusiveness.

A detailed summary of stakeholder-identified priorities and frequency of responses are included in **Annex I.**

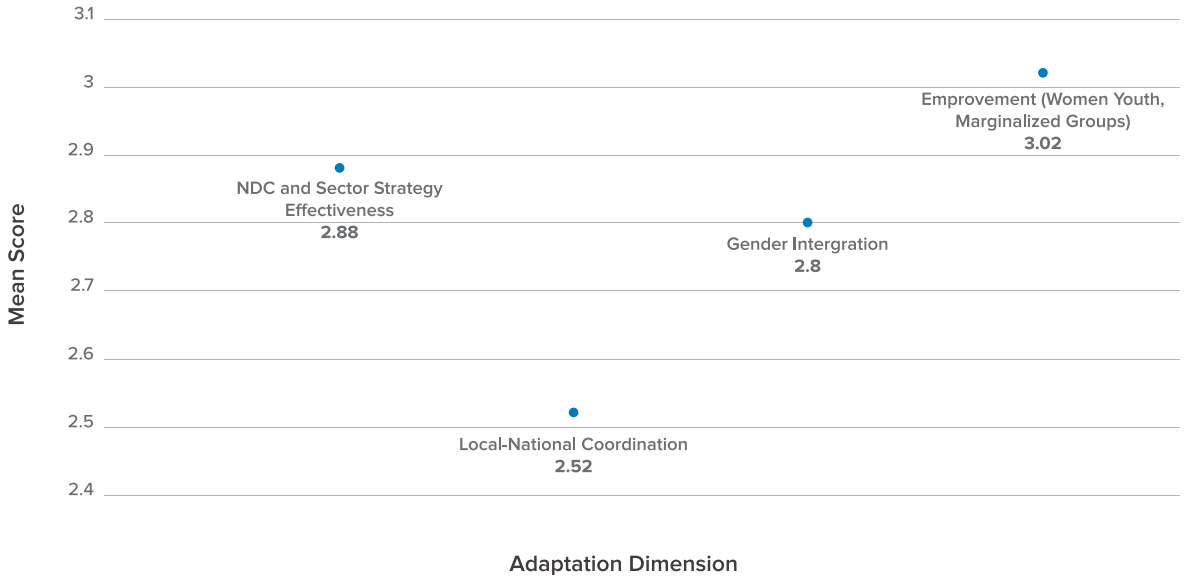

Figure 1: Stakeholder Ratings of Adaptation Implementation Dimensions

2.3 Sectoral Climate Vulnerabilities

2.3.1 Agriculture

Lebanon's agriculture is increasingly strained by climate change, with rising temperatures, erratic rainfall, and prolonged droughts reducing productivity. Water scarcity is a growing challenge, further threatening irrigation-dependent farming. Crop yields are already declining, with rain-fed crops facing losses of 3.5% to 7.5% and irrigated crops 0.3% to 8.7% (MoE/UNDP/GEF, 2024). Staple crops such as wheat, potatoes, and tomatoes, along with key fruit varieties, are particularly vulnerable. Coastal agricultural areas are experiencing salinization due to groundwater over-extraction, while mountainous and inland regions such as Akkar, Baalbek, and the Bekaa Valley face increasing soil erosion and land degradation. The livestock sector is also under pressure, with inadequate pasture management, water shortages, and rising heat stress affecting animal health and productivity.

Heatwaves and extreme weather events increase disease outbreaks, while shrinking grazing areas force farmers to rely on expensive feed imports, further threatening food security. Economic losses in the sector have been significant, with floods, droughts, and extreme weather events causing damages projected to reach USD 250 million annually, disproportionately affecting vulnerable farming communities. While crop and livestock adaptation measures are documented, fisheries and cooperative-led adaptation strategies have not been fully integrated into national planning. Additionally, Lebanon's National Agricultural Strategy (2020-2025), and the new Ministry of Agriculture's Strategic Directions (2025-2026) aligns with the NDCs and adaptation policies, but weak institutional and financial support prevents on-the-ground implementation, leaving farmers without adequate climate-resilient solutions.

Climate Change in Lebanon's Agriculture Strategy

The Lebanon National Agricultural Strategy 2020–2025 integrates climate change under Pillar 4: Improving Climate Change Adaptation and Sustainable Management of Agrifood Systems and Natural Resources. It highlights key interventions such as:

- Enhancing climate change adaptation efforts in agrifood value chains.
- Promoting sustainable land and water management, including efficient irrigation systems.
- Encouraging renewable energy adoption in agriculture to reduce emissions.

Additionally, the Ministry of Agriculture's Strategic Guidance 2025–2026 further integrates climate change under **Strategic Goal 4: Strengthen Resilience through Sustainable Agricultural and Forest Management Practices.** It identifies key interventions such as:

- Promoting sustainable farming practices, including water-saving technologies, agroforestry, organic agriculture, and integrated pest management.
- Implementing climate resilience programs that support farmers in adopting drought-resistant crops and climate-smart practices.
- Conducting forest restoration and launching nationwide awareness campaigns to prevent forest fires.
- Establishing a resilience fund to help farmers transition to more sustainable agricultural systems.
- Enhancing food security through value chain analysis, local input support, and sustainable food systems.

This demonstrates Lebanon's continued commitment to strengthening the agriculture sector's ability to withstand climate risks while securing long-term environmental and economic sustainability.

2.3.2 Forestry

Lebanon's forest ecosystems, including emblematic species such as Cedrus libani (Cedar of Lebanon) and Juniperus excelsa, are increasingly vulnerable to climate change impacts. Wildfire threats are intensifying, with consecutive dry days and days exceeding 35°C and 40°C are projected to double by the end of the century, further enabling the intensity and frequency of wildfires (MoE, 2022; MoE/UNDP/GEF, 2024). In 2021 alone, Lebanon recorded over 1,000 wildfires, tripling the number recorded in 2019 (MoE/UNDP/GEF, 2024). Forest ecosystems also face pressures from pest outbreaks, drought, and habitat degradation, exacerbating their vulnerability. Deforestation, unsustainable land use, and weak enforcement further reduce forest resilience. While Lebanon's National Forest Program (2015–2025) integrates climate change adaptation measures, including pest management and fire prevention, there is an urgent need to scale up forest monitoring, sustainable management practices, and community-based restoration efforts to ensure forests continue to provide critical ecosystem services such as carbon sequestration, water regulation, and disaster risk reduction.

Climate Change in Lebanon's Forest Program

The National Forest Program (2015-2025) integrates climate change adaptation into forestry through ecosystem resilience measures, pest management, and biodiversity conservation. Operational Objective 4 specifically focuses on mitigating climate change impacts on forests, including:

- Assessing climate change effects on forest health.
- Developing adaptation and mitigation plans for vulnerable forest species.
- Implementing Measurement, Reporting, and Verification (MRV) systems for carbon sinks.
- Enhancing fire prevention and suppression measures, including early warning systems and risk models.

These strategies align with Lebanon's NDCs and global climate commitments, reinforcing the role of forests in carbon sequestration, disaster risk reduction, and sustainable ecosystem management.

2.3.3 Water Resources

Lebanon's water resources are under severe stress due to declining precipitation, rising evaporation rates, and inefficient management. Annual water availability is projected to decrease on average by 1.5 to 7.1 mm per month by mid-century under high-emission scenario, with seasonal and regional variations, worsening drinking water supplies and agricultural irrigation. Key river basins such as Nahr El Kabir and the Upper Litani are expected to experience significant reductions in flow due to earlier snowmelt and declining rainfall. Groundwater reserves have dropped by 30–35 meters over the past four decades, with 35–40% of total reserves depleted, leading to saltwater intrusion in coastal areas. These trends directly impact multiple sectors, particularly agriculture, domestic water supply, and hydropower production. Drought conditions are projected to intensify, with Consecutive Dry Days (CDD) increasing by up to 6 days annually by 2041–2060 in southern regions, further straining water resources. While adaptation efforts have focused on improving irrigation efficiency and expanding rainwater harvesting, weak enforcement of groundwater regulations has led to unsustainable water extraction rates, accelerating depletion (MoE, 2022; MoE/UNDP/GEF, 2024).

Climate Change in Lebanon's Water Strategy

The Updated National Water Sector Strategy 2024-2035 acknowledges the significant impact of climate change on Lebanon's water resources. The strategy highlights rising temperatures, declining precipitation, and increasing water stress, which affect groundwater recharge, surface water availability, and overall water security. It emphasizes the need for Integrated Water Resources Management (IWRM), improved data monitoring, and the development of climate-resilient water infrastructure. Additionally, the strategy integrates disaster risk management and non-conventional water resources, such as wastewater reuse and desalination, as part of its climate adaptation approach.

2.3.4 Biodiversity

Rising temperatures and habitat degradation are accelerating biodiversity loss across Lebanon's terrestrial, freshwater, and marine ecosystems. Marine ecosystems are under pressure from rising sea temperatures, acidification, and pollution, threatening up to 20% of exploited marine species by 2050. Climate-driven changes in plankton ecology and the spread of invasive species are disrupting coastal biodiversity, fisheries, and marine food chains. Lebanon's freshwater ecosystems are also strained, with increasing temperatures and reduced river flows altering fish habitats and endangering aquatic biodiversity. Coastal wetlands, which serve as critical buffers against storm surges, are degrading due to sea level rise and pollution, reducing their capacity to protect coastal communities. Additionally, unsustainable land use, pollution, and urban expansion are weakening the resilience of Lebanon's ecosystems, reducing the country's capacity to adapt to climate change. Although Lebanon has made efforts to expand protected areas and develop biodiversity conservation strategies, there remains a lack of effective monitoring systems and enforcement mechanisms to track and prevent biodiversity loss (MoE, 2022; MoE/UNDP/GEF, 2024).

Climate Change in Lebanon's Biodiversity Strategy

Lebanon's updated National Biodiversity Strategy and Action Plan (NBSAP) (2025), aligned with the Post-2020 Global Biodiversity Framework, integrates climate change as a key driver of biodiversity loss and ecosystem vulnerability. The NBSAP emphasizes:

- Expanding and effectively managing Lebanon's protected area network to strengthen ecosystem resilience.
- Restoring degraded ecosystems, including forests, wetlands, and coastal zones, to buffer against climate change impacts.
- Integrating biodiversity values into national and local land-use planning and development strategies.
- Promoting ecosystem-based approaches (and nature-based solutions) for climate resilience and disaster risk reduction.
- Enhancing biodiversity monitoring systems and national data platforms to improve decision-making under changing climate conditions.

These priorities reinforce the critical role of healthy ecosystems in supporting Lebanon's national climate adaptation goals across sectors such as agriculture, water, urban infrastructure, and coastal management.

2.3.5 Urban Infrastructure

Urban areas face escalating risks from climate change, particularly flooding, extreme heat, and infrastructure degradation. Sea levels are projected to rise by 30–80 cm by 2100, increasing coastal erosion, flooding and seawater intrusion in Beirut, Tripoli, and Saida (MoE/UNDP/GEF, 2024). Flash floods are becoming more frequent, exacerbated by poor drainage systems and unplanned urban expansion. Rising temperatures are intensifying the urban heat island effect, increasing cooling demands and heightening health risks, especially for vulnerable populations in informal settlements. Aging infrastructure and weak enforcement of zoning regulations further expose cities to climate-related disasters. Lebanon's outdated stormwater drainage systems are ill-equipped to handle extreme rainfall events, leading to recurrent urban flooding. In recent years, flooding in Beirut and Tripoli has repeatedly damaged key infrastructure. National modelling under the LT-LEDS projects that cumulative climate-related damages to Lebanon's built environment, estimated at USD 40 billion by 2022, could nearly double by 2050 under a business-as-usual scenario (MoE/UNDP, 2025).

2.3.6 Public Health

Lebanon's healthcare system is struggling to cope with increasing climate-related health risks. Rising temperatures and heatwaves are projected to cause a 24-fold increase in elderly heat-related mortality by 2080 under high-emission scenarios (MoE/UNDP/GEF, 2024). Beyond extreme temperatures alone, Wet-Bulb Globe Temperature (WBGT) trends reveal an escalating public health and labour risk. Lebanon already experiences dangerously high WBGT levels during summer months, with July and August showing over 90% probability of exceeding the "dangerous" heat-stress threshold (24.6°C), and up to 16% probability of crossing the "extremely dangerous" threshold (29.1°C) under current warming. WBGT values exceeding 32°C, recorded across most regions in Q3, and reaching 34.5°C in eastern areas, pose severe risks for outdoor workers, particularly in agriculture, construction, and other high-intensity labour sectors (MoE/UNDP, 2025). These conditions significantly reduce the body's ability to cool itself, increasing risks of heat exhaustion, heatstroke, and mortality, while contributing to substantial productivity losses.

Waterborne diseases such as cholera and typhoid, as well as vector-borne diseases like malaria and leishmaniasis, are expected to rise with increasing flood and heatwave events. Lebanon's already strained

healthcare system, with only 8% of primary health centers meeting accreditation standards, faces severe staffing and resource shortages, limiting its capacity to respond to climate-driven health crises (MoE/UNDP, 2022). Air pollution, intensified by higher temperatures and wildfire smoke, is worsening respiratory conditions such as asthma and Chronic Obstructive Pulmonary Disease (COPD), increasing hospital admissions. Moreover, the lack of climate-informed healthcare planning has left hospitals vulnerable to extreme weather events, with heatwaves and power outages disrupting medical services. Chronic staffing and resource shortages, combined with the impacts of economic instability, conflict, and the COVID-19 pandemic, further limit the system's capacity to respond effectively.

Heat stress is also driving major economic losses: reduced work hours due to excessive WBGT exposure resulted in an estimated USD 1.36 billion in GDP losses in 2023, with more than 110,000 full-time equivalent jobs lost, underscoring the combined public health and economic burden of rising heat levels (MoE/UNDP, 2025).

Climate Change in Lebanon's Health Strategy

While Lebanon's National Health Strategy (NHS) 2022–2030 did not initially address climate change, the Two-Year Review reflects progress in integrating climate resilience into the health sector. Key actions include:

- Solar energy systems installed in 172 PHC centers and 22 public hospitals to enhance energy resilience.
- WASH FIT assessments conducted to improve water and sanitation infrastructure sustainability.
- Green Health Facilities initiative introduced to promote sustainable healthcare practices.
- Climate resilience training for healthcare workers incorporated into ongoing capacity-building efforts.
- One Health principles integrated into national planning to address climate-sensitive health risks.

These steps demonstrate Lebanon's emerging policy shift toward embedding climate adaptation and sustainability in the health sector.

2.3.7 Disaster Risk Reduction

Extreme weather events, including floods, wildfires, and heatwaves, are increasing in frequency and severity. According to EM-DAT platform, Lebanon has recorded 26 major disasters between 1955 and 2023, affecting over 5.4 million people (MoE/UNDP/GEF, 2024). Flash flooding is intensifying in urban areas, while wildfires, particularly in Chouf, Akkar, and Mount Lebanon, are becoming more destructive due to prolonged droughts and mismanaged land use. Despite growing climate hazards, Lebanon lacks a national multi-hazard early warning system, and weak enforcement of land-use regulations increases exposure to climate risks. Flood incidents have tripled since 2015, causing significant damage to infrastructure and displacement of communities (MoE/UNDP/GEF, 2022). The increasing intensity of storms and heavy rainfall is overwhelming Lebanon's flood protection systems, leaving low-lying coastal cities and informal settlements highly exposed. Limited disaster preparedness and response capacity leave communities highly vulnerable. Despite the presence of a draft National DRR Strategy (2012-2030), implementation remains slow due to institutional fragmentation, governance weaknesses, and financial constraints.

Climate Change in Lebanon's DRR Strategy

*Lebanon's draft **National Strategy for Disaster Risk Reduction (2021-2030)** recognizes climate change as a major driver of disaster risk and integrates climate resilience across its key policy axes. The strategy is aligned with the Sendai Framework for Disaster Risk Reduction (2015-2030) and promotes risk-informed development planning. The DRR Strategy explicitly incorporates climate change adaptation in the following areas:*

- Strengthens institutional frameworks to address climate-related hazards such as floods, droughts, and wildfires.
- Enhances Lebanon's multi-hazard early warning system to incorporate climate projections and risk modelling.
- Promotes climate-adaptive urban planning and infrastructure investments to mitigate flood and extreme weather risks.
- Aligns DRR with Lebanon's climate adaptation policies to reduce vulnerabilities across water, agriculture, and public health sectors.

2.3.8 Tourism

Lebanon's tourism industry is directly impacted by climate change, with rising temperatures and extreme weather events affecting key destinations. Coastal resorts face increasing storm surges and erosion, while ski tourism is threatened by declining snowfall periods. Beach erosion is already reducing tourism appeal, particularly in Tyre, Jounieh, and Batroun. By 2050, Lebanon's winter tourism season may shrink due to around 40% declining snowfall (MoE/UNDP/GEF, 2022), posing operational challenges for ski resorts such as Kfardebian and Cedars. Meanwhile, rising temperatures and extreme heat stress are making urban tourism less attractive, particularly in major tourist hubs such as Beirut, Byblos, and Tripoli, where increased cooling costs and reduced walkability are affecting visitor experiences. Additionally, Lebanon's cultural heritage sites face increasing threats from heat stress, humidity variations, and extreme precipitation, accelerating the deterioration of historical monuments. The increasing risk of wildfires is also threatening ecotourism and nature-based tourism activities. The combination of heat stress, wildfires, coastal degradation, and infrastructure damage from climate-induced disasters is expected to reduce tourism revenues and employment opportunities in the sector. Without adaptive measures, Lebanon's tourism industry risks significant economic losses.

2.4 SWOT Analysis: Key Factors Influencing Climate Adaptation in Lebanon

To complement the situational analysis and inform strategic adaptation planning, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was conducted. This analysis identified internal and external factors that influence Lebanon's capacity to adapt to climate change and highlights key areas for action to strengthen resilience.

Methodologically, the SWOT analysis and accompanying gaps and needs assessment were undertaken through a structured, evidence-based process combining both desk research and targeted stakeholder input. Considering the security and logistical constraints that Lebanon was under when this assessment was conducted, the exercise relied on an online survey designed to ensure consistency, inclusivity, and representation across key adaptation sectors. The analysis drew upon national and sectoral sources, including the Lebanon Adaptation Desk Review Report, NDCs, and other climate-relevant policy and planning documents, to identify the institutional, technical, policy, and financial dimensions of Lebanon's adaptive capacity. Stakeholders contributed additional insights through the survey by assessing strengths and weaknesses within their respective sectors, and by identifying external opportunities and threats that influence adaptation implementation and effectiveness.

Survey findings were consolidated and cross-referenced with desk-based evidence to highlight systemic gaps, capacity constraints, and enablers across governance, data, financing, and implementation. The resulting synthesis provided the analytical foundation for identifying priority areas of intervention and directly informed the subsequent multi-criteria analysis (MCA) for the prioritization of adaptation actions. This structured approach ensured that the SWOT results were not only diagnostic but also strategic, serving as a bridge between situational assessment and action-oriented planning.

The findings are summarized in Table 1.

Table 1: Lebanon's survey-based climate change adaptation SWOT analysis

Strengths (Internal Factors Enhancing Adaptation Capacity)	**Weaknesses (Internal Barriers to Adaptation)**
Integration of climate adaptation into sectoral strategies: Climate adaptation is embedded in policies related to water, agriculture, transport, DRR, public health, and air quality.	*Institutional fragmentation and weak coordination:* Multiple agencies manage climate adaptation action, but lacks formal inter-ministerial coordination hinders efficient implementation. Strengthening climate governance and financial tracking systems is necessary for effective adaptation.
Alignment with international commitments: Lebanon aligns with the Paris Agreement, the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction, the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (UNCBD), and the United Nations Convention to Combat Desertification (UNCCD), ensuring coherence and international cooperation.	*Constrained adaptation finance:* Lebanon's economic collapse, currency devaluation, and fiscal crisis reduce public funding for climate adaptation. Limited financial governance and unstable funding prevent long-term investments. In addition, difficulty in accessing adaptation finance and private climate investment as well as the absence of adaptation gap viability assessments is making adaptation planning and implementation challenging.
Presence of national frameworks that have mainstreamed climate considerations: Lebanon has key adaptation strategies, including the National Water Sector Strategy (NWSS), National Agriculture Strategy, National Health Strategy, National DRR Strategy, and National Forest Program.	*Weak local-level implementation:* Municipalities lack funding mechanisms, legal frameworks, and technical capacity to implement climate adaptation projects effectively.
Potential for Nature-based Solutions (NbS) and Ecosystem-based Adaptation (EbA): Lebanon's diverse ecosystems support forest restoration, coastal protection, and flood management using NbS approaches.	*High vulnerability of critical sectors:* Lebanon's water, agriculture, coastal zones, and public health systems are highly exposed to climate risks, requiring urgent adaptation investments, particularly in sustainable water management, wastewater treatment, and flood defences.
Growing access to international climate finance: Lebanon receives funding from the Green Climate Fund (GCF), Global Environment Facility (GEF), and bilateral donors, with ongoing technical support for adaptation projects, laying the foundation for expanded investment through proven partnerships.	*Limited technical capacity and climate finance management:* Absence of a climate finance tracking system and insufficient expertise in the public sector, hinder the effective utilization of funds.
Strong academic and research institutions supporting climate action: Lebanon has leading universities and research centers engaged in climate science, adaptation strategies, and policy development.	*Slow implementation of adaptation measures:* Governance challenges, bureaucratic delays, and lack of stable funding hinder Lebanon's ability to implement adaptation programs effectively.
Opportunities (External Factors Supporting Adaptation)	**Threats (External Risks Hindering Adaptation Progress)**
Increasing access to international climate finance: Lebanon can leverage additional funding from GCF, GEF, Adaptation Fund, and bilateral donors to expand adaptation investments and secure long-term resilience financing.	*Rising temperatures and more frequent climate extremes:* Lebanon faces higher temperatures, prolonged droughts, and more frequent floods, impacting agriculture, water supply, and infrastructure. This increases the need for investments in early warning systems and emergency response mechanisms.

Opportunities (External Factors Supporting Adaptation)	Threats (External Risks Hindering Adaptation Progress)
Public-private partnerships (PPPs) for adaptation and infrastructure resilience: There is growing potential for private sector investment in resilient infrastructure, clean energy, and sustainable agriculture.	*Sea level rise and coastal erosion:* Lebanon's coastal cities (Beirut, Tyre, Tripoli) are at high risk of flooding, erosion, and saltwater intrusion, threatening urban infrastructure and tourism. Strengthening coastal buffer zones and climate-resilient urban planning is critical.
Regional climate resilience initiatives: Lebanon can engage in Mediterranean basin partnerships to share knowledge, secure funding, and strengthen cross-border adaptation measures.	*Water scarcity and depleting groundwater reserves:* Climate change is reducing precipitation and groundwater recharge, worsening Lebanon's water crisis. Expanding sustainable irrigation and rainwater harvesting is essential to long-term resilience.
Enhancing EWS and DRR integration: Lebanon can strengthen multi-hazard early warning systems and integrate disaster risk reduction into climate adaptation policies to reduce losses from extreme weather events.	*Socioeconomic vulnerabilities (poverty, displacement, high unemployment):* Climate risks will exacerbate poverty, food insecurity, and unemployment, especially among marginalized communities and refugees. Inclusive development strategies are needed to reduce socio-economic risks.
Advancing climate-smart agriculture and sustainable land management: Expanding drought-resistant crops, regenerative farming, and sustainable irrigation can boost food security and rural resilience.	*Political instability and government turnover:* Lebanon's frequent political crises, weak governance, and unstable leadership undermine long-term adaptation planning. The lack of financial and institutional stability further hinders implementation.
Decentralizing adaptation support: Strengthen local implementation through dedicated municipal financing mechanisms, capacity-building for local authorities, and technical assistance from development partners to improve project delivery and community engagement.	
Development of a national climate change law to enhance institutional coordination and mainstream adaptation across sectors.	

Box 2: The Need for a NAP

Lebanon's climate risks are compounding across sectors, with increasingly severe and interconnected impacts on water security, agriculture, public health, and infrastructure. The climate risk and vulnerability analysis has demonstrated how rising temperatures, declining precipitation, and extreme weather events are intensifying social and economic vulnerabilities, particularly for marginalized communities and climate-sensitive sectors.

At the same time, the SWOT analysis highlights institutional and governance challenges, including weak coordination, financial constraints, and gaps in disaster preparedness, which hinder Lebanon's ability to adapt effectively. Without a coherent and structured adaptation framework, climate risks will continue to exacerbate economic instability, deepen social inequalities, and strain essential services.

The NAP provides a comprehensive framework to address these challenges by establishing clear priorities, strengthening institutional coordination, and ensuring a risk-informed approach to adaptation planning. The NAP provides a clear pathway for enhancing Lebanon's resilience, aligning adaptation efforts with global commitments under the Paris Agreement, SDGs, and the Sendai Framework for Disaster Risk Reduction.

3. Climate Change Adaptation Strategy: Goals and Objectives

To build a climate-resilient future, Lebanon's National Adaptation Plan (NAP) is structured around interconnected components that provide a clear, actionable pathway for strengthening resilience across sectors and systems. This section lays the foundation for Lebanon's Climate Change Adaptation (CCA) Strategy by defining its vision, adaptation goal, objectives, expected outcomes, and prioritized interventions, ensuring climate risks are addressed in a systematic and results-oriented manner. The NAP is also guided by a set of core principles and supported by enabling systems that cut across all levels of implementation.

The framework follows a logical flow from strategy to implementation:

Table 2: Lebanon's CCA Strategy and National Adaptation Plan framework

Component	Role in the NAP	Alignment and Linkages	Cross-cutting Element
Vision Statement	Sets the long-term ambition for Lebanon's climate-resilient future.	Guides all subsequent components and defines the overall direction of adaptation efforts.	**Guiding principles:** Establish the values and approaches to ensure adaptation is inclusive, sustainable, and effective.
Adaptation Goal	Articulates the overarching aim of strengthening resilience and reducing climate risks.	Shapes strategic objectives and informs desired adaptation outcomes.	
Strategic Objectives	Define priority adaptation areas across sectors and enablers.	Aligned with the adaptation goal and used to frame expected outcomes and interventions.	**Enablers:** Governance, finance, data, and stakeholder engagement systems that support effective implementation across all objectives.
Strategic Outcomes	Describe the intended results of achieving the strategic objectives.	Derived from objectives and used to track progress toward the adaptation goal.	
Prioritized Interventions	Specify priority actions to implement the objectives and generate outcomes.	Operationalize the objectives; directly contribute to outcomes and the overall goal.	

This structured framework ensures a coherent flow from the Climate Change Adaptation (CCA) to an actionable National Adaptation Plan (NAP). Each component builds upon the next, with guiding principles underpinning the entire NAP. Strategic interventions are designed to deliver sectoral and enabling objectives, producing measurable outcomes that contribute to Lebanon's overarching adaptation goal.

3.1 Vision Statement

Lebanon envisions a climate-resilient future where ecosystems, communities, and economic sectors thrive through sustainable, inclusive, and adaptive development. By integrating climate risk management into all sectors, Lebanon seeks to reduce vulnerabilities, enhance adaptive capacities, and foster sustainable economic growth while preserving its unique biodiversity and natural resources.

3.2 Guiding Principles

The National Adaptation Plan is grounded in key principles that align with global best practices while being tailored to Lebanon's national context. These principles ensure that adaptation actions are inclusive, sustainable, and effective while guiding implementation across all sectors.

Table 3: NAP guiding principles

Principle	Description
Whole-of-government approach	Institutionalize climate adaptation across all levels of government, ensuring that ministries, agencies, and local authorities collaborate through policy alignment, integrated planning, and budgetary coordination to achieve systemic resilience, and implementation through strong institutional coordination mechanisms.
Implementability	Promote actionable, prioritized, and feasible adaptation measures with clear roles and responsibilities for implementation at national and sub-national levels.
Ecosystem-based approaches	Promote NbS, including reforestation, wetland restoration, and sustainable land management, to enhance resilience while preserving biodiversity.
Inclusivity, equity, and gender responsiveness	Ensure that gender equality, disability inclusion, and the protection of vulnerable groups are integrated into all adaptation initiatives. This includes mainstreaming gender-responsive planning, ensuring women's leadership in adaptation decision-making, and addressing specific climate vulnerabilities faced by women, youth, displaced populations, and persons with disabilities.
Conflict sensitivity and social cohesion	Design and implement adaptation actions in ways that do no harm, reduce social tensions, and strengthen cohesion, particularly in fragile areas and communities hosting refugees and other vulnerable groups. This includes ensuring that resource allocation, service delivery, and reconstruction efforts are conflict-sensitive, transparent, and responsive to local dynamics.
Risk-informed development	Integrate climate risk assessments into national and sectoral planning, ensuring that policies, infrastructure, and development projects account for future climate hazards.
Integrated multi-sectoral approach	Promote coordination across sectors (e.g., agriculture, water, urban planning, health, and disaster risk reduction) to avoid conflicts, maximize synergies, and improve implementation efficiency.
Evidence-based decision-making	Ensure that decision-making is based on robust risk assessments and continuous learning and is informed by climate science, data-driven projections, and research.
International and regional cooperation	Align with global frameworks such as the Paris Agreement, Sendai Framework, and SDGs, while fostering partnerships with international organizations, regional bodies, and donors to enhance technical and financial support.
Locally led adaptation	Empower local authorities and communities in adaptation planning and implementation, ensuring their knowledge, needs, and priorities are integrated into national and sectoral processes.

3.3 Adaptation Goal

To reduce climate vulnerabilities, strengthen adaptive capacities, and ensure risk-informed, human-centric development to protect lives, livelihoods, and ecosystems from climate change impacts.

3.4 Strategic Objectives

To achieve its adaptation goal, Lebanon aims to pursue **twelve strategic objectives** that strengthen resilience across key climate-sensitive sectors while ensuring an enabling environment for effective adaptation. These objectives are structured into **two complementary** adaptation priority areas:

- **Sector-Specific Objectives**: Addressing climate risks in priority sectors, ensuring sustainable and climate-resilient development.
- **Enabling Objectives**: Strengthening governance and policy, finance and investment, data and monitoring, and stakeholder engagement to facilitate long-term adaptation planning and implementation.

Together, these objectives provide a comprehensive framework for mainstreaming adaptation into national policies, securing sustainable finance, and enhancing resilience across ecosystems, communities, and economic sectors.

Table 4: Strategic objectives for priority sectors

Adaptation Priority Sector	Strategic Objective
Agriculture	Strengthen the resilience of the agricultural sector to climate change impacts.
Forestry	Strengthen the climate resilience and sustainable management of forest landscapes.
Water Resources	Enhance water security and sustainable water resource management in the face of climate variability.
Biodiversity	Strengthen the resilience of ecosystems and safeguard biodiversity from climate change impacts.
Urban Infrastructure	Strengthen the climate resilience of Lebanon's urban areas and critical infrastructure.
Public Health	Enhance the health sector's capacity to anticipate, prepare for, and respond to climate-related risks.
Disaster Risk Reduction	Strengthen disaster preparedness and risk reduction measures to address climate-related hazards.
Tourism	Strengthen the resilience of Lebanon's tourism sector, including cultural heritage and nature-based tourism.

Table 5: Strategic objectives for priority enablers

Adaptation Priority Enabler	Strategic Objective
Governance and Policy	Strengthen governance and mainstream climate adaptation across national and sectoral policies.
Finance and Investment	Enhance access to sustainable climate finance and innovative funding mechanisms.
Data and Monitoring	Strengthen systems for adaptation tracking, risk assessment, and evidence-based decision-making.
Stakeholder Engagement	Advance inclusive and participatory adaptation planning with active engagement of local actors and vulnerable groups.

3.5 Strategic Outcomes

To achieve the adaptation goal and deliver on the strategic objectives outlined in the previous section, Lebanon aims to realize a set of measurable strategic outcomes. These outcomes represent the expected changes that will result from the implementation of sector-specific and enabling adaptation interventions.

Table 6: Sectoral strategic outcomes

Strategic Objective	Strategic Outcome(s)
Agriculture: **Strengthen the resilience of the agricultural sector to climate change impacts.**	1. Agricultural productivity and livelihoods are more resilient to climate variability and climate-induced shocks.
Forestry: **Strengthen the climate resilience and sustainable management of forest landscapes.**	2. Biodiversity is safeguarded and adaptive capacities of species and ecosystems are enhanced.
Water Resources: **Enhance water security and sustainable water resource management in the face of climate variability.**	3. Water availability, quality, and efficiency are improved to support climate-resilient communities and ecosystems.
Biodiversity: **Strengthen the resilience of ecosystems and safeguard biodiversity from climate change impacts.**	4. Ecosystems and forest landscapes are restored, conserved, and resilient to climate impacts.
Urban Infrastructure: **Strengthen the climate resilience of Lebanon's urban areas and critical infrastructure.**	5. Urban areas and infrastructure systems are better adapted to withstand climate-related risks such as heatwaves, floods, and sea-level rise.
Public Health: **Enhance the health sector's capacity to anticipate, prepare for, and respond to climate-related risks.**	6. Public health systems are strengthened to manage climate-sensitive health risks and protect vulnerable populations.
Disaster Risk Reduction: **Strengthen disaster preparedness and risk reduction measures to address climate-related hazards.**	7. Multi-hazard risk management and early warning systems are enhanced to reduce the impacts of climate-related disasters, strengthen preparedness, and mitigate future loss and damage caused by climate change.
Tourism: **Strengthen the resilience of Lebanon's tourism sector, including cultural heritage and nature-based tourism.**	8. Tourism infrastructure and services are more resilient to climate impacts. 9. Climate-adaptive, inclusive, and sustainable tourism is promoted and diversified.

Table 7: Strategic outcomes for enablers

Strategic Objective	Strategic Outcome(s)
Governance and Policy: Strengthen governance and mainstream climate adaptation across national and sectoral policies.	10. Adaptation is systematically integrated into national and sectoral policies and institutional frameworks.
Finance and Investment: Enhance access to sustainable climate finance and innovative funding mechanisms.	11. Climate adaptation efforts are supported by increased domestic and international financing.
Data and Monitoring: Strengthen systems for adaptation tracking, risk assessment, and evidence-based decision-making.	12. Robust systems for climate risk monitoring and adaptation tracking support effective planning and decision-making.

Strategic Objective	Strategic Outcome(s)
Stakeholder Engagement: Advance inclusive and participatory adaptation planning with active engagement of local actors and vulnerable groups.	13. Inclusive and participatory adaptation processes ensure that local actors and vulnerable groups influence and benefit from adaptation efforts.

3.6 Prioritized Interventions

This section outlines the prioritized adaptation interventions identified through an inclusive stakeholder consultation process. Each intervention is directly linked to one or more strategic objectives and is designed to deliver measurable outcomes that contribute to Lebanon's overarching adaptation goal. Presented in order of priority, these interventions address the most pressing climate risks across key sectors and enabling areas, serving as targeted, actionable entry points for enhancing climate resilience at both national and subnational levels.

3.6.1 Agriculture

Agriculture is highly vulnerable to climate change due to rising temperatures, erratic rainfall, and prolonged droughts, which are affecting crop yields, soil fertility, and food security. Strengthening resilience in the agriculture sector is critical to ensuring sustainable production, safeguarding rural livelihoods, and protecting national food systems.

Table 8: Prioritized adaptation interventions – Agriculture Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Support farmers through an integrated and gender-responsive approach that enhances climate resilience by promoting inclusive climate-smart infrastructure and practices (efficient irrigation systems, water harvesting from conventional and non-conventional sources, terraces, hydroponics, greenhouses, renewable energy solutions, etc.), advancing innovation and sustainable agriculture systems including agroforestry, regenerative and conservation agriculture, organic farming, and circular and bioeconomy models to strengthen livelihoods and long-term productivity.	Increasing droughts, erratic rainfall, declining crop yields, and the need for sustainable water access and infrastructure for climate-resilient agriculture.
2	Enhance efficient use of irrigation water, including the use of renewable energy in pressurized and metered distribution, by supporting research and development in defining crop water climate demand, and adapting irrigation scheduling in pilot projects within various irrigation schemes.	Water scarcity, energy inefficiency in irrigation systems, and low adoption of modern irrigation technologies.
3	Implement a nationwide agriculture orientation/extension and capacity-building program, aimed at strengthening communication channels, improving sustainable agricultural practices, and fostering sustainable farming techniques through direct engagement with farmers.	Limited farmer knowledge and support on climate-resilient agriculture; need for localized advisory services.
4	Rehabilitate infrastructure to address operational inefficiencies in public services related to the inspection and control of imported plants, animals, and plant materials, including measures for managing pesticide residues and preventing meat-borne diseases.	Operational gaps in agri-food systems and weak institutional infrastructure needed to support adaptation implementation.

Rank	Prioritized Intervention	Issue/Challenge Addressed
5	Support the Ministry of Agriculture (MoA) and Lebanese Agriculture Research Institute (LARI) in establishing a plant certification program for selected crops and adapted varieties, enhancing community multiplication programs, creating plant germplasm banks (conservation and use of climate-smart cultivars and native tree species), supplying nurseries with certified healthy propagation material, securing access to farmers and supporting artificial insemination (from native breeds).	Lack of adaptive crop varieties and animal breeds, need for genetic diversity conservation, and insufficient research support.

3.6.2 Forestry Sector

Lebanon's forest ecosystems are increasingly affected by climate-induced stressors including prolonged droughts, higher wildfire frequency, pest outbreaks, and land degradation. These impacts are compounded by unsustainable land use and weak enforcement of forest management regulations. Enhancing the climate resilience of forest landscapes is essential to maintain ecosystem stability, reduce disaster risks, and protect livelihoods reliant on forest resources.

Table 9: Prioritized adaptation interventions – Forestry

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Restore and manage degraded forest and rangeland ecosystems, through reforestation, protection, and assisted regeneration measures, while mainstreaming biodiversity conservation, addressing climate change impacts, and sustain the provision of ecosystem services, while engaging municipalities and local communities.	Weak integration of climate adaptation into forest and rangeland planning; unsustainable land-use, deforestation, and degradation of natural ecosystems.
2	Mainstream climate change adaptation, fire and pest risk reduction, and biodiversity conservation into forest and rangeland planning through integrated restoration strategies, land use zoning, and the protection of climate-resilient species and corridors.	Increased land degradation, vulnerability of forests to climate risks (droughts, pests, wildfires), and lack of vulnerability of forests to climate risks (droughts, pests, wildfires).
3	Upgrade the capacity and equipment of Ministry of Agriculture and local communities as a first line of intervention to suppress fires, and enhance their role in monitoring, supervision, and implementation of sustainable forest and rangeland management practices.	Rising wildfire risks, inadequate forest and rangeland protection, and limited monitoring and enforcement on forest lands.

3.6.3 Water Resources

Water resources in Lebanon are highly vulnerable to climate change, with declining precipitation, rising evaporation rates, and inefficient management intensifying water scarcity. Strengthening the resilience of the water sector is essential to ensure sustainable access for agriculture, domestic consumption, and economic development.

Table 10: Prioritized adaptation interventions – Water Resources Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Develop cost-effective nationwide wastewater treatment and reuse plants to preserve surface and groundwater quality and enhance water pollution prevention measures.	Pollution of surface and groundwater due to untreated wastewater and lack of decentralized treatment infrastructure.

Rank	Prioritized Intervention	Issue/Challenge Addressed
2	Improve water infrastructure by rehabilitating systems, controlling leaks, upgrading to pressurized and metered irrigation networks, reducing non-revenue water, and expanding surface water sources for irrigation.	System inefficiencies, water losses, outdated infrastructure, and insufficient irrigation sources in the face of rising demand.
3	Enforce and implement Water Law 192/2020 especially its articles pertaining to the polluter-pays principle and develop emergency response plans to preserve vulnerable water resources.	Increasing water pollution, weak enforcement of water protection regulations, and absence of pollution response mechanisms.
4	Promote water conservation practices and integrate water management strategies into land use planning with a focus on optimizing water resource use and enhancing availability across sectors.	Increasing water stress due to declining precipitation, unsustainable groundwater extraction, and lack of integrated land-water planning; weak enforcement of water conservation regulations and limited community engagement in water governance.
5	Develop and implement integrated watershed planning at the basin level, and climate-resilient stormwater management plans to address droughts, increased rainfall intensity and flooding risks.	Declining river flows, increasing drought frequency, flash floods, saltwater intrusion, and need for integrated water management to enhance resilience of river basins and urban water systems.

3.6.4 Biodiversity

Lebanon's biodiversity is under growing threat from climate change impacts such as shifting temperature and rainfall patterns, habitat fragmentation, invasive species, and species loss. These changes undermine ecosystem integrity and place endemic and threatened species at heightened risk. Strengthening the adaptive capacity of species and enhancing in situ conservation efforts are critical to safeguarding Lebanon's rich biodiversity and sustaining the ecological services it provides.

Table 11: Prioritized adaptation interventions – Biodiversity

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Implement active management plans mainstreaming climate change adaptation in protected areas management.	Weak integration of climate risks into protected area management; limited adaptive management of ecosystems.
2	Develop adaptation plans and implement habitat restoration and rehabilitation plans to safeguard the sustained delivery of ecosystem services, enhance ecological integrity and connectivity, and restore, maintain, and improve nature's contributions to people using nature-based solutions, ecosystem-based, and watershed-based approaches.	Degraded habitats, loss of ecosystem services, and insufficient restoration efforts in climate-sensitive areas.
3	Conduct comprehensive vulnerability assessments of terrestrial and marine ecosystems to climate change, identifying key risks and adaptation needs.	Lack of evidence-based planning, insufficient data on ecosystem vulnerability, and weak guidance for prioritizing actions.
4	Identify vulnerable ecosystems to climate change allowing prioritization of the most vulnerable ecosystems and minimizing the impacts of climate change on biodiversity and increasing its resilience.	Limited spatial prioritization of adaptation investments and conservation efforts based on vulnerability.

Rank	Prioritized Intervention	Issue/Challenge Addressed
5	Implement in situ conservation and active management plans for threatened species, while mainstreaming climate change adaptation into protected areas, genetic conservation units, and germplasm management, and reviewing the relevant legal and institutional frameworks.	Threatened species lack specific conservation strategies that incorporate climate risks; outdated legal frameworks hinder effective action.
6	Mobilize climate finance and develop investment frameworks to integrate sustainable forest management and landscape restoration into national climate policies and NDCs.	Limited financial support for ecosystem restoration and biodiversity adaptation measures; poor integration into climate finance and policy frameworks.
7	Create a legal waiver mechanism allowing active prevention measures to reduce risks of fire and pest outbreaks, and other natural hazards in vulnerable ecosystems regardless of ownership.	Legal and procedural barriers that delay timely interventions to prevent ecosystem degradation and biodiversity loss under climate stress.

3.6.5 Urban Infrastructure

Urban areas in Lebanon face escalating risks from climate change, including flooding, extreme heat, sea-level rise, and infrastructure degradation. Strengthening the climate resilience of urban systems is critical to protect lives, livelihoods, and essential services in cities and towns.

Table 12: Prioritized adaptation interventions – Urban Infrastructure Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Integrate climate change risks into urban planning masterplans through the application of sustainable and risk-sensitive measures, including nature-based solutions, soft engineering approaches, and green infrastructure.	Unplanned urban expansion, ineffective zoning, and limited integration of climate risks into planning and design processes, and vulnerability to floods, heat stress, and sea-level rise.
2	Integrate energy- and water-efficient building design and mass transit infrastructure into urban planning frameworks to reduce urban heat island effects, enhance climate resilience, and promote low-emission, pedestrian-friendly environments.	Urban heat island effect, rising cooling demand, and lack of energy-efficient infrastructure and sustainable transport systems.
3	Promote sustainable urban drainage design to enhance urban resilience, reduce flooding risks, and improve water quality.	Poor stormwater management, aging drainage systems, increasing frequency of urban flash floods, and inadequate wastewater treatment.
4	Assess vulnerabilities of Lebanon's coastal areas to climate-related risks to guide the update of the draft Integrated Coastal Zone Management Strategy.	Rising sea levels, coastal erosion, seawater intrusion, and the lack of spatial vulnerability assessments to guide coastal adaptation.
5	Increase the adaptive capacity of vulnerable coastal area infrastructures against erosion, storm/wave surges and sea-level rise, and design and implement protective measures to safeguard infrastructure and communities.	Weak coastal protection infrastructure and increasing risk to urban infrastructure and communities from sea-level rise and storms.

3.6.6 Public Health

Lebanon's healthcare system faces growing challenges from climate-related health risks, including rising heat-related illnesses, vector- and waterborne diseases, and air pollution. Strengthening the resilience of health systems is critical to protect vulnerable populations and ensure continuity of care under increasing climate stress.

Table 13: Prioritized adaptation interventions – Public Health Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Support community-based risk reduction initiatives focusing on health risks related to disasters, water, waste, food, and air pollution.	Limited preparedness at community level; rising exposure to environmental and climate-related health risks.
2	Enhance the Early Warning and Response System to health risks, including epidemic, climatic, and other risks through the full automation and operationalization of the One Health approach.	Weak early warning infrastructure and limited integration of One Health protocols limit timely response to climate-health risks; limited access to climate finance to support health-related adaptation efforts.
3	Build the capacity of health sector professionals to identify and manage health impacts across sectors.	Low technical capacity among health personnel to address emerging climate-related health challenges.
4	Enhance the climate resilience of healthcare facilities through targeted interventions, including risk management, energy management, and infrastructure adaptation.	Vulnerability of hospitals and health centres to extreme weather events, energy insecurity, and infrastructure deficiencies.
5	Promote coordination and communication among stakeholders to enhance awareness, policy coherence, and climate-adaptive health governance.	Fragmented institutional responses; weak cross-sectoral coordination in managing climate-health linkages.
6	Assess population and public health vulnerability to climate change, identifying current and future health effects, as well as impacts related to the additional burden of climate change on health.	Increasing climate-induced health burdens and the absence of a national climate-health vulnerability assessment or adaptation plan limit the health sector's capacity to anticipate, plan for, and respond to evolving risks.
7	Upgrade epidemiological surveillance to incorporate new climate-related health outcomes and integrate climate data into the national health information system.	Rising incidence of climate-sensitive diseases; weak integration of climate data into health monitoring and planning systems.

3.6.7 Disaster Risk Reduction

Lebanon is increasingly affected by climate-induced disasters, including floods, wildfires, droughts, and extreme weather events. Strengthening disaster risk reduction systems is essential to safeguard communities, protect infrastructure, and reduce the long-term impacts of climate change.

Table 14: Prioritized adaptation interventions – Disaster Risk Reduction Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Develop a mechanism to assess, attribute, and categorize loss and damage in Lebanon.	Lack of standardized processes to quantify climate-related losses and damages for informed decision-making and resource mobilization.
2	Strengthen disaster-resilient public and private investments and promote resilience by enhancing risk prevention in critical facilities, encouraging private-sector financing for disaster management, providing voluntary guidelines for homeowners, and establishing mandatory standards for critical infrastructure while considering economic, social, structural, technological, and environmental impacts.	Limited information to support risk-informed investments; and weak private sector engagement hinder the resilience of critical infrastructure; integrated risk prevention approaches remain underdeveloped across public, private, and household levels.
3	Update/revisit flood, fire, and drought risk maps, and consider all risk maps in strategic land-use planning.	Outdated risk maps; weak integration of risk information into land-use and sectoral planning frameworks.

Rank	Prioritized Intervention	Issue/Challenge Addressed
4	Revise Lebanon's response framework and establish climate-hazards related response plans at all levels (sectoral, national, local, community).	Fragmented disaster preparedness frameworks: insufficient capacity for coordinated, timely, and climate-informed emergency response across governance levels.
5	Upgrade and develop an early warning platform for multi-hazards.	Absence of a national multi-hazard early warning system; fragmented hazard monitoring systems and poor real-time risk communication.

3.6.8 Tourism

Lebanon's tourism sector is increasingly vulnerable to climate change impacts, including rising temperatures, coastal erosion, declining snowfall, and increased frequency of extreme weather events. Strengthening climate resilience in tourism is essential to protect livelihoods, safeguard heritage, and sustain economic growth in the sector.

Table 15: Prioritized adaptation interventions – Tourism Sector

Rank	Prioritized Intervention	Issue/Challenge Addressed
1	Assess and update national tourism plans to integrate climate change adaptation measures and create financial incentives for sustainable tourism, such as ecotourism.	Lack of integration of climate adaptation into tourism planning; overreliance on climate-vulnerable tourism types.
2	Conduct loss and damage, impact, and vulnerability assessments of climate change on tourism and cultural heritage.	Limited data on climate impacts on tourism infrastructure, heritage sites, and economic losses; weak basis for prioritizing adaptation.
3	Ensure climate-resilient tourism infrastructure by promoting sustainable design, implementing water and energy-saving technologies, and retrofitting tourism facilities for energy efficiency and extreme weather resilience.	Increased risk of damage to tourism infrastructure from heatwaves, floods, and extreme weather; high energy and water consumption.
4	Diversify tourism by expanding mountain destinations and developing year-round cultural, historical, religious, agritourism, ecotourism, and nature-based experiences to reduce reliance on climate-vulnerable tourism types and mitigate seasonal variations.	Declining snowfall, reduced ski seasons, rising coastal risks, and overdependence on limited tourism offerings sensitive to climate impacts.
5	Engage local communities and tourism operators through training programs on climate resilience, sustainable tourism practices, and emergency preparedness for extreme weather events.	Low awareness among tourism operators and local actors; limited preparedness for extreme weather events in tourism areas.
6	Enhance health facilities in tourism areas to manage heat-related health risks and develop emergency plans for extreme weather events to ensure visitor safety and business continuity.	Heat-related health risks in urban and coastal tourism destinations; lack of preparedness in tourism-dependent health services.
7	Promote inclusive and accessible tourism by ensuring facilities and services are accessible to people with disabilities and developing tourism programs that cater to diverse groups.	Social exclusion risks and lack of adaptive, accessible infrastructure for all tourist groups, including persons with disabilities.

3.6.9 Enabling Conditions for Adaptation

Effective implementation of Lebanon's National Adaptation Plan requires a strong enabling environment that addresses underlying institutional, financial, data, and participatory challenges. Strengthening these cross-cutting systems is essential to support sectoral adaptation efforts and enhance national and local resilience.

Table 16: Prioritized adaptation interventions – Enabling Conditions

Enabler	Prioritized Strategic Intervention	Issue/Challenge Addressed
Governance and Policy	Strengthen climate governance, policy integration, and vertical coordination.	Fragmented climate governance structures, overlapping mandates, limited inter-sectoral coordination, and weak integration of climate risks across national and subnational development planning.
Finance and Investment	Expand access to sustainable climate finance and strengthen finance readiness systems.	Inadequate climate finance architecture, limited readiness to access international funds, overreliance on donor support, weak private sector engagement, and lack of financial tracking for adaptation.
Data and Monitoring	Strengthen adaptation tracking, climate information systems, and early warning systems.	Limited availability and accessibility of climate risk data; weak integration of climate information into sectoral planning; underdeveloped multi-hazard early warning and monitoring systems.
Stakeholder Engagement	Enhance inclusive, participatory, and accountable adaptation planning and coordination platforms.	Limited participation of vulnerable groups (including women, youth, and marginalized communities); insufficient mechanisms for decentralized decision-making and community-driven adaptation actions.

4. Financing Strategy

Achieving Lebanon's adaptation goals requires a well-structured financing strategy that supports the implementation of strategic interventions across all priority sectors. Without adequate financial resources, adaptation actions risk being underfunded, fragmented, or unsustainable. This strategy ensures that adaptation financing is diversified, efficient, transparent, and aligned with national development priorities.

Financing adaptation efforts in Lebanon requires a robust, multi-faceted approach that combines domestic public funding, international climate finance, private sector engagement, and innovative financial mechanisms. Given Lebanon's economic and fiscal challenges, a well-structured financing strategy is critical to ensuring that adaptation investments are both sustainable and scalable.

The financing strategy is anchored on four key pillars:

1. *Blended Finance and Public-Private Partnerships (PPPs):* Leveraging private sector resources to complement public finance in adaptation investments.
2. *Accessing International Climate Finance:* Strengthening Lebanon's capacity to tap into multilateral, bilateral, and philanthropic climate finance sources.
3. *Innovative Financial Instruments:* Expanding financial solutions, including resilience bonds, payment for ecosystem services, and climate insurance.
4. *Costing Methodology and Budgeting:* Establishing transparent budgeting processes to ensure cost-effectiveness, accountability, and efficiency in adaptation financing.

By implementing this strategy, Lebanon aims to enhance financial flows for adaptation, improve the efficiency of resource utilization, and ensure long-term resilience across key sectors. The approach will also prioritize climate-vulnerable communities, NbS, and DRR investments while mainstreaming adaptation into national development planning. To strengthen the integration of adaptation into public financial management, the NAP promotes the progressive adoption of climate-responsive budgeting practices, including climate budget tagging, programme-based budgeting, and the screening of public investments for climate risks. While current fiscal constraints limit the scale of domestic financing, these measures help track adaptation expenditures, improve transparency, and ensure that future budget allocations and capital projects are aligned with resilience priorities. They also reinforce the enabling environment needed for blended finance and PPP mechanisms by improving the clarity, predictability, and credibility of public investment processes.

4.1 Blended Finance and Public-Private Partnerships

4.1.1 Overview

Lebanon's adaptation finance gap necessitates innovative mechanisms to mobilize private sector capital while ensuring the efficient use of public funds. Blended finance and PPPs can serve as key instruments for scaling up investment in climate adaptation, leveraging both domestic and international financing sources.

Blended finance involves strategic use of public funds (including grants, concessional loans, and guarantees) to attract private sector investments in climate-resilient infrastructure, ecosystem-based adaptation, and sustainable economic activities. Meanwhile, PPPs provide a structured collaboration where private actors share risks and benefits with public entities to finance, build, and operate critical adaptation projects.

By using these mechanisms, Lebanon can increase investment in adaptation without overburdening the national budget while also creating market incentives for private sector participation in climate resilience.

4.1.2 Barriers to Private Sector Engagement in Adaptation Finance

Despite these opportunities, Lebanon faces several challenges in mobilizing private sector investment in adaptation, including:

- **High perceived risk** – Lebanon's weakened fiscal standing and economic losses from hostilities have heightened risk perceptions among international investors. The country's geopolitical and economic instability further deters private sector involvement, as investors are reluctant to engage in high-risk environments with uncertain returns. Climate adaptation projects, particularly those with long-term benefits (e.g., ecosystem restoration, infrastructure resilience), are seen as high-risk investments with uncertain financial returns. Additionally, the lack of reliable data and climate risk projections exacerbates these perceptions, making it difficult for investors to assess project viability.
- **Lack of incentives for private sector participation** – Institutional and governance challenges, such as fragmented structures and insufficient inter-agency coordination, obstruct the development of clear policy frameworks and incentives. The disrupted public administration capacities, and the absence of policy frameworks, tax incentives, and risk-sharing mechanisms to encourage private investment in adaptation, further delays the implementation of mechanisms that could attract private investment. Moreover, Lebanon's limited access to international climate investments reduces the availability of co-financing opportunities, which are critical for incentivizing private sector participation.
- **Weak financial market for climate bonds and insurance** – Lebanon faces a limited availability of climate-resilient financial instruments, such as green bonds, risk-sharing facilities, and resilience funds, due to its weakened fiscal standing, restricted access to international climate finance, and limited technical and institutional capacity to develop bankable projects aligned with international standards. This lack of tools undermines private sector confidence and reduces their willingness to invest in adaptation initiatives, as investors lack mechanisms to mitigate risks and secure returns.
- **Regulatory and institutional barriers** – The fragmented governance structures and lack of inter-agency coordination create regulatory and institutional barriers. Additionally, the disruption of public administration capacities limits the government's ability to establish clear PPP frameworks and streamline bureaucratic processes. Lebanon's economic losses from hostilities have further strained institutional capacities, reducing the ability to plan, manage, and monitor long-term projects, which discourages private sector participation.
- **Limited data and climate risk projections** – Lebanon's limited technical capacity to develop bankable projects and its inability to leverage global climate finance mechanisms effectively contribute to the lack of reliable data and risk projections. This gap makes it difficult for private investors to assess the viability and returns of adaptation projects. The economic losses from hostilities and weakened fiscal standing have further constrained resources for data collection and analysis, exacerbating the challenge.

4.1.3 Policy Actions to Strengthen Blended Finance and PPPs for Adaptation

To overcome barriers to adaptation finance and scale up private sector engagement, Lebanon must establish a supportive policy, regulatory, and institutional environment that enables blended finance and public-private partnerships. The following policy actions are aligned with Lebanon's Long Term - Low

Emission Development Strategy (LT-LEDS) and are adapted to focus specifically on climate resilience and adaptation investment.

1. Develop a National Adaptation Investment Framework

- Build institutional and technical capacity to design and implement bankable adaptation projects, aligned with international funding requirements and private sector expectations.
- Establish a national pipeline of climate adaptation investment opportunities to attract private sector engagement in priority sectors such as agriculture, water resources, urban infrastructure, and nature-based solutions.

2. Strengthen public-private risk-sharing mechanisms

- Introduce guarantees, concessional financing, and risk insurance instruments to reduce investment risks and crowd in private capital for adaptation.
- Operationalize the Lebanon Green Investment Facility (LGIF) as a dedicated financing vehicle to offer grant, loan, guarantee, and equity-based instruments targeting adaptation-related investments.

3. Scale up climate-proofed public procurement systems

- Mainstream Green Public Procurement (GPP) across all government contracting processes to mandate climate-resilient infrastructure and services.
- Align GPP with Lebanon's Public Procurement Law 244/2021 and expand it to include lifecycle emissions analysis, energy efficiency and resilience performance, and low-carbon materials and climate-smart technologies.
- Conduct regular procurement audits to track adaptation co-benefits and resilience indicators in procured infrastructure and services.

4. Expand tax incentives and green finance regulations

- Provide tax incentives, including breaks, accelerated depreciation, and fiscal relief for investments in climate resilience.
- Reform green finance regulations to further institutionalize mechanisms such as GPP, leveraging Law 244/2021 as a foundation while strengthening its climate-specific clauses.

5. Facilitate access to climate finance and blended instruments

- Strengthen Lebanon's engagement with international climate finance platforms, such as the Green Climate Fund (GCF) – particularly through its Private Sector Facility, which co-finances private-led resilience investments.
- Develop innovative financing instruments for adaptation, including green bonds, climate insurance pools, adaptation risk-sharing facilities, and ecosystem-based investment funds.

6. Enhance data and transparency in adaptation finance

- Integrate adaptation finance tracking into national climate monitoring systems, including the **Management Information System for Climate Action in Lebanon (MISCAL)** platform, which is currently used for NDC tracking and reporting. This will enhance transparency, coordination, and decision-making for adaptation investments.
- Strengthen financial institutions' role by embedding climate-related stress testing and internalizing climate risks into banking operations and supervision, ensuring transparency and accountability in climate finance.

7. Engage financial institutions and strengthen supervision frameworks

- Require climate risk disclosure for banks and large corporates to ensure transparency and accountability.
- Incentivize green lending through preferential capital ratios, redirecting capital flows toward adaptation-aligned sectors and reducing exposure to climate-vulnerable assets.

8. Promote legal and institutional reforms

- Establish a dedicated PPP framework or strengthen existing laws to include specific provisions for climate adaptation projects, ensuring legal clarity for private investors.
- Align national financial regulations and supervision practices with Lebanon's LT-LEDS and adaptation priorities, ensuring a consistent approach to climate-resilient economic development.

Promote blended finance guidelines and ESG-aligned lending principles, ensuring financial flows support both low-emission and climate-resilient development.

4.2 Accessing International Climate Finance

4.2.1 Overview

Accessing international climate finance is critical for Lebanon's ability to implement its NAP and address climate vulnerabilities across key sectors. Given Lebanon's fiscal constraints, securing funding from multilateral climate funds, bilateral donors, and International Financial Institutions (IFIs) will be essential in bridging the adaptation finance gap.

Lebanon should leverage multiple international climate finance mechanisms, including the GCF, Adaptation Fund, GEF, and various climate-focused bilateral and multilateral programs. To maximize access, Lebanon should strengthen its institutional capacity, align proposals with fund eligibility criteria, and streamline project approval processes.

4.2.2 Key Climate Finance Sources for Adaptation

Lebanon can access a broad mix of international, bilateral, multilateral, and private sector climate finance mechanisms to support its adaptation priorities and strengthen resilience across sectors.

- Multilateral climate funds such as the Green Climate Fund, Adaptation Fund, and Global Environment Facility provide grants, concessional loans, equity investments, and technical assistance for adaptation projects aligned with Lebanon's climate priorities.
- Multilateral Development Banks (MDBs), including the World Bank, Islamic Development Bank (IsDB), and European Investment Bank (EIB), offer concessional loans, grants, and technical support to implement climate-resilient infrastructure and adaptation programs.
- Bilateral climate finance from partners such as Germany's International Climate Initiative (IKI), France's AFD, Japan's JICA, the European Union, and the UK's FCDO and UK PACT supports adaptation measures in key sectors such as water, agriculture, disaster risk reduction, and institutional capacity.
- Private sector and impact investment funds, including platforms such as the Global Innovation Lab for Climate Finance, and Convergence Blended Finance, and the Lebanon Green Investment Facility (LGIF), offer blended finance instruments, resilience bonds, and ESG-aligned investment opportunities for climate adaptation and nature-based solutions. Specifically, the LGIF is a dedicated

national financing vehicle that aims to mobilize investments for green initiatives in Lebanon, with a particular focus on adaptation measures through renewable energy and energy efficiency solutions across priority sectors. These mechanisms are designed to de-risk investments and attract private capital towards building climate resilience, enhancing energy sustainability, and supporting Lebanon's transition towards low-carbon, climate-resilient development.

4.2.3 Barriers to Accessing International Climate Finance

Despite the availability of these funds, Lebanon faces several challenges in mobilizing international climate finance for adaptation (MoE/UNDP/GEF, 2021; MoE, 2024), including:

- **Weak institutional coordination** – Lack of a centralized climate finance strategy leads to fragmented efforts in proposal development and fund application processes.
- **Limited project pipeline** – Many adaptation projects lack feasibility studies, clear financial models, or alignment with donor priorities, making them less competitive for funding.
- **Complex fund application processes** – Lengthy and bureaucratic procedures for accessing GCF and other major funds, while even streamlined mechanisms such as the GEF still require strong institutional capacity and technical expertise.
- **Low accreditation of national institutions** – Few Lebanese institutions have direct access accreditation for international funds, limiting the country's ability to apply for and manage climate adaptation financing directly.
- **Challenges in co-financing** – Many climate funds require co-financing from national budgets or private sources, which poses a challenge given Lebanon's fiscal constraints.

4.2.4 Strategic Actions to Enhance Access to Climate Finance

To strengthen Lebanon's ability to secure international climate finance, the government should undertake the following actions:

1. **Develop a National Climate Finance Strategy** – Establish a national framework that aligns adaptation priorities with international funding opportunities and ensures a coordinated approach among ministries and agencies.
2. **Strengthen institutional capacity and accreditation** – Support Lebanese institutions in obtaining accreditation to directly access funds such as the GCF and AF, reducing reliance on international intermediaries.
3. **Establish a Climate Finance Coordination Task force** – Set up a dedicated unit within a relevant government agency to coordinate donor engagement, track funding opportunities, and streamline the proposal development process.
4. **Expand the pipeline of bankable adaptation projects** – Develop feasibility studies, cost-benefit analyses, and financial models for priority adaptation projects to enhance their competitiveness for international funding.
5. **Enhance public-private partnerships in adaptation finance** – Facilitate co-financing arrangements with the private sector, MDBs, and impact investors through the Lebanon Green Investment Facility or others to meet funding requirements for international adaptation projects.
6. **Address the viability gap in adaptation investments** – Recognize that adaptation projects often lack commercial returns and require viability-gap financing to attract private sector participation.

Establish dedicated public co-financing windows, guarantees, and risk-sharing mechanisms to make adaptation investments bankable and reduce investor risk.

7. **Simplify the application process for local entities** – Provide technical assistance and training for government agencies, municipalities, and NGOs to navigate complex funding application processes effectively.

8. **Leverage regional and global partnerships** – Strengthen cooperation with international organizations, donor countries, and MDBs to unlock funding and technical support for adaptation initiatives.

9. **Leverage IMF Resilience-Linked Financing Instruments** – Engage with the IMF's Resilience and Sustainability Trust (RST) and Resilience and Sustainability Facility (RSF), which provide long-term, low-interest financing for climate adaptation and resilience but require macroeconomic reforms and alignment with an IMF-supported program. Strengthening fiscal governance, public financial management, and structural reforms will enable Lebanon to meet eligibility criteria and unlock climate-related financing under these facilities.

4.3 Innovative Financial Instruments

4.3.1 Overview

To bridge the adaptation finance gap and ensure sustained investments in climate resilience, Lebanon must adopt innovative financial instruments that mobilize diverse funding sources. Traditional public financing alone is insufficient; thus, leveraging market-based solutions, risk-sharing mechanisms, and alternative funding models will be essential.

Innovative financial instruments can help attract private sector investment, leverage international finance, and enhance financial sustainability for adaptation projects. These mechanisms offer flexible, scalable, and sustainable financing solutions tailored to Lebanon's fiscal constraints and climate resilience needs.

4.3.2 Key Innovative Financial Instruments

Table 17: Key Innovative Financial Instruments

Financial Instrument	Description
Green bonds and resilience bonds	Lebanon can issue green bonds to raise capital for climate adaptation projects such as sustainable water management, reforestation, and disaster risk reduction infrastructure. Resilience bonds, structured similarly to green bonds, incentivize investments in projects that reduce climate risks, such as coastal protection and flood mitigation.
Catastrophe bonds (cat bonds) and insurance-linked securities	Cat bonds provide an insurance-like mechanism where investors bear the risk of climate-related disasters. If no disaster occurs, investors receive returns, but in case of an event, the capital is used for disaster response and recovery. These bonds can help Lebanon mitigate fiscal shocks from extreme weather events and ensure timely financing for adaptation.
Climate risk insurance and parametric insurance[2]	Parametric insurance pays out based on predefined triggers, such as extreme rainfall or temperature thresholds, ensuring rapid disbursement of funds to affected sectors (e.g., agriculture, water resources). Developing sovereign climate risk insurance through regional risk pools can enhance Lebanon's financial preparedness against climate shocks.

[2] Catastrophe bonds, insurance-linked securities, and parametric insurance mechanisms are recognized internationally as key financial innovations for strengthening climate and disaster resilience, though their application in Lebanon may require phased capacity-building and market readiness development.

Financial Instrument	Description
Debt-for-climate swaps	Lebanon can negotiate debt-for-climate swaps, where a portion of external debt is forgiven in exchange for commitments to finance climate adaptation and resilience projects. These mechanisms have been successfully used in other developing countries to free up fiscal space while advancing national adaptation goals.
Nature-based credit markets (carbon and biodiversity credits)	Carbon credit markets can generate revenues from ecosystem conservation and reforestation projects by selling carbon offsets to international buyers. Biodiversity credits allow Lebanon to monetize conservation efforts, attracting funding for ecosystem-based adaptation measures.
Impact investment and climate resilience funds	Impact investors prioritize projects with measurable environmental and social benefits, making climate adaptation an attractive investment area. Lebanon can establish a Climate Resilience Fund to pool investments from development banks, pension funds, and private capital for financing adaptation measures.
Water tariffs and climate-adaptive user fees	Innovative tariff systems for water and energy can integrate climate risk pricing, incentivizing conservation and financing adaptation efforts. Performance-based incentives can be introduced for municipalities and utilities that adopt climate-resilient infrastructure and resource-efficient practices.

4.3.3 Strategic Actions for Implementing Innovative Finance

Table 18: Strategic actions for implementing innovative finance

Strategic Action	Description
Develop a legal and regulatory framework for climate finance instruments	Introduce policies and incentives to facilitate green bond issuance, risk insurance markets, and carbon trading mechanisms. Establish clear guidelines for blended finance arrangements to de-risk private sector investments in adaptation.
Enhance financial market readiness	Strengthen Lebanon's financial markets to accommodate green bonds, resilience bonds, and insurance-linked securities. Engage local and international financial institutions to structure and market adaptation finance products.
Expand public-private partnerships for innovative finance	Encourage private sector participation by providing guarantees, co-financing options, and tax incentives for adaptation investments. Facilitate partnerships between banks, investors, and government agencies to deploy innovative financing mechanisms.
Strengthen institutional capacity and investor confidence	Build technical expertise within government agencies, financial institutions, and regulatory bodies to manage and oversee climate finance instruments. Develop robust monitoring and reporting systems to ensure transparency and investor confidence.
Leverage international support and technical assistance	Collaborate with development banks, UN agencies, and climate funds to implement innovative financial mechanisms, including the provision of viability-gap financing, and scale up successful models. Seek international best practices to adapt and localize financial innovations suitable for Lebanon's economic and institutional context.

4.4 Costing and Budgeting for NAP Implementation

The National Adaptation Plan (NAP) is developed as a key instrument to operationalize the adaptation priorities outlined under Lebanon's Nationally Determined Contribution (NDC). While the NDC provides the overarching framework for national climate action, setting adaptation priorities, targets, and guiding principles up to 2035, the NAP translates these priorities into concrete sectoral and institutional actions

across agriculture, water, forestry, biodiversity, health, urban infrastructure, disaster risk reduction and tourism.

The NAP identifies and structures the activities required to advance Lebanon's adaptation objectives, reflected in Annex II, ensuring that they are consistent with and directly feed into the NDC 3.0 implementation framework. Accordingly, the costing of NAP activities will be prepared under the NDC 3.0 Implementation Plan, which will provide detailed financial estimates, phasing, and the identification of responsible actors and implementation partners for each activity.

This integrated approach ensures coherence between the strategic NDC priorities and the NAP roadmap, which focuses on the implementation of activities that directly feed into those priorities. It avoids duplication of financial assessments and consolidates Lebanon's climate finance architecture under a single, unified framework. By embedding NAP activities within the NDC Implementation Plan, Lebanon promotes efficient resource allocation, facilitates access to international climate finance, and strengthens the overall transparency and coordination of national climate investments.

5. Institutional Frameworks for Adaptation Governance

5.1 Overview

This section outlines the institutional arrangements needed to coordinate, implement, and oversee adaptation action in Lebanon. A robust adaptation governance system ensures that climate resilience is effectively mainstreamed across sectors, implemented through multi-level coordination, and sustainably financed. Lebanon's adaptation governance structure builds on existing coordination mechanisms while introducing clear roles for national leadership, sectoral planning, and decentralized implementation.

Lebanon's current adaptation landscape is constrained by fragmented institutional arrangements, limited coordination mechanisms, and inadequate climate finance systems. While a national coordination structure exists through the NDC Committee, its mandate remains primarily aligned with NDC implementation and climate mitigation and does not fully address the broader climate adaptation agenda. Weak inter-ministerial collaboration limited subnational capacity, and the absence of dedicated climate structures at the local level have slowed the mainstreaming of adaptation across sectors. The overreliance on donor-driven initiatives and underfunded municipal capacities further exacerbate implementation challenges. Strengthening institutional coherence, vertical coordination, and cross-sectoral integration is therefore critical to enable the effective delivery of Lebanon's National Adaptation Plan.

5.2 Strengthening Coordination Mechanisms

Effective adaptation requires a structured multi-tiered governance system that supports:

- Policy coherence and vertical alignment;
- Cross-sector collaboration;
- Integration of adaptation into national and subnational development planning;
- Inclusive participation of stakeholders including civil society, private sector, and local communities.

The institutional framework for adaptation comprises of four interlinked coordination levels:

Table 19: Coordination levels for adaptation governance

Level	Coordination Body	Primary Function
National Policy Level	NDC Committee	High-level strategic oversight and policy coherence
Technical Coordination Level	Adaptation Technical Working Group (TWG)	Technical planning and coordination of adaptation efforts
Sectoral Planning Level	Sectoral Adaptation Taskforces	Sector-specific adaptation planning and implementation
Subnational Level	Local Authority Climate Change Forum (LACCFs)	Local implementation and community engagement

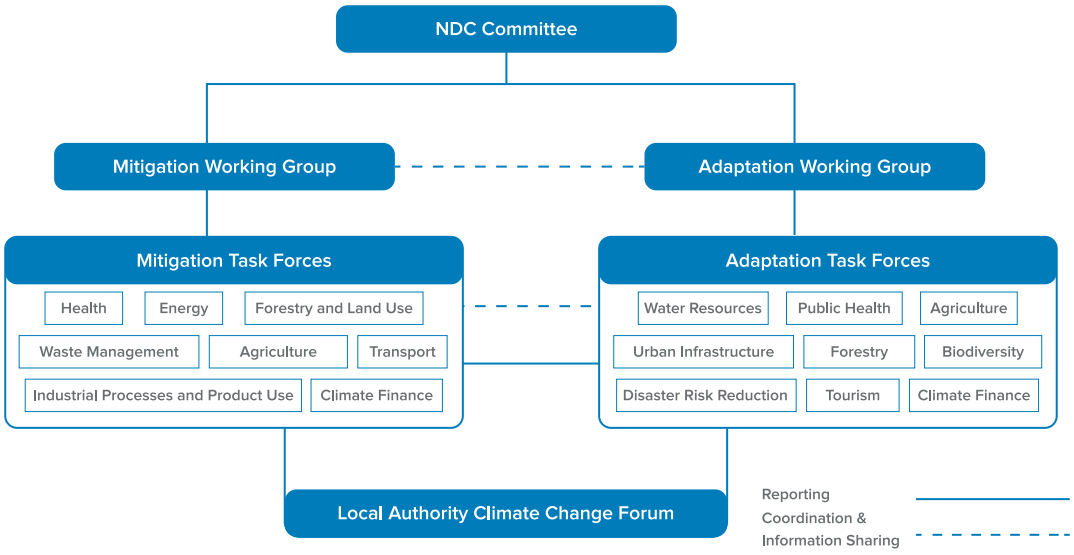

Figure 2: National Climate Change Institutional Structure

5.2.1 NDC Committee

The NDC Committee remains the apex policy coordination body for Lebanon's climate response. In the context of adaptation, the Committee plays a vital role in ensuring that adaptation objectives are integrated into national development planning and inter-ministerial coordination.

Key Functions:

- Endorse adaptation strategies, including the NAP.
- Provide strategic guidance on sectoral integration and resource allocation.
- Mobilize political support and cross-government buy-in for adaptation goals.
- Monitor national adaptation progress and guide access to climate finance.
- Promote stakeholder inclusion and coherence across sectors.

Composition:

- Chaired by the Ministry of Environment, with membership from key ministries.

Legal Basis:

- Institutional hosting within the MoE, formalized through an updated Council of Minister decision to update Decision No. 185 of 7/4/2016 and reflect expanded adaptation functions under the NAP.

5.2.2 Adaptation Technical Working Group

The Adaptation TWG serves as the national coordination hub for technical adaptation planning. It functions under the authority of the NDC Committee and ensures that sectoral adaptation priorities are aligned with national strategies.

Key Functions:

- Coordinate development of sectoral adaptation plans.
- Facilitate technical input for NAP implementation.
- Support mainstreaming of adaptation in sectoral policies and budgets.

- Oversee M&E coordination and data consolidation.
- Provide feedback and recommendations to the NDC Committee.

Membership:

- Co-chaired by the Ministry of Environment and a rotating lead ministry based on the priority adaptation topic.
- Includes technical focal points from key ministries and institutions involved in adaptation implementation.

5.2.3 Sectoral Adaptation Taskforces

Sectoral Taskforces are specialized coordination platforms that lead sector-level planning, technical oversight, and implementation support for adaptation actions.

Key Responsibilities:

- Develop and implement sector-specific adaptation plans.
- Identify sectoral priorities and financing needs.
- Identify capacity building and technology needs
- Facilitate intra-sectoral coordination and stakeholder engagement.
- Monitor progress and provide sectoral M&E data to the Adaptation TWG.

Taskforce Structure: The following taskforces will be established under the Adaptation TWG:

Table 20: Taskforces under the Adaptation TWG

Taskforce	Lead Institutions
Agriculture	Ministry of Agriculture (MoA)
Forestry	MoA (Forestry Directorate)
Water Resources	Ministry of Energy and Water (MoEW), Regional Water Establishments
Biodiversity	Ministry of Environment
Urban Infrastructure	Directorate General of Urban Planning
Public Health	Ministry of Public Health (MoPH)
Disaster Risk Reduction	DRM Unit
Tourism	Ministry of Tourism
Cross-Cutting: Climate Finance Task Force	Ministry of Finance

Cross-cutting enablers such as governance, data and monitoring, and stakeholder engagement will be coordinated by the Ministry of Environment and relevant partners. A dedicated Climate Finance Taskforce will support technical coordination and operational follow-up on climate finance across adaptation and mitigation. Additional taskforces may be established as needed based on evolving priorities.

5.2.4 Local Authority Climate Change Forums (LACCFs)

Decentralized governance is critical to ensure locally appropriate adaptation planning and implementation. LACCFs will be formed at local government levels to facilitate local climate action.

Key Functions:

- Develop local adaptation plans aligned with national strategies.
- Integrate adaptation into local development and budgeting processes.
- Identify capacity building and technology needs
- Mobilize local stakeholders and support community awareness.
- Monitor climate risks and report local adaptation progress.

Composition:

- Representatives from local authorities, technical staff, civil society, private sector, academia, and youth groups ensuring gender balance.
- Coordinated by the Ministry of Interior and Municipalities with technical guidance from the Ministry of Environment.

5.2.5 Legal Integration of Adaptation Governance

The institutional arrangements outlined in this Plan are designed to be forward-compatible with Lebanon's forthcoming Climate Change Law. This legislation is expected to provide a formal legal mandate for national coordination bodies such as the NDC Committee, the Adaptation Technical Working Group, and sectoral taskforces. It will also enable the legal recognition of subnational structures, such as Local Authority Climate Change Forums, and support the integration of climate adaptation mandates into the functions of line ministries. The NAP therefore provides a transitional framework that can be strengthened and formalized through upcoming legal and regulatory reforms.

5.3 Capacity Development and Institutional Strengthening

A strong institutional framework requires investment in technical and managerial capacities across all levels. Capacity development efforts will focus on:

- Enhancing planning and risk assessment skills in sectoral and local institutions;
- Building competencies for climate finance mobilization and project development;
- Strengthening local adaptation governance structures;
- Supporting effective monitoring, evaluation, and learning of adaptation actions;
- Facilitating inter-institutional learning and knowledge exchange.

National knowledge platforms, communities of practice, and regional/international partnerships will be leveraged to enhance institutional learning.

6. Implementation Approach

The Implementation Plan is the core operational element of Lebanon's NAP. It translates the strategic objectives and priority adaptation interventions into a practical set of activities, delivery responsibilities, and indicative timelines. This structured implementation framework serves as a guide for coordinating actions across sectors, institutions, and levels of government during the 2025–2030 period. It is designed to support effective planning, sequencing, and resource allocation, ensuring that adaptation interventions are both targeted and deliverable.

The plan is presented in tabular format by sector, aligned with strategic objectives, and outlines:

- Priority interventions
- Key activities and actions
- Lead and supporting institutions
- Indicative timelines for implementation (short, medium, or long term)

The detailed Implementation Plan, presenting priority interventions, corresponding key activities, responsible institutions, and indicative phasing over the 2025–2035 period, is provided in **Annex II**. It serves as a living reference to guide and coordinate adaptation action at national and subnational levels.

6.1 Phased Approach to Implementation

To support effective planning and sequencing of actions, the implementation plan categorizes activities using three indicative timeframes:

- **Short Term (Years 1–3, 2026-2028)**: Activities that are immediately actionable, foundational, or preparatory in nature. These typically include quick wins, capacity-building, assessments, and enabling groundwork that must be in place early.
- **Medium Term (Years 4–7, 2029-2032)**: Activities that require preparatory work or initial institutional arrangements before implementation. These often involve scaled investments, systems development, or sustained capacity-building efforts that follow short-term enablers.
- **Long Term (Years 8–10, 2033-2035)**: Activities that depend on the successful execution of earlier actions, or that require more complex institutional, technical, or financial arrangements. These are typically more capital-intensive or transformational actions whose foundations are laid in earlier phases.

These timeframes are not fixed or rigid but provide an adaptive planning guide for implementation partners. Detailed planning and adjustments will be made as implementation progresses, based on available resources, institutional readiness, and evolving climate risks.

6.2 Geo-Spatial Prioritization

Given Lebanon's diverse geography, climate zones, population distribution, and ecosystem characteristics, spatial prioritization is essential to ensure that interventions are responsive to regional climate risks and deliver maximum impact. Detailed identification of geographic priority areas will be conducted by sectoral lead institutions, in coordination with sub-national authorities, informed by updated vulnerability assessments, planning tools, and stakeholder consultations. The geo-spatial prioritization process will also integrate a dedicated layer on conflict and displacement sensitivity, drawing on data related to

refugee-hosting municipalities, poverty and deprivation hotspots, and areas affected by past or ongoing tensions, to ensure that adaptation targeting does not exacerbate local pressures and instead contributes to social cohesion.

6.2.1 Rationale for Geo-Spatial Prioritization

Adaptation actions will not be implemented uniformly across Lebanon. Instead, prioritization will be informed by region-specific vulnerability profiles and risk exposure. The rationale for this approach includes:

- Targeting high-risk regions first, such as coastal areas vulnerable to sea-level rise, drought-prone agricultural zones, and urban heat stress hotspots;
- Maximizing impact by directing resources to areas where adaptation can protect critical infrastructure, ecosystems, and livelihoods;
- Aligning implementation with existing spatial planning frameworks (e.g., land use plans, biodiversity corridors, and watershed management plans);
- Ensuring inclusivity by prioritizing areas with high socio-economic vulnerability or marginalized populations.

6.2.2 Spatial Prioritization Criteria

Table 21 presents indicative criteria to guide geographic targeting of adaptation interventions. These criteria may be further refined during implementation based on sectoral planning and local-level assessments. Detailed geographic targeting will be further refined during sector-specific action planning processes and through consultations with local stakeholders.

Table 21: Spatial prioritization criteria for adaptation implementation

Criteria	Description	Illustrative Priority Areas
Climate risk exposure	Areas most vulnerable to extreme climate events (e.g., floods, heatwaves, wildfires, sea-level rise)	Coastal zones, Bekaa Valley, Akkar, mountain forest belts
Ecosystem sensitivity and biodiversity value	Regions with ecologically fragile ecosystems or high biodiversity importance	High-altitude forests, river basins, protected areas
Agricultural and water stress	Areas facing chronic water scarcity or declining agricultural productivity	Bekaa Valley, Baalbek-Hermel, arid regions in South Lebanon and Akkar
Urban climate stress	Urban areas prone to heat island effects, flash floods, and population pressures	Beirut, Tripoli, Sidon, low-lying urban neighbourhoods
Economic and infrastructure exposure	Strategic economic hubs and critical infrastructure prone to climate risks	Coastal cities, tourism corridors, industrial zones
Community vulnerability	Areas with high levels of poverty, displacement, or social marginalization	Informal settlements, refugee-hosting areas, remote mountain communities, and deprived urban neighbourhoods (e.g., Tripoli, Beirut's low-income districts, etc.)

6.2.3 Sectoral Application of Spatial Prioritization

The prioritization criteria will be applied differently across adaptation sectors. During implementation, sectoral lead institutions will be responsible for applying these criteria to guide targeting and sequencing of interventions in line with sectoral planning. These are considered as illustrative examples and are not exhaustive.

Table 22: Application of spatial prioritization by sector

NAP Sector	Spatial Focus Areas for Prioritized Implementation
Agriculture	Climate-smart agriculture interventions prioritized in drought-prone areas (e.g., Bekaa Valley, South Lebanon, Baalbek) and regions facing soil degradation or land stress.
Forestry	Forest conservation, sustainable forest management, and wildfire risk reduction prioritized in mountain forest belts, rangelands, and degraded landscapes (e.g., Mount Lebanon, North Lebanon, Southern slopes).
Water Resources	Watershed-based planning, water harvesting, and resilient irrigation systems targeted in water-scarce zones (e.g., Akkar, Bekaa), and flood-prone river basins.
Biodiversity	Ecosystem restoration, species conservation, and habitat connectivity measures prioritized in high-biodiversity and ecologically sensitive areas, such as river basins, coastal zones, and designated protected areas.
Urban Infrastructure	Resilient infrastructure, green spaces, and heat stress mitigation prioritized in high-density cities like Beirut, Tripoli, and flood-prone urban settlements.
Public Health	Health adaptation measures focused on heat-stressed urban areas, underserved rural zones, and communities with high vulnerability (e.g., informal settlements).
Disaster Risk Reduction	Multi-hazard early warning systems and contingency planning prioritized in areas with frequent wildfires, flash floods, and landslides (e.g., mountain regions, urban peripheries).
Tourism	Coastal and mountain tourism zones prioritized for infrastructure resilience, sustainable tourism development, and risk reduction interventions.

6.3 Stakeholder Engagement Strategy

Effective and inclusive stakeholder engagement is central to the successful implementation of Lebanon's NAP. Adaptation requires a whole-of-society approach that engages government institutions, private sector actors, civil society, academia, and local communities. Stakeholder engagement is not only critical for strengthening ownership and accountability but also ensures that adaptation actions respond to diverse needs, incorporate local knowledge, and remain socially inclusive.

6.3.1 Key Stakeholder Roles in NAP Implementation

Table 23 presents the key stakeholder groups and their respective roles in the implementation of adaptation actions under the NAP.

Table 23: Stakeholder roles in NAP implementation

Stakeholder Group	Key Roles and Contributions
National Government Agencies (e.g., MoE, MoF, MoEW, MoA, MoPH, DRM Unit)	Lead policymaking, planning, coordination, and integration of adaptation in sectoral strategies, plans, and budgets.
Local Governments (Municipalities, Unions, Governorates)	Integrate climate resilience into local development plans, implement decentralized actions, and engage communities.
Private Sector (Finance, SMEs, Infrastructure developers, Insurance)	Invest in adaptation infrastructure, develop financial products (e.g., climate insurance), and promote climate-smart innovations.
Civil Society Organizations (NGOs, CBOs, advocacy groups)	Support community-based adaptation, amplify voices of vulnerable groups, and deliver outreach and awareness.
Academia and Research Institutions	Provide evidence-based planning tools, risk assessments, technical guidance, and support capacity building.
International Partners (UN agencies, MDBs, bilateral donors)	Offer technical and financial support, promote knowledge transfer, and strengthen institutional capacities.
Local Communities	Contribute traditional knowledge and lead localized adaptation initiatives.
Women, Youth, and Vulnerable Groups	Actively participate in planning and implementation to ensure equity and inclusion in adaptation action.

6.3.2 Mechanisms for Inclusive Participation

To ensure diverse stakeholder engagement during implementation, the following mechanisms will be used or strengthened:

Table 24: Mechanisms for ensuring inclusive participation

Engagement Mechanism	Description / Purpose
Multi-Stakeholder Coordination Platforms	Sectoral Task Forces and Local Authority Climate Change Committees will promote inclusive participation across planning and delivery.
Participatory Planning Workshops	Ensure consultation with local communities, women's organizations, youth groups, and marginalized populations during design and review of interventions.
Community-Led Adaptation Initiatives	Small grants, local partnerships, and co-implementation arrangements will support community-based adaptation efforts.
Public-Private Partnerships (PPPs)	Enable private sector engagement in adaptation financing, service delivery, and infrastructure development.
Adaptation Knowledge Hubs	Online platforms and learning networks will facilitate access to information and peer learning.
Gender and Inclusion Mainstreaming Tools	Guidelines and templates will be used by implementing institutions to ensure inclusive processes throughout the NAP.

7. Monitoring and Evaluation

The Monitoring and Evaluation framework for the National Adaptation Plan is designed to systematically track progress, assess effectiveness, and ensure accountability in the implementation of adaptation actions across Lebanon. While the development and enhancement of climate data systems are addressed under the Research, Innovation and Knowledge Management section, the M&E framework focuses on the use of this data for tracking progress, evaluating results, and informing adaptation policy and implementation.

7.1 Objectives of the M&E Framework

The NAP M&E framework will track both the implementation progress and the effectiveness of prioritized adaptation interventions. It will specifically monitor how these prioritized actions are integrated into sectoral policies, implemented across key governance levels, and supported through the financing and institutional mechanisms. This will ensure that Lebanon's adaptation efforts are targeted, measurable, and responsive to evolving climate risks.

The NAP M&E framework serves the following key objectives:

- Measure implementation of adaptation actions and policies across different sectors and governance levels.
- Evaluate the impact of adaptation measures in reducing climate risks and enhancing resilience.
- Provide oversight for implementation, ensuring resources are used effectively and stakeholders meet their commitments.
- Allow for adaptive management by identifying best practices, challenges, and necessary adjustments.
- Ensure Lebanon meets its obligations under the Paris Agreement, SDGs, and the Sendai Framework for DRR.

Inline with emerging international guidance, the national M&E framework will also be progressively aligned with relevant indicator developments under the UAE–Belém Work Programme on the Global Goal on Adaptation, as far as feasible, to facilitate coherence with future reporting requirements.

7.2 Principles for Monitoring and Evaluation

To ensure M&E effectiveness, the NAP framework will be built on core monitoring and evaluation principles:

Table 25: Principles for monitoring and evaluation

Principle	Application in NAP M&E
Transparency and accountability	Open access to adaptation data, ensuring public trust and accountability.
Integration with national systems	Align with Lebanon's climate data management system, SDG tracking, and DRR frameworks.
Participatory monitoring	Engage local governments, civil society, and the private sector in tracking adaptation efforts.

Principle	Application in NAP M&E
Gender-responsive and socially inclusive monitoring	Ensure adaptation benefits and impacts are equitably distributed, track gender-disaggregated data, and assess how marginalized groups (women, youth, persons with disabilities, displaced communities) participate in and benefit from adaptation efforts.
Data-driven and evidence-based	Use scientific data, remote sensing, and real-time monitoring for tracking resilience impacts.
Continuous learning and improvement	Ensure M&E informs policy refinement, investment decisions, and Plan updates.

7.3 Governance and Institutional Arrangements for M&E

A multi-tiered governance system will oversee M&E implementation, with responsibilities assigned across different levels:

Table 26: Institutional responsibilities for NAP M&E

Institution/Body	Key M&E Responsibilities
NDC Committee	Oversee national-level adaptation monitoring, validate progress reports, and provide high-level strategic direction.
Ministry of Environment	Lead agency for adaptation M&E; consolidate sectoral reports, coordinate M&E processes, and ensure alignment with national and international frameworks.
Adaptation Technical Working Group	Provide technical oversight on adaptation M&E processes, ensure coordination across sectors, and review sectoral inputs for national reporting.
Sectoral Adaptation Taskforces	Develop sector-specific indicators, track implementation progress in respective sectors, and report to the Adaptation TWG and Ministry of Environment.
Local Authority Climate Change Committees	Monitor implementation of local adaptation actions and contribute local data and feedback to relevant sectoral taskforces and the Ministry of Environment.
Private Sector and Civil Society Organizations	Participate in monitoring activities, contribute to community-level reporting, and promote transparency and accountability in adaptation efforts.
Development Partners and International Organizations	Support capacity-building, technical assistance, and financing to strengthen Lebanon's adaptation M&E system.

M&E will be aligned with Lebanon's national statistical system, ensuring integration into climate data management platforms, sectoral reporting tools, and national development monitoring frameworks.

7.4 Key Indicators and Metrics for Adaptation M&E

To ensure effective implementation of the National Adaptation Plan, a robust M&E framework is required to track progress, assess outcomes, and support adaptive management. This framework is structured around the strategic outcomes defined under the NAP, which reflect the expected results of Lebanon's adaptation objectives across priority sectors and enabling conditions. The M&E system will focus on monitoring the extent to which these outcomes are achieved over time. The NAP thus provides the overarching results-based framework, while the M&E system will detail how progress toward these outcomes is measured and reported.

Table 27: Monitoring framework for NAP strategic outcomes

	Strategic Outcome	Proposed Key Indicator(s)	Means of Verification	Lead Institution(s)
1	**Agriculture** – Agricultural productivity and livelihoods are more resilient to climate variability and climate-induced shocks	• Number and % of farmers adopting climate-smart or adaptive agricultural practices (e.g. drought-tolerant varieties, efficient irrigation, soil conservation). • Number of capacity-building or extension programs implemented on climate-resilient agriculture. • Number of agricultural policies, plans, or programs integrating climate adaptation measures.	Agricultural production statistics, farmer surveys, MoA reports, and stakeholder consultations.	Ministry of Agriculture
2	**Forestry** – Ecosystems and forest landscapes are restored, conserved, and resilient to climate impacts	• Area of degraded ecosystems restored (ha). • % of priority ecosystems under active management. • % of forest fires (ha).	MoA project reports, biodiversity assessments.	MoA
3	**Water Resources** – Water availability, quality, and efficiency are improved to support climate-resilient communities and ecosystems	• % reduction in non-revenue water. • % of population with access to reliable and climate-resilient water supply services. • Number of water utilities or municipalities implementing climate-resilient water management measures (e.g. drought contingency plans, efficient irrigation systems, improved storage, groundwater recharge initiatives).	Water sector monitoring data, MoEW reports, WEs data.	Ministry of Energy and Water
4	**Biodiversity** – Biodiversity is safeguarded and adaptive capacities of species and ecosystems are enhanced	• Number of species-specific adaptation plans implemented. • % of protected areas integrating climate adaptation.	PA management plans, conservation project reports.	Ministry of Environment
5	**Urban Infrastructure** – Urban areas and infrastructure systems are better adapted to withstand climate-related risks such as heatwaves, floods, and sea-level rise	• Number of urban infrastructure projects (transport, drainage, coastal, energy, waste, etc.) designed, upgraded, or implemented with climate-resilient features (e.g. flood protection, improved drainage, heat-resistant materials, energy efficiency). • Number of new infrastructure guidelines, codes, or standards incorporating climate risk and adaptation criteria. • Number of public facilities (schools, hospitals, government buildings) retrofitted to enhance resilience to extreme weather events.	Municipality progress reports, infrastructure audits.	CDR, DGUP, MoIM

	Strategic Outcome	Proposed Key Indicator(s)	Means of Verification	Lead Institution(s)
6	**Public Health** – Public health systems are strengthened to manage climate-sensitive health risks and protect vulnerable populations	• Number of health facilities with resilience measures. • % of integration of climate data in health surveillance.	MoPH reports, health sector reviews.	Ministry of Public Health, syndicate of private hospitals
7	**Disaster Risk Reduction** – Multi-hazard risk management and early warning systems are enhanced to reduce the impacts of climate-related disasters	• % of geographic coverage of multi-hazard early warning systems. • Number of updated hazard maps used in planning.	DRM reports, early warning system evaluations.	DRM Unit, CNRS
8	**Tourism** – Tourism infrastructure, destinations, and services are more climate-resilient, diversified, and sustainably managed to reduce vulnerability to climate impacts and support adaptive local economies	• Number of tourism facilities or sites (e.g. coastal resorts, mountain lodges, heritage sites) retrofitted or constructed using climate-resilient standards (e.g. flood protection, water efficiency, renewable energy integration). • Number of eco-tourism or rural tourism initiatives developed in climate-vulnerable regions (mountain, coastal, or agricultural zones).	MoT progress reports, project evaluations.	Ministry of Tourism
9	**Governance and Policy** – Adaptation is systematically integrated into national and sectoral policies and institutional frameworks	• Number of national/sectoral policies integrating adaptation. • % of ministries implementing adaptation plans.	MoE coordination reports, sector policy reviews.	Ministry of Environment, NDC Committee
10	**Finance and Investment** – Climate adaptation efforts are supported by increased domestic and international financing	• Amount of adaptation finance mobilized. • % share of adaptation in national budgets.	Budget reports, climate finance tracking tools.	MoF, MoE
11	**Data and Monitoring** – Robust systems for climate risk monitoring and adaptation tracking support effective planning and decision-making	• Number of sectors with functioning adaptation M&E systems. • Availability and accessibility of climate data platforms.	National data platform audits, sectoral M&E reports.	MoE, CAS
12	**Stakeholder Engagement** – Inclusive and participatory adaptation processes ensure that local actors and vulnerable groups influence and benefit from adaptation efforts	• % of adaptation actions prepared with stakeholder participation. • % of projects reaching vulnerable and marginalized groups.	Stakeholder reports, project evaluations.	MoE, MoIM, CSOs

7.5 Reporting and Feedback Mechanisms

To ensure effective tracking and adaptive management, Lebanon aims to adopt a structured reporting cycle, integrating findings into national and global reporting frameworks.

Table 28: M&E reporting cycle

Reporting Mechanism	Frequency	Purpose
National Adaptation Progress Report	Biennial (every 2 years)	Consolidate national progress across sectors, inform policymakers.
Sectoral and Local Government Reports	Annual	Track sector-specific and local adaptation implementation.
Stakeholder Dialogue and Learning Forums	Annual	Provide an interactive space for sharing adaptation challenges, lessons, and recommendations.
International Reporting (UNFCCC, SDGs, Sendai Framework)	As per global timelines	Ensure Lebanon meets its international reporting obligations.

Lebanon's adaptation M&E system will integrate gender-sensitive reporting frameworks, ensuring that adaptation progress is assessed in relation to inclusivity, equity, and gender mainstreaming. Regular stakeholder dialogues will specifically review the effectiveness of adaptation programs in addressing the needs of vulnerable populations, including women, youth, displaced communities, and persons with disabilities.

7.6 Strengthening Lebanon's Adaptation M&E System

To operationalize an effective adaptation M&E system, Lebanon should undertake the following strategic actions. These strategic actions correspond to the Data and Monitoring enabler under the NAP, supporting the establishment of robust systems for climate risk tracking, evidence-based decision-making, and cross-sectoral learning.

- *Develop a national adaptation M&E framework* – Establish a standardized methodology, templates, and processes for tracking adaptation progress.
- *Strengthen institutional capacities* – Provide training and resources for sectoral and local government staff to improve M&E reporting.
- *Enhance data collection and management systems* – Invest in digital tools for climate risk tracking. In parallel, Lebanon aims to strengthen its climate data infrastructure, including expanding meteorological and hydrological observation systems, improving data quality and standardization, and enhancing access through interoperable digital platforms.
- *Mainstream adaptation M&E into national systems* – Align adaptation M&E with existing government planning, DRR, and development monitoring frameworks.
- *Foster participatory M&E approaches* – Encourage citizen engagement, community-based monitoring, and private sector reporting to enhance adaptation transparency.
- *Leverage international support* – Work with UN agencies, climate finance institutions, and regional organizations to strengthen Lebanon's adaptation M&E systems.

8. Research, Data, Innovation and Knowledge Management

Effective adaptation to climate change in Lebanon requires a strong foundation of research, innovation, and knowledge management to inform decision-making, enhance technical capacities, and foster collaboration. The development and strengthening of climate data systems, such as observation infrastructure, modelling tools, and digital data platforms, provide the necessary foundation for evidence-based planning and decision-making, including the Monitoring and Evaluation of adaptation progress.

8.1 Objectives of Research, Innovation, and Knowledge Management in Adaptation

The research, innovation, and knowledge management component of the NAP aims to:

- Directly support the implementation of Lebanon's National Adaptation Plan by ensuring that adaptation decisions are based on scientific evidence, technological innovation, and continuous learning.
- Generate evidence-based adaptation solutions by strengthening climate science, vulnerability assessments, and sectoral research.
- Support innovation and technology adoption in climate adaptation across key sectors.
- Facilitate knowledge-sharing and capacity-building among stakeholders.
- Ensure continuous learning and refinement of adaptation strategies.
- Enhance regional and international collaboration to leverage best practices and lessons learned.

8.2 Strengthening Climate Adaptation Research and Data Systems

A robust climate research ecosystem is crucial for developing tailored adaptation solutions and tracking climate risks. Lebanon should invest in scientific research, data collection, and applied studies to improve adaptation planning and decision-making.

8.2.1 Enhancing Climate Science and Impact Research

To build a stronger evidence base for adaptation, Lebanon should:

- Expand research on climate impacts across key sectors (e.g., agriculture, water, biodiversity, public health, infrastructure).
- Strengthen national research and academic institutions to improve climate risk assessments and sectoral vulnerability studies.
- Further develop high-resolution climate models and decision-support tools to refine future climate projections and guide adaptation planning.

8.2.2 Improving Climate Data Collection and Management

A well-structured climate data system ensures informed decision-making. To enhance data availability and accessibility, Lebanon should:

- Strengthen the national climate monitoring network (e.g., meteorological stations, hydrological observation systems, etc.).
- Improve climate data management platforms to facilitate open access for policymakers, researchers, and practitioners.
- Ensure integration of climate data into national statistical systems for better tracking of adaptation outcomes.
- Develop real-time climate information systems to enhance early warning, risk management and decision making.

8.2.3 Expanding Applied Research for Adaptation

Lebanon aims to bridge the gap between research and implementation by supporting applied and community-driven research on adaptation. This will include:

- Action-oriented research to develop solutions tailored to Lebanon's climate vulnerabilities.
- Cost-benefit analyses of adaptation interventions to guide sectoral decision-making.
- Integration of traditional knowledge and community-based adaptation practices into scientific research.

8.3 Leveraging Innovation and Technology for Adaptation

Innovation is a key driver of climate resilience, enabling Lebanon to implement cost-effective and scalable adaptation solutions. Lebanon aims to promote technological advancements, digital solutions, and private sector engagement to enhance adaptation efforts.

8.3.1 Priority Areas for Innovation and Technology Application

Climate-Smart Technologies and Practices	Integrated Planning and Risk Management Tools	Digital Solutions and Inclusive Innovation
Climate-smart agriculture: Drought-tolerant crops, regenerative farming systems, AI-assisted precision agriculture, and water-efficient irrigation technologies. *Resilient energy solutions:* Solar-powered irrigation, energy-efficient infrastructure, hybrid energy systems for urban and rural services. *Smart water management:* Climate-resilient water infrastructure, rainwater harvesting, greywater recycling, advanced desalination technologies, and digital water monitoring systems.	*Nature-based and ecosystem-based adaptation:* Innovative approaches for ecosystem restoration, reforestation, riparian buffer zones, coastal resilience, and green urban infrastructure. *Risk assessment and decision-support systems:* Integration of AI, GIS, climate modelling, and early warning systems into disaster risk reduction, health surveillance, and urban planning. *Financial and insurance innovations:* Climate risk insurance, microinsurance for farmers and SMEs, resilience bonds, green credit products, and adaptive social protection mechanisms.	*Data and monitoring innovations:* Real-time adaptation tracking platforms, digital NDC/NAP monitoring systems, and use of citizen-generated data to support inclusive, evidence-based planning. *Tourism innovation:* Climate-adaptive infrastructure design, digital tourism platforms, and immersive technologies (e.g., virtual tourism) to diversify tourism models. *Locally driven innovation:* Engaging youth, women, and communities in co-designing low-cost, locally appropriate solutions through innovation hubs and incubators.

8.3.2 Strengthening Research-Innovation Linkages

To ensure research translates into real-world adaptation solutions, Lebanon aims to:

- Formalize partnerships between national research institutions, adaptation coordination bodies, and the private sector to promote demand-driven innovation.
- Enhance collaboration between academia, the private sector, and policymakers to co-develop adaptation technologies.
- Establish national and regional innovation hubs to support climate startups and incubate adaptation technologies.
- Encourage joint research programs between Lebanese universities and international adaptation research institutions.
- Support demand-driven research, ensuring that findings are directly relevant to adaptation implementation needs across sectors and governance levels.

8.3.3 Scaling Up Digital Solutions for Adaptation

Digital transformation presents an opportunity to enhance climate adaptation efforts through real-time monitoring and predictive analytics. Lebanon aims to:

- Develop mobile applications for real-time climate risk alerts and community-based adaptation solutions.
- Leverage big data analytics to enhance climate forecasting and early warning systems.
- Expand e-learning platforms to improve adaptation literacy and capacity among government officials, private sector actors, and local communities.

8.4 Knowledge Management and Capacity Development

Ensuring continuous knowledge exchange and capacity-building is critical for effective adaptation. Lebanon should invest in structured knowledge management systems and training programs to enhance institutional learning and information-sharing and to ensure that research and learning are systematically integrated into decision-making and implementation processes.

8.4.1 Promoting Communities of Practice (CoPs)

To foster collaboration and peer learning, Lebanon should:

- Develop sector-specific knowledge-sharing networks to support adaptation practitioners.
- Facilitate peer-learning exchanges between municipalities and local adaptation leaders.
- Organize multi-stakeholder dialogues to strengthen coordination across adaptation sectors.
- Organize annual Adaptation Learning Forums, bringing together policymakers, researchers, and practitioners to assess progress, challenges, and emerging risks.

8.4.2 Strengthening Capacity-Building Programs

To enhance technical expertise and adaptation literacy, Lebanon aims to:

- Develop national adaptation training programs for government agencies, businesses, and civil society.

- Offer sector-specific capacity-building initiatives on adaptation finance, NbS, and disaster risk management.
- Provide technical assistance to local governments for integrating adaptation into municipal planning.

8.5 Enhancing Regional and International Cooperation

Lebanon's adaptation success relies on strong partnerships with global and regional climate networks. Strengthening these collaborations will improve access to finance, technical expertise, and policy support.

8.5.1 Engaging with International Climate Research Networks

To expand Lebanon's research and innovation capacity, Lebanon aims to:

- Align national adaptation research priorities with regional and global climate resilience agendas, ensuring that Lebanon contributes to and benefits from cutting-edge climate science.
- Collaborate with global climate science institutions (e.g., IPCC, WMO, UNEP) to improve climate risk modelling.
- Participate in regional adaptation initiatives to exchange knowledge and best practices.
- Leverage international climate finance to support research and technology innovation in adaptation.

8.5.2 Strengthening South-South and Triangular Cooperation

Lebanon should enhance cooperation with Mediterranean, Arab, and African nations by:

- Engaging in adaptation knowledge-sharing partnerships with countries facing similar climate risks.
- Mobilizing regional adaptation financing to implement shared climate resilience programs.
- Facilitating regional training and capacity-building exchanges on climate risk management.

9. Legal and Policy Framework

The successful implementation of Lebanon's National Adaptation Plan depends on a well-aligned policy and regulatory framework that enables and accelerates climate resilience across sectors. While Lebanon has made progress in mainstreaming climate change into various national policies, legal and institutional gaps remain. This section highlights the existing policy landscape, identifies key challenges, and outlines priority areas for strengthening governance and legal frameworks for adaptation.

9.1 Existing Policy Frameworks for Adaptation

Lebanon has developed several policies, strategies, and frameworks that support climate adaptation, including:

- Nationally Determined Contributions (NDCs) – Commitments under the Paris Agreement that outline Lebanon's adaptation and mitigation priorities and targets.
- National Water Sector Strategy (NWSS) (2024–2035) – Addresses climate change impacts on water availability, governance, and management through efficiency, resilience, and sustainability measures.
- National Agriculture Strategy (2020–2025) – Provides a comprehensive framework for sustainable agricultural development, integrating climate resilience measures, soil and water conservation, and adaptive farming practices.
- Ministry of Agriculture Strategic Directions (2025–2026) – Builds on the Agriculture Strategy by outlining short-term implementation priorities, focusing on capacity-building, sustainable production systems, and climate adaptation at the local level.
- National Strategy for Forest Fire Management (2024) – Enhances Lebanon's preparedness and response capacity to forest fires through prevention, early warning, and community-based management aligned with adaptation priorities.
- National Forest Program (2015–2025) – Promotes sustainable forest management, afforestation, and ecosystem-based adaptation for biodiversity and watershed protection.
- National Biodiversity Strategy and Action Plan (NBSAP) (2025–2030, aligned with the Post-2020 Global Biodiversity Framework) – Provides a nationally aligned framework for biodiversity conservation, ecosystem restoration, and sustainable resource management, supporting ecosystem-based approaches to climate adaptation.
- National Strategy for Disaster Risk Reduction (2021–2030) – Builds on earlier DRR frameworks (2012–2030) to strengthen governance, risk-informed planning, and resilience to climate- and weather-induced hazards.
- National Physical Master Plan of the Lebanese Territory (NPMPLT, 2009) – Offers the spatial planning framework for sustainable land use, infrastructure development, and urban adaptation planning.
- Draft Integrated Coastal Zone Management Strategy – Promotes sustainable coastal development, ecosystem protection, and adaptation to sea-level rise and coastal erosion.
- Draft High Mountains Strategic Land Use Planning (MoPWT/MoE, 2025) – Guides adaptive land-use and conservation practices in high-altitude and ecologically sensitive areas.

- Lebanon National Health Strategy: Vision 2030 (2023) and Two-Year Review (2025) – Strengthen the health sector's resilience to climate-induced risks, including heat stress, vector-borne diseases, and disaster preparedness.
- Draft Destination Marketing Organizations (DMO) Sustainable Tourism Strategy for the Mountains of Lebanon (MoE/UNDP/GEF, 2021) and Ministry of Tourism Vision 2035 – Promote sustainable, climate-resilient, and diversified tourism models that support ecosystem protection and rural livelihoods.
- Lebanon's Economic Vision (LEV) – Identifies key sectors for sustainable development and inclusive growth (agriculture, industry, tourism, and energy), aligning economic recovery with green and climate-resilient pathways (Government of Lebanon/McKinsey, 2018).

These frameworks provide a foundation for adaptation efforts, but challenges in enforcement, policy coherence, and institutional coordination remain barriers to effective implementation.

9.2 Legal and Institutional Gaps

Despite progress in policy development, Lebanon faces key regulatory and institutional challenges that hinder the effective implementation of adaptation measures, which are summarized in Table 29:

Table 29: Legal and institutional gaps

Key Gap	Description
Fragmentation and weak enforcement	Adaptation responsibilities are dispersed across institutions, with no comprehensive legal mandate supporting the coordination role of existing national structures such as the NDC Committee for adaptation. Enforcement mechanisms remain limited.
Limited integration into budgeting	Adaptation measures are not systematically reflected in sectoral, municipal, and national budgets, affecting implementation and sustainability.
Unclear mandates for local governments	While new structures such as Local Authority Climate Change Committees are envisioned, municipalities currently lack formal legal mandates and institutional authority to lead adaptation planning and implementation.
Gaps in climate finance regulation	Absence of a national adaptation financing framework hinders effective mobilization, access, and tracking of adaptation finance.
Weak private sector engagement	Legal and policy frameworks do not yet provide adequate incentives or regulatory provisions to catalyze private sector investment in adaptation.

9.3 Policy Alignment and Future Reforms

To strengthen Lebanon's policy and legal frameworks for adaptation, the following actions, summarized in Table 30, are recommended:

Table 30: Policy alignment and future reform priorities

Priority Area	Recommended Action
Strengthening climate governance	Formalize and expand the legal mandate of the NDC Committee to ensure it fully supports adaptation coordination, with clear links to technical and sectoral coordination bodies such as the Adaptation TWG and sectoral taskforces.
Empowering local governments	Enact national policies and legal frameworks to define the roles and responsibilities of municipalities and LACCFs in adaptation planning and implementation.
Mainstreaming adaptation into budgeting	Develop legal and procedural instruments to require systematic integration of adaptation priorities into sectoral and municipal budget cycles.
Climate finance enablement	Introduce a national adaptation financing framework with legal provisions supporting public-private financing, blended finance, and incentives for private sector engagement.
Enforcement and compliance mechanisms	Strengthen enforcement of adaptation-related legislation and require sectoral alignment with national climate and development commitments.

Ongoing legislative initiatives, such as the draft Climate Change Law, are expected to provide additional legal underpinnings for adaptation governance and coordination.

10. International Cooperation and Partnerships

Lebanon recognizes that successful climate adaptation requires strong regional and international cooperation, strategic partnerships, and access to global knowledge, financing, and technical expertise. Given its geographical and economic vulnerabilities, Lebanon should leverage strategic international partnerships and support to strengthen resilience, enhance institutional capacity, and scale up adaptation efforts.

10.1 Collaboration with Regional and International Organizations

Lebanon actively collaborates with multilateral, regional, and international organizations to enhance adaptation capacity and climate governance. Key partnerships include:

- **United Nations Framework Convention on Climate Change (UNFCCC)** – Supporting Lebanon's compliance with global climate commitments, including the Paris Agreement and NDCs.
- **The Mediterranean Action Plan (MAP) and Union for the Mediterranean (UfM)** – Advancing regional cooperation on coastal and marine adaptation.
- **The Sendai Framework for Disaster Risk Reduction** – Strengthening climate resilience through risk-informed development.
- **Multilateral Environmental Agreements (MEAs)** – Aligning adaptation measures with global commitments, including the Convention on Biological Diversity (UNCBD) and the UNCCD.

10.2 Participation in Global Climate Initiatives

Lebanon remains committed to engaging in global climate platforms and initiatives to access climate finance, technical assistance, policy support, and peer learning opportunities. Key areas of participation include:

- *Accessing climate finance* – Engaging with the GCF, GEF, AF, and bilateral donors to finance adaptation priorities.
- *The NDC Partnership* – Supporting the integration of adaptation actions into national planning and implementation strategies, and providing facilitation support to mobilize financing for adaptation priorities.
- *Science and research networks* – Strengthening engagement in the Intergovernmental Panel on Climate Change (IPCC), regional climate research centers, and adaptation innovation hubs to promote science-driven decision-making.
- *International technical assistance for adaptation governance* – Engaging in peer-learning and exchange programs with countries that have successfully implemented climate adaptation policies to enhance governance structures and legal frameworks.

10.3 Leveraging International Expertise and Resources

Lebanon will continue to strengthen partnerships with development partners, technical institutions, and private sector stakeholders to:

- Mobilize international expertise for capacity-building programs and technical training.
- Facilitate knowledge exchange on best practices, technology transfer, and innovation in climate adaptation.
- Strengthen access to climate information systems, digital adaptation platforms, and GIS-based climate risk assessment tools.
- Enhance public-private collaboration to unlock investments in climate-resilient infrastructure and ecosystem-based adaptation.

10.4 Strengthening Future Engagement

Going forward, Lebanon aims to expand its regional and international partnerships, focusing on:

- Deepening engagement with climate finance mechanisms to secure sustainable adaptation funding.
- Strengthening bilateral cooperation with countries facing similar climate challenges.
- Enhancing South-South and triangular cooperation to exchange knowledge, best practices, and innovations in adaptation.
- Strengthening Lebanon's leadership role in regional adaptation discussions, ensuring the country contributes to and benefits from regional adaptation initiatives.

Through active global engagement, Lebanon aims to position itself as a regional leader in climate resilience while ensuring long-term sustainability in its adaptation efforts.

10.5 Enhancing Cross-Border Collaboration

Given Lebanon's geographical position in the Eastern Mediterranean, climate risks and environmental pressures require regional coordination and transboundary cooperation to enhance adaptation efforts. Key areas of cross-border collaboration include:

Table 31: Key areas for cross-border collaboration on climate adaptation

Collaboration Area	Key Priorities and Actions	Linked Strategic Outcome
Water resource management	Strengthen transboundary cooperation on shared water resources. Promote regional water diplomacy and data-sharing mechanisms.	2, 12
Disaster risk reduction and early warning	Develop joint DRR strategies for climate-related hazards (e.g., floods, droughts, wildfires). Enhance cross-border early warning and emergency response systems.	9, 12
Ecosystem and biodiversity conservation	Advance transboundary forest and rangeland restoration Strengthen collaboration on marine and coastal adaptation under the Mediterranean Action Plan.	3, 4
Energy and climate-smart infrastructure	Foster regional collaboration on renewable energy integration and energy resilience. Align infrastructure with regional climate-smart investment priorities.	5, 11

Collaboration Area	Key Priorities and Actions	Linked Strategic Outcome
Public health and climate resilience	Enhance regional public health surveillance and disease monitoring systems. Coordinate regional plans for heat stress response and pandemic preparedness.	8, 12
Food security and agriculture	Coordinate regional food security strategies and promote climate-resilient agriculture. Support cross-border trade in climate-resilient crops and seed varieties.	1, 2
Climate finance and investment	Strengthen regional cooperation on adaptation financing (e.g., resilience bonds, pooled insurance). Expand cross-border PPPs for resilient infrastructure.	11
Tourism and cultural heritage protection	Coordinate regional tourism strategies to safeguard climate-vulnerable destinations. Promote inclusive and sustainable cross-border ecotourism development.	6, 7, 13

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Annex I: Adaptation Gap Analysis

A. Key factors enabling effective adaptation

Respondents identified the following factors as most critical for the success of climate adaptation measures in their sectors:

1. Availability of funding
2. Technical expertise and institutional capacity
3. Community engagement and participation
4. Government support
5. Coordination among stakeholders

B. Main barriers to adaptation implementation

Respondents were asked to indicate the most significant barriers hindering implementation of adaptation measures. The most frequently cited included:

1. Insufficient funding
2. Lack of coordination among institutions
3. Lack of clear policy guidance
4. Insufficient institutional enabling environment
5. Inadequate infrastructure (e.g., laboratories, equipment, internet)

C. Integration of adaptation into policies

Participants were asked to assess how well adaptation is integrated into national and sectoral policies. The majority indicated that adaptation is only moderately or slightly integrated.

D. Sectors with stronger mainstreaming of adaptation

Respondents selected the sectors where adaptation is most successfully mainstreamed. The most frequently mentioned were:

1. Water
2. Agriculture
3. Biodiversity and Forestry
4. Disaster Risk Reduction
5. Energy

E. Priority areas for improving the policy environment

Respondents were asked to identify the most important areas for strengthening the policy environment for adaptation in Lebanon. The top areas included:

1. Strengthen policy enforcement mechanisms
2. Allocate adequate funding for implementation

3. Improve inter-ministerial coordination
4. Build capacity for policy implementation
5. Align policies with international frameworks

F. Improvements for stakeholder collaboration and coordination

To address coordination challenges, participants identified the following improvements as most critical:

1. Establish data and resource-sharing mechanisms
2. Clarify institutional roles and responsibilities across levels
3. Develop joint action plans with shared ownership
4. Conduct regular stakeholder meetings and workshops
5. Promote transparency in decision-making

G. Opportunities for enhancing climate adaptation

Participants highlighted the most relevant opportunities that could be leveraged to strengthen adaptation efforts:

1. Access to climate finance
2. Innovative technical solutions
3. Capacity-building programs
4. Policy reforms to support adaptation
5. Regional cooperation and partnerships

H. Existing opportunities already in place

Respondents were also asked to identify existing opportunities already available in their sectors. The most frequently mentioned included:

1. Private sector partnerships
2. Regional cooperation platforms
3. Access to adaptation-related research and data
4. Capacity-building initiatives

I. Challenges in accessing adaptation financing

The main challenges encountered in accessing financing for adaptation were identified as:

1. Bureaucratic delays and complex fund management processes
2. Limited information on available funding opportunities
3. Lack of staff dedicated to resource mobilization and proposal development
4. Political and economic instability
5. Inadequate funding amounts

J. Monitoring and Evaluation needs

Respondents identified the following as key improvements needed to strengthen monitoring and evaluation of adaptation measures:

1. Standardization of data collection methods
2. Greater transparency and use of measurable indicators
3. Improved coordination among stakeholders
4. Enhanced analytical capacity of implementing staff
5. Use of technology and digital tools in M&E

K. Main threats to effective climate adaptation

Respondents highlighted the following systemic threats to Lebanon's ability to adapt effectively:

1. Economic instability
2. Political unrest
3. Weak governance structures
4. Lack of funding
5. Data gaps and lack of accurate climate information

L. Capacity gaps in implementing adaptation measures

Respondents identified the following key institutional and operational capacity constraints:

1. Limited financial resources
2. Weak coordination mechanisms across institutions
3. Gaps in legal and regulatory frameworks
4. Limited access to climate data and institutional knowledge

Adaptation Barriers Frequency	
Factor	Frequency
Insufficient funding	26
Lack of coordination among institutions	24
Lack of clear policy guidance	20
Insufficient institutional enabling environment	17
Limited stakeholder engagement and awareness	13
Insufficient necessary infrastructure (labs, vehicles, equipment, energy, internet and other material)	11
Lack of technical staff	9

Effectiveness Factors Frequency	
Barrier	Frequency
Slightly integrated	21
Moderately integrated	16
Not integrated	2
Very integrated	1

Mainstreamed Sectors Frequency	
Sector	Frequency
Biodiversity and Forestry	16
Agriculture	15
Water	15
Energy	14
Disaster Risk Reduction	9
Education	2
Public Health	2
Policy implementation	2
National Development	1

Policy Improvement Areas Frequency	
Policy Improvement Area	Frequency
Strengthen policy enforcement	32
Allocate adequate funding for implementation	28
Improve inter-ministerial coordination	24
Increase stakeholder engagement	18
Build capacity for policy implementation	11
Align policies with international frameworks	5

Stakeholder Collaboration Improvements Frequency	
Collaboration Improvement	Frequency
Data and resources sharing mechanisms	27
Clear definition of roles and responsibilities across different administrative levels	23
Development of joint action plans with shared ownership and accountability	23
Regular stakeholder meetings and workshops	22
Transparency in decision-making	17
Clear communication channels	8

Adaptation Opportunities Frequency	
Opportunity for Adaptation	Frequency
Access to climate finance	29
Policy reforms to support climate adaptation	19
Private sector partnerships	19
Innovative technical solutions	17
Access to adaptation-related research and data	13
Regional cooperation and partnerships	12
Capacity-building programs	11

Existing Opportunities Frequency	
Existing Sector Opportunity	Frequency
Capacity-building programs	26
Innovative technical solutions	23
Regional cooperation and partnerships	23
Access to adaptation-related research and data	14
Policy reforms to support climate adaptation	14
Private sector partnerships	13
Access to climate finance	7

Funding Challenges Frequency	
Funding Challenge	Frequency
Bureaucratic delays and complex application and fund management processes	29
Political or economic instability	28
Limited information on funding opportunities	21
Inadequate funding amounts	15
Lack of staff dedicated for resource mobilization/project proposal writing	14
Limited access to technical assistance	8

M&E Improvements Frequency	
M&E Improvement Area	Frequency
Standardize data collection methods	32
Increase transparency, accountability and the use of measurable indicators	31
Strengthen coordination among stakeholders	18
Enhance technical and analytical capacity-building for staff involved in M&E	15
Improve use of technology and tools	15
Allocate more resources for M&E	6

Climate Adaptation Threats Frequency	
Adaptation Threat	Frequency
Political unrest	28
Weak governance structures	27
Economic instability	24
Lack of funding	20
Data gaps and lack of accurate climate information	15
Lack of community engagement	5

Adaptation Capacity Challenges Frequency	
Capacity Challenge	Frequency
Financial resources	35
Coordination between institutions	27
Adequate legal and operational regulatory framework	21
Access to climate data	16
Institutional knowledge and experience	10
Technical expertise	10

Stakeholder Ratings on Adaptation Implementation		
Thematic Area	Weighted Mean Score	Standard Deviation
Effectiveness of adaptation measures (NDCs/sectoral)	2.88	0.64
Coordination of local and national adaptation policies	2.52	0.59
Integration of gender and inclusiveness	2.8	0.87
Success of initiatives empowering women, youth, marginalized groups	3.02	0.85

Annex II: NAP Implementation Plan:

Key Action and Priority Area	Key Activities	Timeframe
I. Agriculture Sector		
I.1. Agriculture Priority Area 1: Support farmers through an integrated approach that promotes climate-smart infrastructure and practices (water harvesting including from non-conventional sources, water efficient use, hail-proof nets, terraces, hydroponics, renewable energy solutions, etc.), expands technology and innovation in agriculture systems, including agroforestry, regenerative agriculture, conservation agriculture, organic farming and other sustainable systems, and adopts circular and bioeconomy approaches.		
I.1.1 Expand climate-smart infrastructure to include greenhouses, hydroponic systems, aquaculture infrastructure, beehives, and animal husbandry infrastructure.	I.1.1.1. Conduct a comprehensive study to assess the technical, economic, and environmental feasibility of climate-smart greenhouses, including optimal locations, adaptive structures, crop suitability, construction materials, and energy efficiency measures.	**Short Term (2026-2028)**
	I.1.1.2. Conduct a technical and market assessment of hydroponic systems to determine the most appropriate models (e.g., NFT, vertical farming) based on local conditions, input availability, and farmer capacity.	**Short Term (2026-2028)**
	I.1.1.3. Conduct a site suitability and systems design study for climate-resilient aquaculture, focusing on water availability and quality, species selection, environmental risks, and the potential for low-impact systems like RAS, drip irrigation or and aquaponics.	**Short Term (2026-2028)**
	I.1.1.4. Conduct a national landscape-level assessment to identify optimal zones for beekeeping infrastructure, including forage availability, climate stressors, and community readiness, while evaluating suitable hive technologies for resilience.	**Short Term (2026-2028)**
	I.1.1.5. Conduct a national needs and climate-risk assessment of existing animal husbandry infrastructure to identify priority areas for investment in heat-resilient shelters, water access improvements, and sustainable waste management systems; and develop guidelines for climate-smart infrastructures.	**Short Term (2026-2028)**
	I.1.1.6. Pilot a modern animal husbandry farm applying circular economy principles (waste reuse, renewable energy, and water efficiency) in a suitably defined area aligned with urban planning and climate-change considerations, ensuring utility access.	**Medium Term (2029-2032)**
I.1.2 Create an investment support scheme to support farmers transitioning to climate-resilient farming systems.	I.1.2.1 Conduct a legal, financial, and institutional feasibility study to design a climate resilience fund, including analysis of governance structures, funding mechanisms, eligibility criteria, and integration with national climate and agricultural policies.	**Short Term (2026-2028)**

Key Action and Priority Area	Key Activities	Timeframe
I.1.3 Develop an interactive mobile app for farmers offering weather alerts, pest control guidelines, agricultural market connections, and expert consultations.	I.1.3.1 Develop or upgrade an interactive mobile app for farmers offering weather alerts, pest control guidelines, agricultural market connections, and expert consultations based on localized weather and soil data.	**Short Term (2026-2028)**
	I.1.3.2 Implement remote sensing technologies for crop yield monitoring across diverse agro-ecological zones and develop national guidelines for integrating yield data into agricultural support systems and policies.	**Medium Term (2029-2032)**
	I.1.3.3 Provide training for farmers and agricultural officers to interpret crop yield data and utilize monitoring systems for improved decision-making and targeted interventions.	**Medium Term (2029-2032)**
I.1.4 Guarantee that smallholder farmers, women, and marginalized groups have access to resources, opportunities, and decision-making spaces.	I.1.4.1 Develop and provide tools, training, and funding for smallholder farmers, women, and marginalized groups to grow their livelihoods.	**Short Term (2026-2028)**
I.1.5 Explore and develop financing mechanisms and economic tools to support, monitor, and scale climate adaptation measures, with a focus on sustainable farming and food security resilience.	I.1.5.1 Identify and design appropriate funding mechanisms and economic instruments to implement and monitor adaptation measures, with a focus on supporting sustainable farming and enhancing food security resilience.	**Short Term (2026-2028)**
I.2. Agriculture Priority Area 2: Enhance efficient use of irrigation water, including the use of Renewable Energy (RE) in pressurized and meter distribution, by supporting research and development in defining crop and animals water climate demand, and adapting irrigation scheduling in pilot projects within various irrigation schemes.		
I.2.1. Undertake studies on water consumption and water needs of animal breeds, various crops and cultivars, and their variability with climate change, agriculture production systems (crop rotations, no-tillage agriculture, organic farming, mixed farming), and regions.	I.2.1.1. Conduct a study to identify and prioritize animal breeds, crops, and cultivars relevant to target regions and vulnerable to climate-induced water stress.	**Short Term (2026–2028)**
	I.2.1.2. Conduct studies on water consumption and needs under varying climatic scenarios and analyze agricultural production systems (e.g., crop rotation, no-tillage, organic, mixed farming, integrating protection, intercropping, mulching, etc.) to evaluate their impact on water use and recommend adaptive strategies.	**Short Term (2026–2028)**
	I.2.1.3. Disseminate the results of the studies to the MoA extension service, technicians, and farmers.	**Short Term (2026–2028)**
I.2.2. Ensure a sustainable energy mix prioritizing renewable energy allocation for agriculture with the MOEW (energy strategy) where agriculture can serve as an energy source (bioenergy) or a consumer to it.	I.2.2.1. Assess the agriculture sector's energy needs, particularly for irrigation, and identify priority areas to integrate affordable renewable energy (solar, hydropower, wind) in coordination with MOEW and based on CNRS's national plan.	**Short Term (2026–2028)**
	I.2.2.2. Explore and promote agricultural practices that generate renewable energy, such as bioenergy production from waste and residues.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
I.2.3. Develop and implement adaptive irrigation scheduling systems using climate data, soil moisture monitoring, and renewable energy sources to optimize water use efficiency.	I.2.3.1. Establish a data collection framework for soil moisture and weather patterns to create predictive models for irrigation scheduling across different agricultural systems.	**Short Term (2026–2028)**
	I.2.3.2. Conduct pilot projects to test adaptive irrigation systems, integrating real-time climate data, soil conditions, soil moisture sensors, and crop water demand models, powered by renewable energy.	**Medium Term (2029–2032)**
	I.2.3.3. Conduct a market assessment on renewable energy providers to explore the potential to implement solutions such as solar or wind energy to power irrigation systems in agriculture.	**Short Term (2026–2028)**
I.3. Agriculture Priority Area 3: Implement a nationwide agriculture orientation/extension and capacity-building program, aimed at strengthening communication channels, improving sustainable agricultural practices, and fostering sustainable farming techniques through direct engagement with farmers.		
I.3.1. Conduct a comprehensive assessment of ministry's technical capacity and training needs and develop targeted training programs for staff on modern agricultural practices, project management, and disaster response.	I.3.1.1. Conduct a comprehensive assessment of ministry's technical capacity and training needs and develop targeted training programs for staff on modern agricultural practices, artificial intelligence use, project management, and disaster pro-action and prompt disaster response.	**Short Term (2026–2028)**
I.3.2. Strengthen research-extension linkages by establishing a national platform for rural advisory services, internship programs, and research grants for agricultural innovations.	I.3.2.1. Establish a national platform for participatory rural advisory services, internship programs, and research grants for agricultural innovations.	**Medium Term (2029–2032)**
I.3.3. Upgrade Ministry of Agriculture (MoA) facilities and technological tools to facilitate engagement with farmers and improve service delivery.	I.3.3.1. Conduct a technical, and technological needs assessment of the MoA and propose a roadmap to upgrade ministry's facilities and technological tools to facilitate engagement with farmers and improve service delivery.	**Medium Term (2029–2032)**
	I.3.3.2. Conduct studies at research institutes at the farm level to demonstrate to farmers the advantage of using smart apps in saving energy and conserving water while improving yield, ensuring materials are accessible and locally supported.	**Medium Term (2029–2032)**
	I.3.3.3. Conduct training sessions to promote the adoption of the AgSAT mobile app, which helps farmers manage crop evapotranspiration in real-time.	**Short Term (2026–2028)**
I.3.4. Implement measures to retain skilled agricultural staff by offering professional development and career advancement opportunities.	I.3.4.1. Develop and implement a comprehensive professional development and training program to upskill agricultural staff.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
I.3.5. Establish and dispatch mobile units to encourage farmer registration and issue validated Farmers IDs.	I.3.5.1. Establish and dispatch mobile units to encourage farmer registration and issue validated Farmers IDs.	**Short Term (2026–2028)**
I.3.6. Encourage collaboration among government agencies, private sector, NGOs, and academia to develop unified agriculture and adaptation policies.	I.3.6.1. Operationalize the agriculture TFs under the NDC committee for the joint development of integrated agriculture and climate adaptation policies.	**Short Term (2026–2028)**
	I.3.6.2. Facilitate open days and knowledge exchange visits to pilot agriculture and climate adaptation projects, engaging universities and local stakeholders to promote learning, transparency, and collaboration among agricultural sector stakeholders.	**Short Term (2026–2028)**
I.3.7. Increase agricultural production and productivity, by providing incentives and extension on climate-adapted animals and locally adapted plant material.	I.3.7.1. Conduct on climate-proofing priority agricultural products and supply chains, starting with apples and at least one other key cash crop (eg: olives, grapes, or citrus), with a plan for gradual expansion.	**Short Term (2026–2028)**
	I.3.7.2. Develop and implement an incentive and extension package that encourages local legalized access to genetic material, farmer field demonstrations, and tailored training on climate-smart production practices.	**Medium Term (2029–2032)**
	I.3.7.3. Establish a certification programme for locally adapted plant material with LARI, private nurseries, and the MoA.	**Medium Term (2029–2032)**
	I.3.7.4 Implement a national variety catalogue that accounts for each variety's environmental and operational requirements and develop accessible factsheets for farmers and extension services.	**Short Term (2026-2028)**
	I.3.7.5. Conduct two studies on climate-proofing agricultural products, supply chains, with a focus on cash-crops.	**Short Term (2026–2028)**
	I.3.7.6. Implement adaptation measures to climate-proof apple supply chain based on the results of the GCF-NAP projects.	**Medium Term (2029–2032)**
I.3.8. Review the legislative framework related to agriculture and natural resources management and harmonize it with the conventions that are ratified by the Government in relation to climate change, combating desertification, and biodiversity.	I.3.8.1. Develop a coordination unit under the Ministry of Agriculture to oversee and align Lebanon's obligations under the UNFCCC, UNCCD, and UNCBD, ensuring coherence between agriculture, natural resource management, and climate adaptation policies.	**Short Term (2026–2028)**
	I.3.8.2. Conduct a legal and policy review to map existing agriculture and natural resource management laws against the obligations of the three conventions (UNFCCC, UNCCD, UNCBD), identifying gaps, overlaps, and areas for harmonization.	**Short Term (2026–2028)**
I.3.9. Prioritize the integration of agriculture-specific risks into national early warning systems by operationalizing the Agriculture and DRR Task Forces under the NDC Committee.	I.3.9.1. Provide MoA the necessary equipment and tools to ensure transfer of data and capacity related to early warning systems between MoA, LARI, CNRS, DRM Unit, and local municipalities.	**Short Term (2026–2028)**
	I.3.9.2. Operationalize the agriculture and DRR TFs under the NDC committee to better coordinate the integration of agriculture-specific risks into national early warning systems, including data-sharing protocols and joint response planning.	**Short Term (2026–2028)**

Key Action and Priority Area	Key Activities	Timeframe
I.3.10 Coordinate with national DRR efforts to enhance LARI's capacity to provide efficient, agriculture-specific early-warning services for farmers and fishers, particularly for climate adversities and pest and zoonotic diseases including preventive, anticipatory, or curative measures.	I.3.10.1. Conduct a baseline capacity assessment of LARI's early warning systems, including technical infrastructure, human resources, data collection and analysis capabilities, communication channels, and stakeholder coordination mechanisms.	**Short Term (2026–2028)**
	I.3.10.2. Develop and implement a targeted action plan based on assessment findings, including investments in forecasting tools, digital communication platforms, training for staff, and protocols for timely dissemination of warnings and advisories to farmers and fishers.	**Medium Term (2029–2032)**
I.4. Agriculture Priority Area 4: Rehabilitate infrastructure to address operational inefficiencies in public services related to the inspection and control of imported plants, animals, and plant materials, including measures for managing pesticide residues and preventing meat-borne diseases.		
I.4.1. Modernize and rehabilitate agricultural inspection and border control infrastructure, including laboratories and quarantine facilities, to strengthen phytosanitary and food safety measures against climate-aggravated risks.	I.4.1.1. Conduct a baseline assessment of existing agricultural inspection infrastructure, laboratories, and quarantine facilities to evaluate their functionality, equipment, staffing, and capacity to respond to emerging climate and food safety related threats.	**Short Term (2026–2028)**
	I.4.1.2. Develop a modernization and investment plan, prioritizing climate-resilient upgrades, procurement of essential diagnostic equipment, and infrastructure rehabilitation aligned with international phytosanitary and food safety standards.	**Short Term (2026–2028)**
	I.4.1.3. Modernize and rehabilitate agricultural inspection and border control infrastructure, including laboratories and quarantine facilities, to strengthen phytosanitary and food safety measures against climate-aggravated risks.	**Medium Term (2029–2032)**
	I.4.1.4. Update the quarantine list of pests, disease, invasive species, and pesticides, taking into consideration onset and long-term climate changes.	**Short Term (2026–2028)**
I.5. Agriculture Priority Area 5: Support the Ministry of Agriculture (MoA), Lebanese Agriculture Research Institute (LARI), and CNRS in developing suitability maps for crops, and create system for data and information sharing.		
I.5.1. Develop a suitability map for crops taking into consideration future climatic scenarios, other hazards, and future availability of water resources for irrigation.	I.5.1.1. Leverage and update existing agricultural assessments to develop a baseline assessment of current cropping patterns, agro-ecological conditions, water resource availability, and existing climate and hazard data to establish the foundation for suitability analysis.	**Short Term (2026–2028)**
	I.5.1.2. Develop a dynamic crop suitability mapping tool using downscaled climate projections, hydrological modeling, and GIS-based risk overlays to identify priority zones for resilient agricultural investment.	**Short Term (2026–2028)**
	I.5.1.3. Develop and deploy tools for generating evaporative stress maps across key agricultural zones in Lebanon to assess water use and stress on crops.	**Medium Term (2029–2032)**
	I.5.1.4. Develop and leverage existing applications and platforms for farmers to view and utilize the evaporative stress maps for optimized irrigation management and integrate these maps into regional and national water management strategies.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
I.5.2. Create systems for data collection, analysis, and reporting to track agricultural production, resource consumption, and market trends.	I.5.2.1. Design and pilot a standardized digital data collection system covering crop yields, input use, and market prices.	**Short Term (2026–2028)**
	I.5.2.2. Establish a centralized platform for storing, analyzing, and visualizing data with user-friendly dashboards.	**Medium Term (2029–2032)**
	I.5.2.3. Train agricultural officers and cooperative members on data entry, quality control, and basic analytics.	**Short Term (2026–2028)**
II. Forestry Sector		
II.1. Forestry Priority Area 1: Support Ministry of Agriculture, municipalities, and local communities in restoring and managing degraded forest and rangeland ecosystems, through reforestation, protection, and assisted regeneration measures, while mainstreaming biodiversity conservation, addressing climate change impacts, and sustaining the provision of ecosystem services.		
II.1.1. Restore degraded forest and rangelands affected by war, while mainstreaming biodiversity conservation and sustaining the provision of ecosystem services (products and services).	II.1.1.1. Conduct post-conflict ecological assessments and spatial mapping to identify priority degraded lands for reforestation or assisted regeneration using native, drought-resilient species in line with National Forest Programme (NFP) guidelines.	**Short Term (2026-2028)**
	II.1.1.2. Implement 4 restoration projects in identified priority areas.	**Medium Term (2029-2032)**
II.1.2 Manage climate-aggravated pest and disease outbreaks and invasive species to protect forests and forest resources.	II.1.2.1. Establish a nationwide forest pest and diseases early warning system with innovative technologies.	**Short Term (2026-2028)**
	II.1.2.2. Develop capacity building programs to train forestry officers and municipalities in bio-surveillance, rapid response, and safe pest control practices.	**Medium Term (2029-2032)**
	II.1.2.3 Assess main invasive species and identify most adapted management measures.	**Short Term (2026-2028)**
II.1.3. Develop/Update unified forest monitoring and reporting systems aligned with global standards, and monitor land use changes, forest and range resource assessment using geospatial analysis and field surveys.	II.1.3.1. Establish/update/Operationalize a digital national forest monitoring system (NFMS) with MRV (Monitoring, Reporting, Verification) protocols, including satellite-based deforestation alerts, participatory ground-truthing, and annual biodiversity reports, ensuring alignment with monitoring protocols with FAO Forest Resource Assessment (FRA) and Global Forest Observations Initiative (GFOI) standards.	**Medium Term (2029-2032)**
	II.1.3.2. Develop capacity building programme for forestry officers, municipalities and local communities to collect and share data with the NFMS.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
II.1.4. Promote private sector involvement in sustainable forest and range management.	II.1.4.1. Launch a national incentive scheme (e.g., tax exemptions, co-financing grants) to encourage private investment in sustainable forest management (including nature-based tourism, and agroforestry).	**Short Term (2026-2028)**
	II.1.4.2. Encourage/Promote Public Private Partnerships (PPPs) for forest and ranged based businesses by providing technical guidance, facilitating site access (e.g., via municipal land agreements), and developing business incubation for wood and non-wood forest products (NWFP) value chains.	**Medium Term (2029-2032)**
	II.1.4.3 Development of sites with improved production capacity linked to the processing of wood and non-wood forest products and responsive to local communities' needs for goods, services, and employment opportunities.	**Medium Term (2029-2032)**
II.1.5. Support LARI and MoA in upgrading the seed bank and establishing and managing arboreta or Genetic Conservation Units for tree and range species of high conservation value, including wild crop relatives.	II.1.5.1. Upgrade LARI's genetic preservation facilities with cold storage, viability testing, and digital cataloguing of native species and wild relatives of agricultural crops.	**Short Term (2026-2028)**
	II.1.5.2. Establish decentralized arboreta and ex situ conservation plots in climate-vulnerable bioclimatic zones for priority species.	**Medium Term (2029-2032)**
II.1.6. Promote inclusive youth entrepreneurship and job creation in forest and range landscape restoration.	II.1.6.1. Develop inclusive forest and range restoration entrepreneurship curricula through formal and nonformal programs and green business accelerators targeting youth.	**Short Term (2026-2028)**
	II.1.6.2. Develop an inclusive national support program to provide seed grants, toolkits, and mentorship for youth-led enterprises in sustainable forestry and range management, and non-wood forest product (NWFP) value chains.	**Medium Term (2029-2032)**
	17.6.3. Create incentives, training programs, and align educational initiatives with market demand in the green economy.	**Medium Term (2029-2032)**
	II.1.6.4. Develop a sensitization (awareness) program for youth on climate change adaptation and mitigation, and on sustainable forest management.	**Short Term (2026-2028)**
II.2. Forestry Priority Area 2: Upgrade the capacity and equipment of MoA guards (e.g., vehicles, drones) as a first line of intervention to suppress fires, and enhance their role in monitoring, supervision, and implementation of sustainable forest and rangeland management practices.		
II.2.1. Equip and strengthen the operational capacity of MoA with vehicles, drones, and field tools to enable rapid fire suppression, and to support the monitoring, supervision, and implementation of sustainable forest and rangeland management practices.	II.2.1.1. Procure and deploy firefighting vehicles, drones, and field equipment for MoA and vulnerable local communities to enable rapid fire suppression and enhance patrol coverage in high-risk forest and rangeland areas.	**Short Term (2026-2028)**
	II.2.1.2. Develop and implement specialized training programs for MoA on the use of drones, GPS tools, and fire suppression equipment to strengthen their role in early response, monitoring, and supervision of sustainable forest and rangeland management.	**Short Term (2026-2028)**

Key Action and Priority Area	Key Activities	Timeframe
II.2.2. Develop fire prevention measures and early warning systems for local communities to reduce the risk of intense and frequent forest fires.	II.2.2.1. Develop and operationalize an Integrated Forest Fire Information Management System (IFFMS) including real-time alerts, predictive fire-risk mapping, and drone monitoring.	**Short Term (2026-2028)**
	II.2.2.2 Develop capacity building programs to train local fire brigades and volunteers in early detection, community fire buffer creation, and emergency response coordination using risk zoning maps.	**Short Term (2026-2028)**
II.3. Forestry Priority Area 3: Mainstream climate change adaptation, fire and pest risk reduction, and biodiversity conservation into forest and rangeland planning through integrated restoration strategies, land use zoning, and the protection of climate-resilient species and corridors.		
II.3.1. Create a legal waiver mechanism allowing active prevention measures to reduce risks of fire and pest outbreaks, and other natural hazards in vulnerable ecosystems regardless of ownership.	II.3.1.1. Draft and adopt legal amendments authorizing municipalities and MoA to implement firebreaks, pest control, and surveillance actions on private lands in fire-prone zones under emergency risk clauses.	**Short Term (2026-2028)**
	II.3.1.2. Develop and roll out a notification and consent protocol for absentee landowners allowing temporary interventions by forest agencies during high-risk periods.	**Short Term (2026-2028)**
II.3.2. Promote innovative financing mechanisms to accelerate forests adaptation implementation measures.	II.3.2.1. Develop and adopt innovative financing mechanisms to accelerate forest adaptation implementation measures.	**Short Term (2026-2028)**
	II.3.2.2. Conduct an assessment study on the possibility of benefitting from carbon mechanism to include reforestation, afforestation, forest management activities, and forest risk reduction mechanism, into article 6.	**Short Term (2026-2028)**
II.3.3. Ensure corridors for species shifting to higher elevations in strategic land use planning and implement assisted regeneration for vulnerable species of high conservation value.	II.3.3.1. Integrate biodiversity corridor preservation into municipal land use plans and replant degraded links with native flora to ensure genetic connectivity.	**Medium Term (2029-2032)**
	II.3.3.2. Develop and implement research programs for the evaluation of the vulnerable and high conservation value species adaptive capacities to climate change, and the identification of best management practices.	**Medium Term (2029-2032)**
	II.3.3.3. Conduct ecological modeling to map elevation-based migration corridors and priority stepping-stone habitats under projected climate change scenarios.	**Short Term (2026-2028)**
II.3.4. Quantify carbon sinks, assess forest genetic resources, and evaluate their adaptive capacities to climate change to inform restoration and management strategies.	II.3.4.1. Conduct field trials of priority native species to evaluate drought tolerance, fire resistance, and phenological adaptability to inform seedling selection for restoration.	**Medium Term (2029-2032)**
	II.3.4.2. Inform restoration and management strategies platforms through Quantification of carbon sinks, assessment of forest genetic resources and evaluation of their adaptive capacities.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
III. Water Resources Sector		
III.1 Water Resource Priority Area 1: Develop cost-effective nationwide wastewater treatment and reuse plants to preserve surface and groundwater quality and enhance water pollution prevention measures.		
III.1.1. Prioritize nature-based solutions for wastewater treatment in rural areas.	III.1.1.1. Update the NWSS's baseline assessment of existing wastewater generation, treatment practices, and environmental impacts in targeted rural areas, identifying and evaluating feasible small-scale WWTP and nature-based treatment options (e.g., constructed wetlands, reed beds) based on site-specific conditions.	**Short Term (2026–2028)**
	III.1.1.2. Pilot and monitor selected nature-based solutions in priority rural communities to demonstrate effectiveness and scalability.	**Medium Term (2029–2032)**
III.1.2. Mobilize Funding and Investment for the Phased Implementation of NWSS.	III.1.2.1. Engage with development partners and climate financing institutions to secure co-financing and technical support for WWTP investments, aligned with the NWSS.	**Short Term (2026–2028)**
	III.1.2.2. Develop project proposals and investment briefs for decentralized low-cost treatment solutions in underserved areas, to attract blended or concessional financing.	**Medium Term (2029–2032)**
III.1.3. Establish coordination frameworks to monitor the implementation of the NWSS.	III.1.3.1. Establish an inter-institutional technical working group (such as MoEW, Ministry of Environment, Ministry of Agriculture, LIBNOR, academia) to oversee implementation and promote enforcement capacity.	**Short Term (2026–2028)**
	III.1.3.2. Follow-up on the implementation of the NWSS through the technical taskforces established by the MoEW.	**Medium Term (2029–2032)**
	III.1.3.3. Conduct a study to identify the linkages, trade-offs, and synergies between land-use, water and agriculture strategies, and develop guidelines to enhance collaboration among DGUP, MoEW, and MoA.	**Short Term (2026–2028)**
III.2. Water Resource Priority Area 2: Improve water infrastructure to support both agricultural and domestic needs by rehabilitating existing systems, controlling leaks, upgrading to pressurized and metered irrigation and distribution networks, reducing non-revenue water (NRW), and expanding surface water sources for irrigation.		
III.2.1. Explore and develop alternative sources for irrigation and upgrade irrigation schemes and water distribution networks by restoring concrete channels or installing pipes, ensuring fair water allocation.	III.2.1.1. Conduct a baseline assessment of irrigation sources, demand, efficiency levels, and water losses in targeted agricultural areas (identified with the MoA based on agreed upon criteria), with mapping of existing conveyance systems and identification of inequities in water access.	**Short Term (2026–2028)**
	III.2.1.2. Assess and construct surface water storage facilities to support the development of alternative irrigation water sources, including distribution systems, to enhance agricultural water availability for farmers.	**Medium Term (2029–2032)**
	III.2.1.3. Rehabilitate and upgrade existing irrigation networks by replacing inefficient open channels with concrete-lined canals, closed conduits, or pressurized pipe systems to reduce losses and support equitable distribution.	**Medium Term (2029–2032)**
	III.2.1.4. Develop and deploy a crowd-sensing mobile application for leak detection for citizens and farmers to report water leaks and waste, fostering community involvement in water management.	**Short Term (2026–2028)**

Key Action and Priority Area	Key Activities	Timeframe
III.2.2. Rehabilitate spring catchments and outflow systems and improve river embankments to optimize water availability from springs and stormwater.	III.2.2.1. Review and update hydrogeological and technical assessment of existing spring catchments to evaluate flow reliability, water quality, structural conditions, and current usage patterns.	**Short Term (2026–2028)**
	III.2.2.2. Identify (in coordination between MoEW and WEs), Rehabilitate and upgrade 2 priority spring catchments by limiting pollution, repairing collection structures, sealing leakages, and restoring outflow conduits to reduce losses and improve supply consistency.	**Medium Term (2029–2032)**
	III.2.2.3. Install basic water quality protection measures around catchment zones (e.g., fencing, signage, buffer zones) in line with pollution prevention and Water Safety Plans in accordance with the water law and the under the NWSS.	**Short Term (2026–2028)**
III.2.3. Develop financial tools and water economic policies (e.g., tariffs, water metering) to ensure the sustainability and financial balance of water services.	III.2.3.1. Update a baseline financial assessment of Water Establishments, including revenue streams, tariff structures, collection/subscription rates, and operational costs.	**Short Term (2026–2028)**
	III.2.3.2. Customize existing tariff model that reflect consumption levels and customer categories, aligned with affordability and full cost recovery objectives.	**Medium Term (2029–2032)**
III.2.4. Strengthen operational governance and management of irrigation and domestic water supply schemes to reduce non-revenue water and enhance system efficiency.	III.2.4.1. Establish two irrigation scheme-level water user associations or strengthen existing local mechanisms to take part in allocation decisions, monitoring, fee collection, and routine maintenance.	**Short Term (2026–2028)**
	III.2.4.2. Install 400 flow monitoring and control measures (e.g., volumetric metering, gate regulation, zonal monitoring) to track usage, reduce losses, and support transparent water management on prioritized schemes.	**Medium Term (2029–2032)**
	III.2.4.3. Implement SCADA systems across urban and rural districts to optimize water distribution, detect leaks in real-time, and improve billing efficiency, contributing to the strengthening of operational governance and management of water supply schemes, which directly targets reducing non-revenue water and enhancing system efficiency.	**Long Term (2033-2035)**

Key Action and Priority Area	Key Activities	Timeframe
III.3. Water Resource Priority Area 3: Enforce Water Law 192/2020 especially its articles pertaining to the polluter-pays principle, and principle and develop emergency response plans to preserve vulnerable water resources.		
III.3.1. Enforce Water Law 192/2020 and implement articles pertaining to polluting water bodies based on the polluter-pays principle.	III.3.1.1. Conduct/complete assessment on watershed/rivers/surface water complementing exsiting assessments of pollution sources (municipal, industrial, and agricultural) discharging into water bodies, and map these in coordination with Water Establishments.	**Short Term (2026–2028)**
	III.3.1.2. Update/complement the existing national groundwater assessment to identify pollution sources (municipal, industrial, and agricultural) discharging into water bodies, and map these in coordination with Water Establishments.	**Short Term (2026–2028)**
	III.3.1.3. Review effluent standards (decision 8/1 and 52/1), environmental compliance decree, and monitoring protocols in line with the Water Act and NWSS targets.	**Short Term (2026–2028)**
	III.3.1.4. Rehabilitate and equip MoEW and water establishments with central labs for each WE to undertake regular inspection campaigns to ensure compliance, supported by public reporting dashboards to promote transparency and deterrence, unifying the procedures in the labs.	**Medium Term (2029–2032)**
	III.3.1.5. Assess the possibility of treated water re-use in operational treatment plans.	**Short Term (2026–2028)**
	III.3.1.6. Assess pollution risks in five vulnerable water bodies and develop corresponding emergency response or water safety plans.	**Medium Term (2029–2032)**
	III.3.1.7. Implement industrial level decentralized WWTP for priortized cluster industries in the Naher El Kaleb area.	**Medium Term (2029–2032)**
III.4. Water Resource Priority Area 4: Promote water conservation practices and integrate water management strategies into land use planning with a focus on optimizing water resource use and enhancing availability across sectors.		
III.4.1. Enhance water storage capacities through expanding surface water storage and enhancing natural groundwater recharge (i.e. gabion walls, check dams, riverbeds, and flood plain vegetation zone restoration, and terracing).	III.4.1.1. Conduct hydrological and topographic assessments to identify priority zones for surface water storage expansion based on water stress, runoff patterns, and infiltration potential.	**Short Term (2026–2028)**
	III.4.1.2. Design context- and area-appropriate recharge and retention structures, such as gabion walls, check dams, terraced slopes, and vegetated floodplain buffers, within targeted micro-watersheds to improve groundwater recharge, reduce erosion, and support climate-resilient land management.	**Short Term (2026–2028)**
	III.4.1.3. Construct and upgrade small-scale, environmentally sound surface water storage infrastructure (e.g., hill lakes, terraced reservoirs, retention basins), aligned with NWSS retention strategies and integrated into local land use plans, ensuring technical viability, and sustainability.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
III.5. Water Resource Priority Area 5: Develop and implement integrated watershed planning at the basin level, and climate-resilient stormwater management plans to address droughts, increased rainfall intensity and flooding risks.		
III.5.1. Upscale the capacity of relevant institutions personnel through targeted training and skill-building activities.	III.5.1.1. Conduct a capacity gap assessment across MoEW, WEs, and municipal stakeholders to identify training needs in digital systems, monitoring tools, and climate-resilient planning.	**Short Term (2026–2028)**
	III.5.1.2. Deliver modular training programs on data management, performance monitoring, NRW reduction, and digital tools, tailored by job function and institutional level.	**Medium Term (2029–2032)**
	III.5.1.3. Establish a water sector training hub or platform in collaboration with academic institutions for ongoing certification and peer learning.	**Medium Term (2029–2032)**
III.5.2 Ensure policymakers understand the significance of integrating climate change adaptation into broader development strategies.	III.5.2.1. Develop policy briefs and visual dashboards highlighting the water-climate-development nexus, using localized projections and sector impact summaries.	**Short Term (2026–2028)**
	III.5.2.2. Organize national and regional policy dialogue sessions with line ministries and parliamentarians to embed adaptation priorities into planning and budgeting cycles.	**Short Term (2026–2028)**
	III.5.2.3. Support the inclusion of water-climate risks in national development and public investment frameworks through tailored technical inputs.	**Medium Term (2029–2032)**
	III.5.2.4. Enroll public officials and technical experts into CCA courses developed by the MoE under the NAP projects.	**Medium Term (2029–2032)**
III.5.3. Set up an Integrated Hydrological Information System (IHIS) including real-time data from meteorological, hydrological, snowpack, and groundwater stations.	III.5.3.1. Assess and upgrade existing meteorological and hydrometric networks (LARI, LRA, LMS, etc.) to identify gaps,, rehabilitate non-functional and under monitored stations, and install new ones (e.g., telemetry-equipped piezometers, flow gauges, snowpack sensors, water quality) to ensure full integration with the IHIS platform.	**Medium Term (2029–2032)**
	III.5.3.2. Develop the IHIS platform architecture to centralize, validate, and visualize incoming data from various networks (LARI, LRA, WEs, LMS).	**Medium Term (2029–2032)**
	III.5.3.3. Link the IHIS with forecasting and early warning tools including the CNRS (NEWSP) to support planning for floods, droughts, and water allocation decisions.	**Long Term (2033-2035)**
III.5.4. Develop water management information systems to improve data availability, involving all actors in the service chain.	III.5.4.1. Map and digitize current data flows and reporting mechanisms across MoEW, Water Establishments, and municipalities to identify entry points and gaps.	**Short Term (2026–2028)**
	III.5.4.2. Develop a modular dynamic Water Management Information System (WMIS) that integrates service, infrastructure, and user data with real-time access controls for relevant actors.	**Medium Term (2029–2032)**
	III.5.4.3. Facilitate inter-agency data governance agreements to ensure timely updates, data-sharing protocols, and coordinated system maintenance.	**Short Term (2026–2028)**

Key Action and Priority Area	Key Activities	Timeframe
III.5.5. Develop climate-resilient stormwater management plans to address increased rainfall intensity and flooding risk in coordination with DRR.	III.5.5.1. Develop comprehensive stormwater management plans that outline preventive measures, actions to take during a crisis, and post-crisis recovery, including nature-based solutions (NbS).	**Medium Term (2029–2032)**
	III.5.5.2. Design and implement training programs for MoEW and water establishments and municipalities to ensure effective implementation of stormwater management plans.	**Medium Term (2029–2032)**
III.5.6. Design and implement a national water quantity and quality monitoring framework.	III.5.6.1. Update/Establish standardized water quality and quantity indicators and protocols for surface, groundwater, and treated effluents, in coordination with WEs and LIBNOR standards.	**Short Term (2026–2028)**
	III.5.6.2. Procure mobile labs and field equipment (e.g., labs, automated sensors) across representative sites and ensure regular sampling cycles.	**Medium Term (2029–2032)**
	III.5.6.3. Publish annual national water monitoring reports synthesizing trends and compliance levels, feeding into the MoEW's sector performance review.	**Medium Term (2029–2032)**
IV. Biodiversity Sector		
IV.1. Biodiversity Priority Area 1: Develop adaptation plans and implement habitat restoration and rehabilitation plans to safeguard the sustained delivery of ecosystem services, enhance ecological integrity and connectivity, and restore, maintain, and improve nature's contributions to people using nature-based solutions, ecosystem-based, and watershed-based approaches.		
IV.1.1. Promote reforestation of upper watershed areas to strengthen flood resilience and ecosystem services.	IV.1.1.1. Identify priority degraded watershed zones through GIS analysis, hydrological modelling, and existing forest fire and erosion risk maps.	**Short Term (2026-2028)**
	IV.1.1.2. Implement nature-based reforestation schemes using native species with preference given to climate-resilient species, focusing on high-erosion and flood-prone slopes.	**Medium Term (2029-2032)**
IV.1.2. Develop targeted restoration plans for terrestrial, inland water, and coastal ecosystems affected by conflict.	IV.1.2.1. Develop/Update the national inventory of conflict-affected degraded ecosystems with spatial mapping of terrestrial, freshwater, and marine sites.	**Short Term (2026-2028)**
	IV.1.2.2. Develop and validate restoration plans tailored to ecosystem type (e.g., wetlands, riverbeds, seagrass, submarine canyons), based on technical guidelines to be developed according to the latest methodologies.	**Medium Term (2029–2032)**
	IV.1.2.3. Pilot restoration using nature-based and sustainable techniques in a representative set of sites, including coastal, inland, and terrestrial.	**Medium Term (2029-2032)**
IV.1.3. Designate and maintain corridors for species migration to higher elevations in response to climate change and implement assisted regeneration for vulnerable species.	IV.1.3.1. Conduct an assessment to identify priority elevation-based ecological corridors using species range projections, climate models, and connectivity mapping tools.	**Short Term (2026-2028)**
	IV.1.3.2. Establish and legally designate critical corridors linking fragmented habitats, ensuring compatibility with local land-use plans.	**Medium Term (2029-2032)**
	IV.1.3.3. Launch assisted regeneration trials for vulnerable species (e.g., endemic plants, reptiles) in migration corridors with scientific monitoring protocols.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
IV.1.4. Conduct awareness campaigns on ecosystem services, biodiversity conservation, and climate change impacts targeting government agencies, universities, and the public.	IV.1.4.1. Develop targeted multimedia campaign materials tailored for government, schools, and public audiences, highlighting the value of biodiversity and climate-resilient ecosystems.	**Short Term (2026-2028)**
	IV.1.4.2. Develop programs aimed at increasing awareness through sessions and policy dialogues with ministries and municipalities, using case studies and ecosystem service valuation findings.	**Short Term (2026-2028)**
	IV.1.4.3. Partner with universities and schools to integrate biodiversity and climate content into existing curricula and host student engagement events.	**Medium Term (2029-2032)**
IV.1.5. Expand restoration efforts to include marine and coastal ecosystems, including restoration of seagrass beds, coral reefs, and coastal wetlands affected by climate change and pollution.	IV.1.5.1. Undertake mapping of all marine habitats within Lebanese territorial waters.	**Short Term (2026-2028)**
	IV.1.5.2. Conduct baseline surveys and habitat condition assessments of marine ecosystems such as coral reefs, vermetid reefs, seagrass beds, and wetlands.	**Short Term (2026-2028)**
	IV.1.5.3. Develop site-specific restoration protocols incorporating nature-based practices and water quality monitoring.	**Medium Term (2029-2032)**
	IV.1.5.4. Implement pilot restoration activities in at least three marine sites, integrating scientific monitoring and assessments, citizen-based monitoring actions, and partnerships with coastal municipalities.	**Medium Term (2029-2032)**
IV.2 Biodiversity Priority Area 2: Conduct comprehensive vulnerability assessments of terrestrial and marine ecosystems to climate change, identifying key risks and adaptation needs.		
IV.2.1. Develop vulnerability maps and identify adaptation options for ecosystems and people.	IV.2.1.1. Design and implement a multi-criteria assessment framework to evaluate vulnerability based on latest methodologies (such as exposure, sensitivity, and adaptive capacity) and conduct field-based assessments and expert consultations to rank ecosystem types by climate risk.	**Short Term (2026-2028)**
IV.2.2. Conduct a national biodiversity assessment of flora, fungi, and fauna, to inform vulnerability mapping, conservation prioritization, and climate-resilient adaptation planning.	IV.2.2.1 Update the national inventory of species through coordinated field surveys, expert validation, and integration of existing data sources.	**Short Term (2026-2028)**
	IV.2.2.2. Apply IUCN Red List criteria to evaluate species status and generate spatial layers for species vulnerability mapping.	**Short Term (2026-2028)**
	IV.2.2.3. Develop a public online platform to host a geo-located species database, including population dynamics, ecological, conservation status, and adaptation relevance information.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
IV.3. Biodiversity Priority Area 3: Identify ecosystems most vulnerable to climate change to help prioritize protection efforts, reduce biodiversity loss, and strengthen ecosystem resilience.		
IV.3.1. Identify and designate terrestrial and marine ecological corridors to support species migration under climate change.	IV.3.1.1. Use ecological modelling, land-use overlays and marine connectivity pathways to identify potential migration corridors based on species needs and climate projections and validate corridor and pathway locations through ground-truthing and community consultations, incorporating traditional ecological knowledge.	**Short Term (2026-2028)**
	IV.3.1.2. Recognize and institutionalize key corridors and pathways through national land planning frameworks or MoE decrees.	**Medium Term (2029-2032)**
IV.4. Biodiversity Priority Area 4: Implement in situ and active management plans for species, especially threatened species, while mainstreaming climate change adaptation into protected areas, genetic conservation units, and germplasm management, and reviewing relevant legal and institutional frameworks to support long-term conservation.		
IV.4.1. Develop and implement operational guidelines for integrating climate risk assessments and adaptation measures into the management plans of protected areas.	IV.4.1.1. Conduct climate vulnerability assessments of existing protected areas, identifying exposure to climate change induced risks, such as temperature shifts, extreme weather events, sea-level rise for marine PAs, and invasive and alien species (IAS).	**Short Term (2026-2028)**
	IV.4.1.2. Integrate climate risks and related adaptation measures into national operational guidelines for Protected Area (PA) management plans, building on existing (Management Effectiveness Tracking Tool) METT frameworks and in line with NBSAP targets.	**Short Term (2026-2028)**
	IV.4.1.3. Pilot the application of climate-integrated PA management plans in at least three PA, ensuring stakeholder validation and MoE oversight.	**Medium Term (2029-2032)**
IV.4.2. Implement targeted in situ conservation programs for threatened species, integrating climate vulnerability considerations into protected area and genetic resource management strategies.	IV.4.2.1. Develop conservation action plans, based on vulnerability outcomes, that include habitat protection, genetic monitoring, and assisted breeding/reinforcement measures.	**Short Term (2026-2028)**
	IV.4.2.2. Integrate species-specific measures into relevant protected area management plans and monitor outcomes via national biodiversity indicators.	**Medium Term (2029-2032)**
IV.4.3. Develop and implement a national program for the prevention, control, and limiting the introduction and diffusion of invasive alien species that threaten ecosystems, habitats, and species vulnerable to climate change.	IV.4.3.1. Establish and maintain a national registry of invasive alien species (IAS) with classification by risk level, habitat type, and climate sensitivity.	**Short Term (2026-2028)**
	IV.4.3.2. Develop species-specific prevention and rapid response protocols for high-risk IAS, integrating early detection and community engagement tools.	**Medium Term (2029-2032)**
	IV.4.3.3. Develop capacity building programs to train border control, environmental rangers, and municipal staff on IAS identification, biosecurity protocols, and eradication techniques.	**Medium to Long Term (2029-2035)**

Key Action and Priority Area	Key Activities	Timeframe
IV.5. Biodiversity Priority Area 5: Mobilize climate finance and develop investment frameworks to integrate sustainable forest management and landscape restoration into national climate policies and NDCs.		
IV.5.1. Mobilize and direct financing from the Green Climate Fund and other sources toward biodiversity adaptation initiatives through the Lebanon Green Investment Facility (LGIF).	IV.5.1.1. Develop a pipeline of biodiversity adaptation project concepts aligned with donors' investment criteria and NBSAP targets.	**Short Term (2026-2028)**
	IV.5.1.2. Establish a coordination mechanism between MoE, MoF, LGIF, and implementing partners for fund mobilization and tracking.	**Medium Term (2029-2032)**
IV.6. Biodiversity Priority Area 6: Create a legal waiver mechanism allowing active prevention measures to reduce risks of fire and pest outbreaks, and other natural hazards in vulnerable ecosystems regardless of ownership.		
IV.6.1. Develop a national legal framework or emergency protocol enabling rapid deployment of prevention measures (e.g., pest control, fire breaks) in vulnerable ecosystems, including those on private land.	IV.6.1.1. Draft legal provisions for emergency environmental interventions, including procedures for action on private and communal lands.	**Short Term (2026-2028)**
	IV.6.1.2. Establish an interagency emergency response unit under MoE to coordinate implementation of ecosystem protection measures.	**Medium Term (2029-2032)**
V. Urban Infrastructure Sector		
V.1. Urban Infrastructure Priority Area 1: Integrate climate change risks into urban planning masterplans through the application of sustainable and risk-sensitive measures, including nature-based solutions, soft engineering approaches, and green infrastructure.		
V.1.1. Incorporate climate change risks, vulnerabilities, and impacts into urban planning by employing sustainable and eco-friendly measures, including soft engineering techniques, to address flooding and heat waves, green spaces, and other nature-based solutions.	V.1.1.1. Conduct climate hazard and vulnerability mapping studies in urban areas prone to flooding, heat islands, extreme heat, sea-related hazards, and stormwater overload.	**Short Term (2026-2028)**
	V.1.1.2. Develop a national urban adaptation manual with scalable soft engineering solutions (e.g., vegetated swales, retention basins, shading infrastructure).	**Short Term (2026-2028)**
	V.1.1.3. Pilot one eco-adaptive infrastructure project integrating green and blue drainage, shaded corridors, and flood buffers in the mapped and identified highly vulnerable cities.	**Medium Term (2029-2032)**
	V.1.1.4. Conduct technical studies on urban flash floods by mapping risk zones, analyzing drainage capacity, and assessing rainfall and land use impacts to guide adaptation measures.	**Short Term (2026-2028)**
	V.1.1.5. Implement and upscale the actions in the gender and climate-mainstreamed draft masterplan of the Zahle district.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
V.1.2. Update the National Physical Master Plan of Lebanon (NPMPLT) integrating climate risks, land use changes, and water availability that occurred since 2009 including refugee flux, oil and gas exploration, climate change, availability of water resources for irrigation or domestic use, war impact, and other factors.	V.1.2.1. Develop an integrated spatial database combining trends and projections combining land use trends, climate risk, and water stress to inform future national spatial planning.	**Short Term (2026-2028)**
	V.1.2.2 Update and validate the NPMPLT through multi-sectoral workshops, technical modeling, and policy alignment with climate and water strategies.	**Medium Term (2029-2032)**
V.1.3. Develop human-centric risk-sensitive master plans at regional and municipal levels prioritizing vulnerable areas, including cities, coastal zones, high mountains, critical ecosystems, and agricultural lands.	V.1.3.1. Prepare 1 regional master plan in each governorate including detailed urban plans for climate-vulnerable areas using multi-hazard risk mapping and urban-rural development forecasting.	**Medium Term (2029-2032)**
	V.1.3.2. Prepare national master plan for agricultural lands.	**Short Term (2026-2028)**
	V.1.3.3. Establish a rolling program of municipal planning grants to co-finance the preparation of master plans for vulnerable localities.	**Medium Term (2029-2032)**
	V.1.3.4. Reassure climate-resilient urban development by providing municipal planning toolkits with templates for zoning, risk overlays, and nature-based urban design.	**Short Term (2026-2028)**
V.1.4. Support the recovery and reconstruction of areas destroyed by war, incorporating sustainable and Nature-Based urban adaptation measures such as green rooftops, water harvesting, energy efficiency, grey water management, green spaces, and sponge city principles.	V.1.4.1. Design and implement nature-based reconstruction pilots in 5 conflict-affected cities, categorized by those with existing master plans and those without, integrating green roofs, rainwater harvesting, and passive cooling strategies.	**Medium Term (2029-2032)**
	V.1.4.2. Develop post-conflict urban design guidelines for decision-makers, municipalities, and the Order of Engineers that promote ecosystem services, energy efficiency, water-smart infrastructure, and the diversification of economic streams.	**Short Term (2026-2028)**
	V.1.4.3. Climate-proof procurement processes for the sustainable upgrade and reconstruction of critical infrastructure in line with Lebanon's reconstruction efforts.	**Short Term (2026-2028)**
V.1.5. Allocate necessary financial resources to the Directorate General of Urban Planning (DGUP) to enable the design of master plans for all cities and towns.	V.1.5.1. Assess the technical and capacity needs of DGUP and equip them with GIS, machine learning AI, and planning software systems, including the development of programs to train staff in climate-integrated urban planning.	**Short Term (2026-2028)**
	V.1.5.2. Establish a national urban planning fund managed by DGUP to finance technical assistance and master plan development across Lebanon's municipalities.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
V.1.6. Define roles and swift coordination mechanisms among the various public institutions involved in Urban infrastructure and land use strategic planning.	V.1.6.1. Map existing institutional roles, overlaps, and coordination gaps in urban planning and land management through a governance assessment.	**Short Term (2026-2028)**
	V.1.6.2. Develop and adopt a coordination framework defining mandates, decision-making processes, and data-sharing protocols.	**Medium Term (2029-2032)**
	V.1.6.3. Establish a digital platform for shared access to plans, geospatial data, and progress reporting among DGUP, CDR, MoE, CNRS and other actors.	**Medium Term (2029-2032)**
V.2. Urban Infrastructure Priority Area 2: Integrate energy- and water-efficient building design and mass transit infrastructure into urban planning frameworks to reduce urban heat island effects, enhance climate resilience, and promote low-emission, pedestrian-friendly environments.		
V.2.1. Integrate climate-resilient and walkable urban corridors into national and municipal urban planning.	V.2.1.1. Conduct mobility baseline studies to identify high-potential corridors for pedestrian and low-emission infrastructure.	**Short Term (2026-2028)**
	V.2.1.2. Construct walkable urban corridors integrating shaded walkways, bike lanes, and permeable materials in 3 priority municipalities.	**Medium Term (2029-2032)**
	V.2.1.3. Embed climate-resilient mobility corridors in local master plans to ensure continuity and scale.	**Medium Term (2029-2032)**
V.2.2. Promote continuity of public spaces to improve air quality and reduce emissions.	V.2.2.1. Develop urban green connectivity plans by mapping existing public spaces and ecological corridors, designing interventions to link fragmented areas through green infrastructure, and integrating continuity targets into urban zoning regulations and permitting processes.	**Short Term (2026-2028)**
	V.2.2.2. Design and implement pilot green corridors in 1 priority urban areas in each governorate by integrating native vegetation, permeable surfaces, and shade infrastructure along streets and between public spaces, supporting both urban biodiversity and active, low-emission transportation routes.	**Medium Term (2029-2032)**
V.2.3. Review and update the building code and other relevant laws to align with climate change, the Barcelona Convention, the Sendai framework, and other international conventions.	V.2.3.1. Conduct a comprehensive legislative review to update Lebanon's building codes against climate, disaster, and environmental risks.	**Short Term (2026-2028)**
	V.2.3.2. Draft legal amendments to embed resilience, energy efficiency, and nature-based planning into urban development laws.	**Medium Term (2029-2032)**
V.2.4. Improve energy and water efficiency in the built environment and promote mass transit systems and pedestrian pathways to reduce urban heat island effects and enhance climate resilience.	V.2.4.1. Conduct environmental audits of 10 priority public buildings to identify retrofit and efficiency opportunities, including insulation, low-flow fixtures, solar lighting, and green roofing.	**Short Term (2026-2028)**
	V.2.4.2. Design climate-proofed public transport corridors in areas with high traffic and heat exposure.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
V.3. Urban Infrastructure Priority Area 3: Promote sustainable urban drainage design to enhance urban resilience, reduce flooding risks, and improve water quality.		
V.3.1. Promote the adoption of sustainable urban drainage systems (SUDS) and nature-based flood management approaches within urban planning frameworks.	V.3.1.1. Assess urban flood risk and drainage system performance in vulnerable cities using hydrological modeling and field inspections.	**Short Term (2026-2028)**
	V.3.1.2. Design and construct urban-scale SUDS pilots including bioswales, retention ponds, natural and artificial recharge, and green infiltration zones.	**Medium Term (2029-2032)**
V.4. Urban Infrastructure Priority Area 4: Assess vulnerabilities of Lebanon's coastal areas to climate-related risks to guide the update of the draft Integrated Coastal Zone Management Strategy.		
V.4.1. Update the draft Integrated Coastal Zone Management Strategy for Lebanon	V.4.1.1. Conduct a coastal vulnerability and use assessment incorporating climate risk, land use, and pollution hotspots along the coastline.	**Short Term (2026-2028)**
	V.4.1.2. Revise and finalize the ICZM strategy to align with current climate risks, tourism pressures, and marine biodiversity needs.	**Short Term (2026-2028)**
V.5. Urban Infrastructure Priority Area 5: Increase the adaptive capacity of vulnerable coastal area infrastructures against erosion, storm/wave surges and sea-level rise, and design and implement protective measures to safeguard infrastructure and communities.		
V.5.1. Climate-proof main coastal infrastructure and develop marine aquaculture to address future climate challenges and improve fishers' livelihood, strengthening food security.	V.5.1.1. Conduct climate risk assessments for Lebanon's major coastal infrastructure.	**Short Term (2026-2028)**
	V.5.1.2. Upgrade priority ports with elevated docks, resilient infrastructure, and solar-powered cold chains to ensure service continuity.	**Medium Term (2029-2032)**
	V.5.1.3. Develop climate-resilient aquaculture systems using low-impact cage design and climate-tolerant native species for ports equipped for aquaculture.	**Medium Term (2029-2032)**
V.5.2. Monitor coastal erosion and implement protection measures against sea level rise to preserve infrastructure.	V.5.2.1. Establish a national coastal erosion and sea-level rise monitoring program with drone mapping, fixed sensors, and predictive modelling.	**Short Term (2026-2028)**
	V.5.2.2. Implement hybrid coastal protection measures including dune reinforcement, vegetated seawalls, and submerged reefs in at-risk tourism zones.	**Medium Term (2029-2032)**
	V.5.2.3. Assess vulnerability of Lebanon's main coastal infrastructure to climate change and propose climate-proofing measures for future upgrades and rehabilitation measures, and reconstruction plans.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
VI. Public Health Sector		
VI.1. Public Health Priority Area 1: Support community-based risk reduction initiatives focusing on health risks related to disasters, water, waste, food, and air pollution.		
VI.1.1. Establish community-based risk-reduction programs for addressing climate-related and environmental risk.	VI.1.1.1. Conduct a baseline multi-hazard vulnerability and needs assessment of communities, focusing on health-related climate risks and service gaps across water, food, waste, and air quality.	**Short Term (2026–2028)**
	VI.1.1.2. Develop health-resilient capacity building programs to train local community health response teams, including community health workers and municipal responders, to deliver risk communication, early warning dissemination, and basic health interventions.	**Short to Medium Term (2026–2032)**
	VI.1.1.3. Develop and roll out localized emergency preparedness plans co-designed with communities, integrating One Health and WASH-FIT tools to ensure climate-resilient practices across public health domains.	**Medium Term (2029–2032)**
VI.2. Public Health Priority Area 2: Enhance the Early Warning and Response System to health risks, including epidemic, climatic, and other risks through the full automation and operationalization of the One Health approach.		
VI.2.1. Enhance the Early Warning and Response System to health risks, including epidemic, climatic, and other risks through the full automation and operationalization of the One Health approach.	VI.2.1.1. Equip regional offices with mobile response kits for climate-related health risks and build the capacities of environmental health offices.	**Short Term (2026–2028)**
	VI.2.1.2. Re-establish critical public health functions, including the central public health lab (through a network of national reference labs), antimicrobial surveillance and a national infection prevention and control programme.	**Short to Medium Term (2026–2032)**
	VI.2.1.3. Develop governorate-level surveillance systems to monitor water quality, track vector patterns, and address related illnesses, and update SOPs and build capacities for sampling and testing.	**Short to Medium Term (2026–2032)**
	VI.2.1.4. Develop preparedness and emergency response programmes/protocols to address 7 climate-induced challenges: water security, water quality degradation, droughts, heatwaves, food and water safety, vector emerging diseases, and air quality degradation.	**Medium Term (2029–2032)**
VI.3. Public Health Priority Area 3: Build the capacity of health sector professionals to identify and manage climate-related health impacts across sectors.		
VI.3.1. Design and implement targeted capacity-building programs for health professionals on climate-related health risks and cross-sectoral impacts (e.g., energy, water, food, transport).	VI.3.1.1. Develop and deliver a national training program on climate and health resilience for MoPH and PHC staff.	**Short Term (2026–2028)**
	VI.3.1.2. Develop a continuous professional certification program on climate-health topics, including modeling of disease outbreaks and environmental exposure forecasting.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
VI.4. Public Health Priority Area 4: Enhance the climate resilience of healthcare facilities through targeted interventions, including risk management, energy management, and infrastructure adaptation.		
VI.4.1. Determine the baseline of climate change resilience through assessing the facilities' vulnerabilities to climate change hazard and developing a set of procedures for healthcare facilities to continuously implement and evaluate risk management programs to stay responsive to the needs of climate change-related emergency events.	VI.4.1.1. Conduct a national WASH-FIT and environmental health audit of all public and private hospitals to evaluate exposure to flooding, heatwaves, energy outages, and drought.	**Short Term (2026–2028)**
	VI.4.1.2. Map and classify health facilities according to climate vulnerability tiers (high, medium, low) to guide climate adaptation investments.	**Short Term (2026–2028)**
	VI.4.1.3. Develop a technical climate resilience toolkit and implement it in 5 hospitals across Lebanon.	**Medium Term (2029–2032)**
	VI.4.1.4. Draft and institutionalize a standard operating procedure (SOP) for climate-related risk preparedness and response in healthcare settings, covering structural, WASH, and service continuity components.	**Short Term (2026–2028)**
	VI.4.1.5. Mainstream climate change risk and response in PHCs and hospital accreditation standards.	**Short Term (2026–2028)**
VI.5. Public Health Priority Area 5: Promote coordination and communication among stakeholders to enhance awareness, policy coherence, and climate-adaptive health governance.		
VI.5.1. Operationalize the climate change and health taskforce to identify, analyze, forecast, monitor, prevent, and respond to climate-related public health threats and strengthen the resilience of healthcare systems and communities, , while ensuring effective coordination and data sharing with the Ministry of Environment and Water (MoEW), particularly for monitoring and mitigating water-related diseases.	VI.5.1.1. Operationalize and institutionalize the public health taskforce established under the NDC committee to guide climate-health monitoring and response.	**Short Term (2026–2028)**
	VI.5.1.2. Design an efficient coordination and communication mechanism for public health TF to enhance awareness, policy coherence among relevant ministries, and climate-adaptive health governance, by adopting the One Health approach and International Health Regulations (IHR).	**Medium Term (2029–2032)**
VI.5.2. Coordinate emergency preparedness and response capacity by developing high-quality, regularly stress-tested, and updated preparedness and anticipation plans, and structures.	VI.5.2.1. Develop and disseminate unified emergency preparedness, anticipation, and response plans to climate-disasters across all governorates, including drill implementation and stakeholder coordination mechanisms.	**Medium Term (2029–2032)**
	VI.5.2.2. Expand early warning alert and response system through full automation and operationalization of the One Health approach.	**Medium Term (2029–2032)**

Key Action and Priority Area	Key Activities	Timeframe
VI.6. Public Health Priority Area 6: Upgrade epidemiological surveillance to incorporate new climate-related health outcomes and integrate climate data into the national health information system.		
VI.6.1. Adopt and implement an integrated disease surveillance strategy, including indicator-based and event-based surveillance components, and incorporating new climate-related health outcomes through enhancing the Epidemiological Surveillance Unit (ESU).	VI.6.1.1. Update national surveillance protocols to include climate-sensitive diseases (e.g., dengue, leishmaniasis, respiratory illnesses), using both indicator- and event-based surveillance.	**Short Term (2026–2028)**
	VI.6.1.2. Deploy real-time digital reporting tools at facility and community level, supported by automated data visualization dashboards.	**Medium Term (2029–2032)**
	VI.6.1.3. Enhance the ESU organigram to enhance coordination between central and peripheral units and assign focal points per governorate.	**Short Term (2026–2028)**
	VI.6.1.4. Develop capacity building programs to train ESU teams in geospatial mapping, environmental sampling, and event verification, and equip them with mobile data collection kits.	**Medium Term (2029–2032)**
	VI.6.1.5. Update and integrate climate-related diseases into the national surveillance list and protocols, while enhancing information systems to incorporate climate-related data and enable real-time reporting.	**Medium to Long Term (2029–2035)**
VI.6.2. Develop a health information system master plan with a centralized data center.	VI.6.2.1. Draft a digital health information system master plan including modules for climate-health data, emergency alerts, and facility vulnerability indexing.	**Short Term (2026–2028)**
	VI.6.2.2. Establish a centralized data center with cloud storage, District Health Information Software 2-based reporting, and integration with national meteorological and hydrological datasets.	**Medium to Long Term (2029–2035)**
	VI.6.2.3. Integrate artificial intelligence (AI) capabilities into the health information system to enhance data analysis and early warning, while strengthening data processing capacity, interoperability, and the overall efficiency of data management and reporting systems.	**Short to Long Term (2026–2035)**
VI.7. Public Health Priority Area 7: Assess population and public health vulnerability to climate change, identifying current and future health effects, as well as impacts related to the additional burden of climate change on health.		
VI.7.1. Assess population and public health vulnerability to climate change, identifying current and future health effects, as well as impacts related to the additional burden of climate change on health.	VI.7.1.1. Conduct health vulnerability assessment of to identify the short, medium, and long-term additional direct and indirect threats to health from climate change.	**Short to Medium Term (2026–2032)**
	VI.7.1.2. Conduct interdisciplinary applied research and demonstration projects on health vulnerability to climate change and on effectiveness of health protection measures.	**Medium Term (2029-2032)**
	VI.7.1.3. Develop a clear system for mainstreaming science-policy interface and knowledge to ensure that climate-change response decisions are informed by the best available information with stronger cooperation with the academic sector.	**Short Term (2026-2028)**

Key Action and Priority Area	Key Activities	Timeframe
VII. Disaster Risk Reduction Sector.		
VII.1. DRR Priority Area 1: Develop a mechanism to assess, attribute, and categorize loss and damage in Lebanon.		
VII.1.1. Conduct multi-hazard risk assessments at regional and local scales and establish a mechanism for regular assessment of current and potential climate hazards.	VII.1.1.1. Conduct/update a multi-hazards risk assessment at sectoral, regional and local scales to identify priority areas for disaster risk reduction.	**Short Term (2026–2028)**
	VII.1.1.2. Conduct a national study to develop a methodology for attributing economic and non-economic losses and damages resulting from climate-related events, aligned with international frameworks (e.g., UNFCCC Warsaw Mechanism, Sendai Monitor).	**Short Term (2026-2028)**
	VII.1.1.3. Establish a digital national disaster loss database that disaggregates loss data by hazard type, geographic area, population group, and economic sector, and links to planning and insurance systems, while strengthening DesInventar through targeted capacity building for using existing and new databases.	**Medium Term (2029-2032)**
VII.1.2. Explore the possibility of establishing a natural hazard risk-based insurance.	VII.1.2.1. Conduct a feasibility study on insurance mechanisms for climate-hazards in coordination with the insurance sector and reinsurance actors.	**Medium Term (2029-2032)**
VII.2. DRR Priority Area 2: Update/revisit flood, fire, and drought risk maps, and consider all risk maps in strategic land-use planning		
VII.2.1. Update and digitize national flood, fire, and drought risk maps, incorporating climate projections and hazard frequency data to inform strategic land-use planning.	VII.2.1.1. Develop updated, high-resolution hazard maps using remote sensing, in situ data and historical hazard frequency data, integrated into a centralized GIS portal accessible to planners and municipalities.	**Short Term (2026-2028)**
VII.3. DRR Priority Area 3: Strengthen disaster-resilient public and private investments by enhancing risk prevention in critical facilities, encouraging private-sector financing for disaster management, providing voluntary guidelines for homeowners, establishing mandatory standards for critical infrastructure, and promoting resilience through proper design, construction, retrofitting, and maintenance while considering economic, social, structural, technological, and environmental impacts.		
VII.3.1. Develop climate-resilient infrastructure through technical guidelines, feasibility assessments, and capacity building for stakeholders in disaster-prone areas.	VII.3.1.1. Conduct a feasibility assessment for risk-informed design, construction, retrofitting, and maintenance of critical infrastructure with co-financing options for private sector participation.	**Short Term (2026-2028)**
	VII.3.1.2. Develop guidelines for homeowners to prepare and respond to climate-related hazards at the regional and local level.	**Short Term (2026-2028)**
	VII.3.1.3. Develop a set of technical and financial guidelines to promote climate- and disaster-resilient investment in public infrastructure and private development, including retrofitting standards and incentives for green reconstruction.	**Medium Term (2029-2032)**
	VII.3.1.4. Develop capacity building programs in 10 priority disaster-prone municipalities across Lebanon.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
VII.3.2. Establish policies for reducing existing risks in the public and private sectors (social, productive, and infrastructure).	VII.3.2.1. Conduct climate risk assessments across productive sectors, such as agriculture, energy, industry, transport, and water, to identify sectoral assets exposed to climate-induced hazards and assess their potential impacts, informing targeted policy adjustments and risk-reduction measures.	**Medium Term (2029-2032)**
VII.3.3. Establish policies to prevent new risks (that may arise from future investments) across all sectors.	VII.3.3.1. Develop a national risk-proofing checklist for all new infrastructure and land-use investments, making climate and disaster risk screening a prerequisite for permitting and public financing.	**Short Term (2026-2028)**
VII.3.4. Establish a policy to assess synergies or linkages between disaster risks, sustainable development, poverty reduction, and climate change adaptation.	VII.3.4.1. Conduct a national policy coherence analysis to identify overlaps and gaps between DRR, climate change, and sustainable development frameworks, and issue integration guidelines for decision-makers.	**Short Term (2026-2028)**
VII.4. DRR Priority Area 4: Revise Lebanon's response framework and establish climate-hazards-related response plans at all levels (sectoral, national, local, community).		
VII.4.1. Climate-proof Lebanon's response framework.	VII.4.1.1. Assess Lebanon's current DRR response framework and propose an approach to mainstream response to climate-related hazards.	**Short Term (2026-2028)**
	VII.4.1.2. Propose legal reforms or policy amendments to align roles, coordination mechanisms, and international obligations (e.g., Sendai Framework) under the established framework.	**Short Term (2026-2028)**
VII.4.2. Develop response plans and revise mandates related to climate-hazards risk management to align with best practices and global lessons.	VII.4.2.1. Develop sectoral, governorate and local community response plans.	**Medium Term (2029-2032)**
VII.4.3. Provide capacity building on standard operational procedures for various risk-vulnerable groups.	VII.4.3.1. Design and deliver targeted SOP training programs for vulnerable communities (e.g., informal settlements, people with disabilities, elderly), covering DRM cycle curricula.	**Medium Term (2029-2032)**
VII.4.4. Develop recovery policies based on the principles of building back better at all levels (sectoral, national, local, and community).	VII.4.4.1. Draft a national recovery including reconstruction strategy anchored in Build Back Better principles, with differentiated protocols for urban, rural, heritage, and infrastructure & ecological contexts.	**Short Term (2026-2028)**
VII.5. DRR Priority Area 5: Upgrade and develop an early warning platform for multi-hazards.		
VII.5.1. Upgrade and integrate a national multi-hazard EWS covering climate-hazards ensuring real-time data sharing and community-level dissemination protocols.	VII.5.1.1. Develop and operationalize a unified multi-hazard Early Warning System (EWS) that consolidates meteorological, seismic, and hydrological data with real-time alert dissemination through mobile, SMS, radio, and visual cues.	**Short Term (2026-2028)**
	VII.5.1.2. Establish community-level early actions and alert relay mechanisms (e.g., sirens, local monitors, municipal coordination protocols) tailored to rural, coastal, and urban high-risk zones.	**Medium Term (2029-2032)**

Key Action and Priority Area	Key Activities	Timeframe
VIII. Tourism Sector		
VIII.1. Tourism Priority Area 1: Assess and update national tourism plans to integrate climate change adaptation measures for sustainable tourism, such as sustainable tourism.		
VIII.1.1. Coordinate between national line ministries, public institutions, local authorities, tour operators, syndicates private sector and national experts to align tourism in national and local development projects.	VIII.1.1.1. Establish an inter-ministerial committee chaired by Ministry of Tourism, with line ministries, public institutions, and local authorities to ensure that tourism development is systematically integrated into national and subnational planning including land use and climate adaptation planning frameworks and other.	**Short Term (2026-2028)**
	VIII.1.1.2. Establish tourism-climate working group that bring together the Ministry of Tourism (MoT), Destination Management Organizations (DMOs), syndicates, tour operators, guides and private sector stakeholders to collaboratively develop sector-specific climate adaptation plans for tourism.	**Short Term (2026-2028)**
VIII.1.2. Review, update and develop climate-responsive tourism strategies and guidelines.	VIII.1.2.1. Collect and review existing tourism plans such as sustainable tourism, rural and mountain plans, conduct a gap and needs assessment and recommend improvements.	**Short Term (2026-2028)**
	VIII.1.2.2. Update/develop new plans in line with the identified needs, integrating climate resilience and emergency response plans.	**Medium Term (2029-2032)**
	VIII.1.2.3. Develop climate-responsive tourism planning guidelines for municipalities and regional planning bodies that align tourism and infrastructure development with environmental protection, climate risk reduction, and sustainable land use priorities.	**Medium Term (2029-2032)**
VIII.2. Tourism Priority Area 2: Conduct loss and damage, impact, and vulnerability assessments of climate change on tourism and cultural heritage.		
VIII.2.1. Conduct sector-specific vulnerability and loss assessments for tourism sites, identifying climate risks and priority adaptation needs.	VIII.2.1.1. Conduct potential climate-induced loss assessments for key tourism areas, sites, trails, etc.	**Short Term (2026-2028)**
	VIII.2.1.2. Develop tourism resilience plans with infrastructure adaptation options and zoning restrictions in high-risk areas.	**Medium Term (2029-2032)**
	VIII.2.1.3. Develop adaptation priority reports to guide investment, disaster preparedness, and zoning updates for tourism infrastructure and heritage zones.	**Short Term (2026-2028)**

Key Action and Priority Area	Key Activities	Timeframe
VIII.3. Tourism Priority Area 3: Ensure climate-resilient tourism infrastructure by promoting sustainable design, implementing water and energy-saving technologies, and retrofitting tourism facilities for energy efficiency and extreme weather resilience.		
VIII.3.1. Establish financial mechanisms and incentives to support tourism SMEs in adopting climate-resilient infrastructure, including sustainable design, energy and water efficiency technologies, and retrofitting for extreme weather resilience.	VIII.3.1.1. Leverage existing green funds to encourage tourism SMEs to access funding for retrofitting accommodations, transport, and service facilities with sustainable climate-resilient features (e.g., thermal insulation, solar systems, rainwater harvesting and waste management).	**Short Term (2026-2028)**
	VIII.3.1.2. Develop technical guidelines and investment criteria to help tourism SMEs identify eligible technologies and practices for climate-proofing infrastructure, including energy-efficient appliances, low-impact construction materials, and flood protection measures.	**Short Term (2026-2028)**
	VIII.3.1.3. Develop and operationalize inclusive financing instruments tailored to marginalized tourism-linked groups, including women artisans, rural eco-guides, and local food producers, and people with disabilities to strengthen their participation in diversified tourism value chains.	**Medium Term (2029-2032)**
	VIII.3.1.4. Organize awareness campaigns and financial literacy workshops in partnership with local chambers of commerce and tourism associations to help SMEs understand available financing opportunities and how to apply climate resilience principles to their operations.	**Short Term (2026-2028)**
VIII.4. Tourism Priority Area 4: Diversify tourism by expanding mountain destinations and developing year-round cultural, historical, religious, agritourism, ecotourism, and nature-based experiences to reduce reliance on climate-vulnerable tourism types and mitigate seasonal variations.		
VIII.4.1. Develop a legal and regulatory framework to support the diversification of tourism, including mountain tourism, agritourism, ecotourism, , by ensuring environmental safeguards, quality standards, and year-round sustainability to reduce climate vulnerability and seasonal dependency.	VIII.4.1.1. Conduct a regulatory gap analysis to assess existing tourism legal and regulatory structures and identify legal and institutional barriers to the development of diversified and climate-resilient tourism models such as agritourism, mountain tourism, and cultural tourism.	**Short Term (2026-2028)**
	VIII.4.1.2. Draft and validate regulatory guidelines and licensing criteria for diversified tourism models that promote environmental protection, community involvement, , and climate risk reduction, in coordination with MoT and relevant sectoral ministries.	**Medium Term (2029-2032)**
VIII.5. Tourism Priority Area 5: Engage local communities and tourism operators through training programs on climate resilience, sustainable tourism practices, and emergency preparedness for extreme weather events.		
VIII.5.1. Conduct awareness campaigns to encourage tourism businesses to mainstream adaptation (and mitigation) to climate change in their business.	VIII.5.1.1. Develop and deliver localized training modules for tourism workers and community stakeholders on climate-resilient tourism practices, including eco-certification, sustainable resource management, and emergency response planning for extreme weather events.	**Short Term (2026-2028)**

Key Action and Priority Area	Key Activities	Timeframe
VIII.6. Tourism Priority Area 6: Promote inclusive and accessible tourism by ensuring facilities and services are accessible to people with disabilities and developing tourism programs that cater to diverse groups.		
VIII.6.1. Develop a framework to support inclusive and accessible tourism businesses, ensuring that tourism services, including responsible tourism, mountain tourism, and agritourism, are accessible to people with disabilities and cater to the needs of diverse groups while ensuring environmental sustainability and long-term viability.	VIII.6.1.1. Conduct an accessibility audit of existing tourism infrastructure and services across major tourist destinations (e.g., accommodations, restaurants/catering, touristic transport, tour guides) to identify gaps and propose recommendations for improvement, ensuring compliance with accessibility standards and emergency preparedness for people with disabilities.	**Short Term (2026-2028)**
	VIII.6.1.2. Establish training programs for tourism operators, guides, and local communities on accessibility requirements and emergency preparedness including inclusive customer service, and the benefits of catering to diverse tourism groups, including people with disabilities and those seeking sustainable tourism experiences.	**Medium Term (2029-2032)**
	VIII.6.1.3. Draft legal and regulatory frameworks to ensure inclusive and accessible tourism activities and emergency preparedness.	**Medium Term (2029-2032)**

UNDP IS THE LEADING UNITED NATIONS ORGANIZATION FIGHTING TO END THE INJUSTICE OF POVERTY, INEQUALITY, AND CLIMATE CHANGE. WORKING WITH OUR BROAD NETWORK OF EXPERTS AND PARTNERS IN 170 COUNTRIES, WE HELP NATIONS TO BUILD INTEGRATED, LASTING SOLUTIONS FOR PEOPLE AND PLANET.