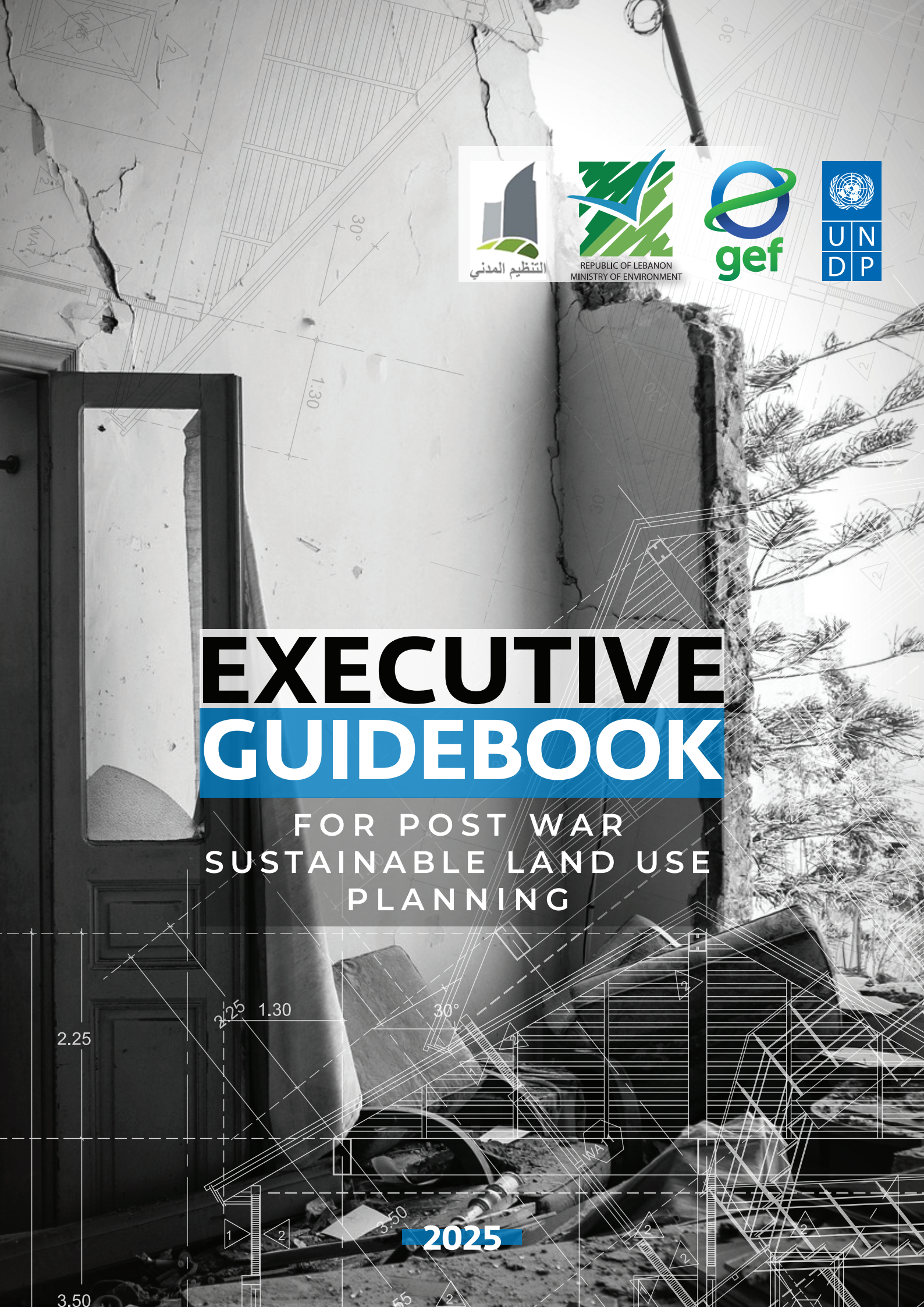

EXECUTIVE GUIDEBOOK

FOR POST WAR SUSTAINABLE LAND USE PLANNING

التنظيم المدني

REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

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UNDP

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For more information

https://www.undp.org/lebanon/

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INTRODUCTION

Introduction

A. Purpose of the Guidebook

This Executive Guidebook is designed as a practical planning tool to support and provide guidance on post-war recovery and sustainable reconstruction of war-affected villages in Lebanon, particularly in rural and border areas.

It presents a structured planning framework grounded in sustainable land-use principles, offering measures to support the development and/or amendment of local masterplans. It identifies key actions, decision-making approaches, and challenges to be addressed through a phased methodology, while emphasizing long-term resilience, equity, and the preservation of Lebanon's cultural and natural assets.

B. Who Should Use This Guide?

A range of stakeholders are involved in post-war recovery and reconstruction, including:

- Directorate General of Urban Planning (DGUP) – Lebanon's lead planning agency.
- Governors, Qaymaqams, Municipalities and local authorities in war-affected rural areas.
- Ministries, including the Ministry of Environment (MoE), Ministry of Interior and Municipalities (MoIM), Ministry of Culture (MoC), Ministry of Agriculture (MoA), Ministry of Energy and Water (MoEW), Ministry of Public Works and Transport (MoPWT), and the Council for Development and Reconstruction (CDR).
- Order of Engineers and Architects (OEA).
- National and international stakeholders, including technical partners, humanitarian actors, and donors.
- Local communities and planning professionals, as key actors in participatory recovery.

Each implementation measure proposed in the four phases of the guidebook will indicate the expected (but not exclusive) stakeholders to be engaged in the process.

C. How To Use This Guide?

This guidebook is organized into four chronological planning phases, each corresponding to a different scale of intervention and linked to a specific timeframe:

- **Phase 1:** Emergency Actions (0–6 months) – Damage mapping, temporary shelter, hazard mitigation, and land rights protection.
- **Phase 2:** Short-Term Recovery (6–24 months) – Transitional housing, service restoration, short-term land and infrastructure responses.
- **Phase 3:** Medium-Term Reconstruction (1–5 years) – Local masterplan drafting, infrastructure rebuilding, and spatial reorganization.
- **Phase 4:** Long-Term Development (2–5+ years) – Investment mobilization, landscape restoration, and regulatory improvements.

economy strategies will be integrated to enhance resource efficiency and environmental preservation.

This document also makes reference to SOPs guidelines on the safe and environmentally sound handling of debris taking into consideration mine action support which is managed by the Lebanese Armed Forces (LAF) in coordination with the Lebanon Mine Action Center (LMAC).

This document does not cover heritage sites (archaeological and cultural sites). These sites fall under the exclusive guidance and procedures established by the Ministry of Culture.

Each phase includes:

- Key objectives and priorities
- Sector-specific actions (e.g. housing, environment, land)
- Institutional responsibilities
- Suggested tools and data sources

The guidebook is intended as a flexible resource that can be adapted, amended, and updated based on feedback and user experience from municipalities and technical teams. Readers are encouraged to navigate it by phase, sector, or planning challenge, depending on their role and current needs.

D. Key principles for Post-War Sustainable Land-Use Planning

Sustainable land-use planning recognizes that land and resources are finite and must be protected and managed wisely. In a post-conflict context, it bridges urgent needs and long-term recovery, balancing economic development, social equity, and environmental protection.

Key principles include:

- Avoiding fragmented and short-term rebuilding.
- Protecting cultural heritage and natural resources.
- Enhancing community resilience and participatory governance.
- Reducing future vulnerabilities.
- Ensuring equitable access to land, housing, and basic services.

Repeated cycles of war and reconstruction in Lebanon (1980s, 2006, and 2024) have severely damaged ecosystems, cultural landscapes, and infrastructure. Thus, this guidebook offers a cohesive framework to integrate physical, social, economic, and environmental recovery efforts, while preventing uncoordinated urban growth.

Context and Planning Framework

A. Post-War Reality in Lebanon

Lebanon has witnessed multiple wars, aggressions, and occupations committed by Israel. The latest aggression began on October 8, 2023, and erupted on September 23, 2024. A ceasefire was reached on November 27 of the same year, after which residents of the South, the Bekaa region, and the suburbs of Beirut began returning to their hometowns to find mass destruction, ecological damage, and heavy loss of lives. The Lebanese Ministry of the Displaced estimates that 60-70% of residents in the South have returned, with approximately 90% of the remaining displaced residents coming from villages along the border. The Bekaa region is estimated to have a higher number of returned residents. Throughout this period, continuous bombardment–specifically in border villages–has made the return of residents in these areas near impossible.

These violations were in the form of bombing entire neighborhoods, burning houses, cutting trees, shooting phosphorus bombs on open fields and buildings, undermining the safe return of residents and the planning process.

B. Why Sustainable Planning Matters Now

While some regions are already witnessing debris removal and early reconstruction, many villages–especially those along the border–remain unsafe, inaccessible, and under continued threat. Israeli forces continue to occupy seven southern points and have routinely targeted civilians, temporary shelters, and service vehicles. This uneven pace of recovery adds complexity to any national planning approach. Without proper planning, the absence of a clear framework and technical guidance, such responses can undermine long-term resilience and sustainability.

This guidebook aims to mainstream these sustainability concepts within the vulnerable context mentioned above. While the priority remains to facilitate the return of the residents, it is equally essential for government and non-government actors to plan with a long-term vision, ensuring resources are available for future generations.

The elaboration of masterplans during post-war reconstruction is an essential tool that provides a cohesive framework, combining all recovery efforts to prevent land dispute, environmental degradation, and unplanned construction. The long-term vision of sustainable land use planning, climate resilience, and inclusive governance should be embedded into every phase of the masterplan, focusing on lasting systems that aim to reduce future vulnerabilities and foster equitable growth.

C. Planning Approach and Structure of the Guidebook

The structure of this guidebook is based on a phased planning approach tailored to post-war realities in rural Lebanon. Recovery and reconstruction in war-affected regions face different constraints in terms of damage, accessibility, safety, and return timelines. To address these complexities, this guidebook proposes a four-phase framework that aligns response actions with evolving needs, capacities, and spatial planning responsibilities.

Moving from short-term crisis response to long-term development, each phase represents a milestone in rebuilding resilient, inclusive and sustainable communities:

- **Phase 1:** Emergency Actions and Preparation for Sustainable Recovery Procedures (0–6 months): Focuses on safety, damage mapping, temporary shelter, debris clearance, and land rights protection. This phase lays the foundation for future planning.
- **Phase 2:** Short-Term Recovery (6–24 months): Provides transitory housing, restores essential services, and implements short-term land and infrastructure interventions. It initiates the stabilization of communities and enables institutional planning.
- **Phase 3:** Medium-Term Reconstruction (1–5 years): Revises or drafts local masterplans, guides spatial reorganization, prioritizes key infrastructure, and applies sustainable and resilient planning principles.
- **Phase 4:** Long-Term Sustainable Development (2–5+ years): Secures long-term investments, restores degraded landscapes, and improves the institutional and regulatory environment.

This framework is intended to guide sequenced and collaborative action among actors, encouraging early coordination and reducing the risk of fragmented or duplicated interventions. Municipalities and planning authorities are encouraged to adapt the phases based on local conditions and the specific context, while maintaining the long-term vision of sustainability, equity, and resilience.

Phase One

Emergency Actions and Preparation for Sustainable Recovery Procedures (0-6 months)

I. Phase One: Emergency Actions and Preparation for Sustainable Recovery Procedures (0-6 months)

Purpose:

Phase One covers immediate and short-term interventions aimed at ensuring safety and facilitating the return of residents. It prioritizes crisis response by providing shelter, basic needs, debris removal, hazard mitigation, and heritage protection. These actions are foundational to prevent unsafe rebuilding and to support data-driven recovery planning.

Who Should Use This Chapter:

- Municipalities and local governments leading initial response and coordination.
- Ministry of Interior and Civil Defense overseeing emergency shelter and safety.
- DGUP and technical planning units involved in damage mapping and land delineation.
- Ministry of Culture and Ministry of Environment for heritage and hazard oversight.
- Order of Engineers and Architects (OEA) for assistance in structural inspections and mapping.
- Humanitarian agencies, local NGOs, and the Red Cross assisting with emergency shelter, debris removal, and aid distribution.
- Community leaders and local volunteers help with data collection, shelter prioritization, and heritage identification.

The above list is indicative and can include a wider array of concerned stakeholders.

Timeline and Key Objectives:

Phase Duration: 0–6 months

Key Objectives:

- Ensure safety and access for returning residents
- Establish initial damage and population assessments
- Provide emergency shelter and restore basic services
- Begin safe debris clearance and hazard mitigation
- Protect priority heritage sites and secure land delineation

Key Areas of Intervention:

A. Recovery Damage Assessment

B. Provision of Temporary Shelter and Basic Needs

C. Debris Clearing and Hazard Mitigation

D. Built Heritage Protection

E. Securing Land Rights

A. Recovery Damage Assessment

Objective:

To rapidly evaluate the physical, environmental, and socio-economic impacts of destruction in order to inform data-driven recovery, highlight urgent needs, and align efforts with sustainability and long-term planning.

Implementation Measures:

Conduct Rapid Damage Assessment: Produce a preliminary evaluation of the destroyed areas to identify immediate issues on site. This assessment should provide a general but accurate picture of the scale of damage, prioritize emergency repairs, and assist in producing primary estimated costs. The rapid damage assessment combines the use of satellite images (CNRS) and ground surveying

➜ Collaborate with government agencies, research institutions, and CNRS Lebanon.

Detailed Mapping of Conditions and Destruction: Use the rapid damage assessment to produce geospatial documentation of debris, and mapping of buildings, roads, infrastructure, services, and plot delineations.

➜ Work with DGUP, local engineers and urban planners, GIS experts and surveyors.

Employ Multiple Mapping Tools: Use a combination of hand drawing, community knowledge, GIS, AutoCAD, drones, and satellite imagery.

➜ Involve technical experts, local universities, and CNRS.

Create a Shared Data Platform following a Decentralized Assessment: Develop a public platform to centralize data, reduce duplication, and limit misinformation. Assign a local entity (e.g., specialized municipal unit) to monitor the different assessments produced by various groups on the ground and organize their distribution for a transparent process.

➜ Work with planning authorities, municipalities, and NGOs.

Implement Building Structural Safety Inspections and a Hotline: Use engineers to assess the safety of buildings and infrastructure, determining which require demolition or reinforcement. This extends to infrastructure, such as road conditions, communication networks, water, and electricity connections for the area. Create an Emergency Engineering Dispatch Center, potentially staffed by volunteer engineers and experts, for residents and businesses concerned about structural safety.

➜ Engage structural and civil engineers, the Ministry of Public Works and Transport, universities, and OEA.

Protect Heritage Sites: Identify and map existing heritage sites and their condition before any debris removal takes place to preserve monuments, sites, or buildings as much as possible. Involve the community to assess heritage with cultural value that is still not classified for protection.

➜ Coordinate with the Ministry of Culture, UNESCO Lebanon, ICOMOS Lebanon, local elders, and heritage NGOs.

Conduct Community Evaluation Through Online Forms: Survey displaced and affected residents to understand psychological, economic, and social impacts. Utilize online forms for self-reporting on housing status, needs, and cultural priorities.

➜ Coordinate with Social workers, NGOs, DGUP, and the Ministry of Social Affairs.

Tools:

- Cultural Heritage Mapping sheets
- Rapid Damage Assessment
- Community Evaluation form
- Shared Data Platform
- Emergency Engineering Dispatch Center
- Drone/Satellite Imagery

Implementation Challenges:

- Post-Disaster state of chaos: different organizations using inconsistent assessment criteria.
- Gatekeeping of data, leading to duplication and misinformation.
- Structural safety risks: unstable buildings requiring urgent demolition due to structural concerns.
- Difficulty in reaching displaced residents or incorporating community input
- Shortage of volunteer engineers and experts to staff the hotline.
- Lack of manpower and resources for detailed mapping, specifically in border areas.
- Erased identified markers complicating mapping and boundary tracing.

B. Temporary Shelter and Basic Needs

Objective:

To provide immediate temporary shelter that mitigates the impact of displacement. Temporary shelter is to be distinguished as short-term housing for residents awaiting rehabilitation of damaged homes, and long-term housing for residents whose homes require partial or complete rebuilding.

Implementation Measures:

Match Housing Type to Needs: Evaluate housing shortage and the expected duration of renovation or rebuilding to determine the appropriate form of temporary shelter.

Determine a Priority System for Housing Support: Identify and prioritize vulnerable groups through the Community Survey.

➔ Coordinate with the Ministry of Social Affairs, municipalities, humanitarian agencies, and NGOs.

Provide Emergency Shelters and Temporary Housing Solutions: Community housing can house multiple families through utilizing vacant buildings and government structures (schools, shelters, community centers). Shelter homes and temporary housing both offer short-term housing according

to the following distinction:

Aspect	Emergency Housing	Temporary Housing
Purpose	Immediate Shelter	Medium-term Transition
Expected Duration	Days to Weeks	Weeks to Months (or longer)
Support Services	Limited to Basic Needs	May offer amenities/facilities.

Examples	Housing Shelter, Communal Housing, Public Buildings (schools, centers)	Rented Apartments, Prefabricated Housing

➔ Coordinate with the Ministry of Social Affairs, Municipalities, and DGUP.

Engage Stakeholders in Housing Supply and Provision: Municipalities should maintain updated statistics on vacant units, displaced families, and potential hosts. They should also seek direct support from expats for rent, furnishing, or donation of units.

➔ Coordinate with local landlords, diaspora networks, and NGOs.

Monitor and Regulate Rent: Enforce temporary rent caps to protect the residents and ensure fair accommodation for vulnerable groups. Establish community reporting channels for breaches of contract or forced evictions to ensure the protection of tenants.

➔ Coordinate with legal advisors and renters' associations.

Introduce Vacancy Taxation: Levy taxes on properties left vacant year-round to discourage property speculation. These taxes could go towards a fund dedicated to supplementing housing solutions, targeting the most vulnerable of the population.

➔ Involve universities, locals, chambers of commerce, and diaspora networks.

Encourage Communal Funding Initiatives: Municipalities, universities, and private institutions can create programs like the initiative "Building Structure Safety Hotline and Neighborhood Recovery Fund", initiated by AUB in the aftermath of the 2020 Beirut port-explosion, to offer volunteering services from experts. This program could mainly rely on experts that inhabit or originate from the concerned area.

➔ Involve the Ministry of Finance and the municipality.

Revive Traditional Mutual Aid Systems (Awneh): Reactivation of the voluntary communal cooperation system of Awneh and encourage service exchange which strengthened community cultural values.

➔ Involve local youth groups, NGOs, and municipalities.

Tools:

- Community Survey
- Awneh System

Implementation Challenges:

- Housing shortage due to high demand and limited rental availability.
- Different levels of vulnerabilities (elderly, disabled, low-income) facing difficulty in accessing housing.
- Rent exploitation driven by high demand and lack of regulation causing landlords to raise their prices.
- Insufficient funding for municipalities and governments to prepare or maintain shelter facilities.
- Inadequate infrastructure to support longer-term temporary housing modules.

C. Clearing Debris & Hazard Mitigation

Objective:

Ensure quick and organized debris removal in order to facilitate movement, enable assessments, and re-establish essential services in the area.

Implementation Measures:

Conduct Safe Demolition of Unstable Structures: Remove buildings identified as being at risk of collapse to maximize recovery efforts and protect workers.

➔ Coordinate with structural engineers, Civil Defense, and municipal authorities.

Treat Potential Threats Carefully: Establish protocols to identify and manage hazardous materials such as asbestos, lithium from solar panels, heavy metals, and remnants of white phosphorus.

➔ Collaborate with the Ministry of Environment, UN agencies, and environmental engineers.

Set Up Debris Sorting and Recycling Locations: Separate debris on site for sorting, potentially using a circular approach to promote sustainable approaches to recovery. Transfer the preliminary sorting to intermediate sites between villages for detailed sorting, recycling and quarry rehabilitation.

➔ Engage local contractors, municipalities, and the Ministry of Public Works.

Promote Debris Recycling through a Closed-Loop Model: Recycle cement-based debris into aggregates for roads, building blocks, and other reconstruction uses. Encourage sorting and reusing metals, wood, and plastics.

➔ Work with initiatives such as the BINA' Project and local recycling firms.

Tools:

- Debris categorization
- Recycling and reuse framework

Implementation Challenges:

- Risk of collapse from unstable structures.
- Presence of hazardous materials (e.g., phosphorus shells, asbestos, lithium).
- Lack of local recycling facilities, especially for metals and complex debris.
- Different treatment requirements for inert vs. non-inert materials
- Limited availability of specialized debris recycling facilities.

D. Built Heritage Protection

Objective:

Protect, document, and assess heritage structures and cultural landmarks impacted by the war, ensuring their proper treatment through rehabilitation, preservation, and/or demolition.

Implementation Measures:

Document Heritage: Document the outline, shape, function, and material of each heritage site to avoid losing traces of cultural value.

➔ Coordinate with the Ministry of Culture, ICOMOS, and local academic institutions.

Initiate a Specialized Process for Heritage Debris Removal: Heritage sites that are completely destroyed

should have debris moved to specialized locations for potential reuse of heritage material in rebuilding or valorizing. For partially destroyed heritage sites, remove should follow specialized processes for debris removal, including potential manual labor, to safeguard what remains of the heritage.

➔ Involve trained professionals, heritage-focused NGOs, and skilled local labor.

Produce Official Inspections: Obtain professional opinions and surveying, potentially by ICOMOS– to determine whether heritage sites should be rehabilitated, preserved, or demolished after documentation.

➔ Engage the Ministry of Culture, ICOMOS, or academic preservation units.

Assign Buffer Zones: Identify or record heritage or cultural sites that require an immediate buffer zone to protect them from unorganized debris removal, construction damage, or theft.

Tools:

- Survey under ICOMOS Lebanon supervision
- Documentation of heritage sites
- Specialized debris removal protocol

Challenges During Implementation:

- Difficulty identifying heritage markers after widespread destruction.
- Risk of debris removal damaging monuments.
- Incorrect demolition or treatment of monuments.
- Community concerns are being overlooked in the renovation and reconstruction process, risking the loss of intangible cultural heritage.

E. Securing Land Rights

Objective:

To mitigate disputes that may arise from unclear land delineation, especially in cases where owners are absent or land boundaries have been erased due to heavy demolition and rubble.

Implementation Measures:

Facilitate Land Delineations: Before reconstruction begins, the facilitation of land delineations should be conducted to avoid encroachment, according to the case:

- First Case: If cadastral limits exist but fences or boundaries have been erased, reassign clear delineations to protect landowners' rights.
- Second Case: if cadastral limits have not yet been officially established, use the services of a Mukhtar to mitigate potential conflicts through a set agreement between neighbor owners on convenient and fair limits.

➔ Coordinate with DGUP, municipalities, the Mukhtar, and the Ministry of Public Works.

Facilitate Administrative Measures: Ensure the provision of temporary emergency services and government services, including the replacement of official documents potentially lost during the war.

➔ Liaise with municipalities, the Ministry of Interior, and local NGOs.

Facilitate Temporary Land Usage: Allow conditional use of public or private property for purposes such as water harvesting, debris sorting on-site, or temporary services, and potentially for compensation to encourage the donation of space.

➜ Engage with property owners and donor agencies.

Tools:

- Land surveying
- Temporary emergency service sites
- Land delineation agreements

Implementation Challenges:

- Loss of official documents proving land or housing ownership.
- Limited funding and staff to conduct new land delineations.
- Existing trespassing on private or public land.

Phase Two

Short-Term Recovery

II. Phase Two: Short-Term Recovery

Purpose:

Phase two corresponds to a structured recovery process that follows a priority-based approach. It is designed to transition communities from emergency measures into structured recovery and reconstruction, laying the groundwork for long-term sustainable development. The focus is on restoring critical infrastructure, ensuring food security, and preserving and adapting built heritage.

Who Should Use This Chapter:

- Local municipalities and unions of municipalities coordinating service restoration.
- DGUP and the Ministry of Public Works implementing temporary infrastructure solutions and zoning.
- Ministries of Social Affairs, Agriculture, and Energy implementing recovery programs.
- Donor agencies, UN bodies, and NGOs supporting transitional housing, food resilience, and rapid planning.
- Local universities, engineers, and researchers conduct fieldwork, assessments, and drafting preliminary plans.
- Community representatives ensuring inclusive recovery and fairness in housing.

The above list is indicative and can include a wider array of concerned stakeholders.

Timeline and Key Objectives:

Phase Duration: 6 months – 2 years

Key Objectives:

- Restore livability through transitional housing, basic services, and infrastructure.
- Enable land recovery and food production.
- Begin reconstruction in a coordinated and sustainable manner,
- Preserve cultural heritage and local identity.
- Generate data and tools for master planning and regulations.

Key Areas of Intervention:

A. Fieldwork and Database Collection

B. Housing and Shelter Solutions

C. Restoring Critical Infrastructure and Services

D. Land Restoration and Food Resilience

E. Valorizing Built Heritage

F. Elaboration of Sustainable Masterplans

A. Fieldwork and Database Collection

Objective:

To conduct systematic on-the-ground data collection, validation, and digitization in safe areas cleared during Phase One. This verifies and updates rapid assessments and supports long-term planning efforts (e.g., masterplans, reconstruction, zoning, and land rights).

Implementation Measures:

Establish a One Stop Shop: Create a central office to coordinate licensing, registration, and cadastral services, ensuring faster legal processing and consistency across government departments.

➔ Coordinate with municipalities, DGUP, the Cadastral Authority, and the Ministry of Interior.

Form a Legal Unit: Set up a unit with community representatives and a legal advisor to explain temporary mechanisms and activities and resolve any potential land disputes or construction encroachments.

➔ Engage legal experts and community leaders.

Gather Key Records and Data Sources: Collect the following documents and visual material to guide the reconstruction and planning process, including:

- Land registry records (from the Land Registry Department).
- Cadastral maps and blueprints of the area (from the municipality or the Land Registry Department).
- Property Statement (إفادة عقارية) (from the Land Registry Department).
- Stamp duty for the Land Easement and Zoning Certificate (وثيقة ارتفاق وتخطيط) - (from the municipality or DGUP).
- Land Easement and Zoning Certificate (وثيقة ارتفاق وتخطيط)- from the GDUP.
- Existing masterplans, if any (from the municipality or DGUP).
- List of public and private possessions (from the municipality and private residents).
- Survey field record if available (from the municipality, Student Research, or NGO archive).
- Images documenting urban evolution (from the municipality and private residents).
- Land use maps (from CNRS).
- Historic or heritage site categorization and Images (from ICOMOS or the Ministry of Culture).
- High-resolution satellite images, before and after (from UN or Quick bird).

Tools:

- One-Stop-Shop
- Legal Unit
- GIS software, AutoCAD, and satellite/drone imagery
- Historical archives and cadastral systems

Implementation Challenges:

- Unsafe areas due to unexploded ordnance or on-going debris removal.
- Lack of cadastral plans and reliable land records.
- Possible discrepancies between legal and local customary land arrangements
- Inaccessibility of destroyed properties without formal records.
- Difficulty in determining the degree of infractions in the absence of proper documentation.

B. Housing and Shelter Solutions

Objective:

To initiate medium- and long-term housing solutions, including renovation and reconstruction. This requires the intensification and facilitation of efforts, materials, and funding to accelerate the safe and dignified return of residents.

Implementation Measures:

Prioritize Renovation Efforts: Begin reconstruction based on urgency, with priority given to partially damaged homes that can be quickly renovated. This would allow a faster return for the residents and a decreased need for temporary housing.

➔ Coordinate with local engineers, municipalities, and NGOs.

Promote Transitional and Sustainable Housing Models: Encourage cost-effective, eco-friendly, and resilient construction approaches. Implement community housing models to support economically struggling families.

Utilize Alternative Building Materials: Incorporate recycled building blocks for interior walls, organic replacements for cement, mudbricks...etc.

➔ Collaborate with NGOs, UN-Habitat, OEA, and local architects.

Encourage Community Participation: Involve communities in post-war housing and reconstruction efforts to help rebuild social cohesion after traumatic loss.

➔ Work with community leaders, mukhtars, and civil society groups.

Advocate for Sustainable Reconstruction Loans: Lobby for state-backed or NGO-supported housing loans that require use of local materials, skilled labor, and sustainable practices (meeting green building recommendations, and/or implementing sustainable energy solutions).

➔ Engage the Central Bank, the Ministry of Finance, LGBC, the Ministry of Environment, and donor institutions.

Cap Material Prices: The government is required to monitor and cap the pricing of materials and services, including sustainable building materials and solutions, to ensure affordability and accessibility.

➔ Engage the Ministry of Economy and Trade, local suppliers, and the formed local unit of Phase One.

Prevent Exploitative Land and Property Sales: Introduce protective legal tools such as:

- Temporary Sale Freeze: Imposing short-term sale freeze of land and/or property in case of multiple purchases by a single developer or entity (UN-Habitat, 2021).
- Land Valuation Requirement: Mandating an independent and fair land valuation assessment prior to any sales to reduce manipulation of prices (FAO, 2012).
- Disruption Taxation: Imposing higher taxes on speculative real estate purchases to discourage mass acquisitions of land.

➔ Involve Parliament, land registry offices, and the judiciary.

Introduce Eco-construction Methods: Launch training workshops for locals, led by local professionals, covering eco-construction, and using climate resilient materials.

➔ Partner with technical schools, local professionals, OEA, and NGOs.

Lift Construction Limitations on Small Plots: Reconsider restrictions on construction for plots smaller than 600 sqm, allowing owners to benefit from their land instead of being forced to sell.

➔ Coordinate with DGUP and the municipality.

Tools:

- Transitional housing models
- Housing and statistics databases
- Sustainable reconstruction loans
- Training programs

Implementation Challenges:

- Discrepancy between reconstruction costs and available financial resources.
- Rising prices of building materials.
- Bureaucratic delays in permits and approvals.
- Exploitative land sales due to economic struggles.
- Shortage of skilled professionals and proper oversight.
- Legal restrictions on building in small plots (<600 sqm).

C. Restoring Critical Infrastructure and Services

Objective:

To rehabilitate critical infrastructure and services in order to facilitate the safe and sustainable return of residents. Priority should be given to utilities, networks, and service delivery.

Implementation Measures:

Prioritize Infrastructure Rehabilitation: Begin with urgent repairs to:

- Primary and secondary roads, to facilitate connectivity.
- Public buildings and facilities, to restore access to farms and essential basic services.

➜ Coordinate with the Ministry of Public Works, municipalities, and UNDP Lebanon.

Implement Emergency Public Transportation Measures: Provide shared transportation means–such as buses and carpooling–to allow construction and development works and proceed with minimal interruptions.

➜ Coordinate with the Ministry of Transport, NGOs, and local community.

Tools:

- Mapping tool
- Service units

Implementation Challenges:

- Severe damage to public buildings and service facilities (e.g., schools, offices, community centers).
- Debris, destroyed roads, and traffic congestion contribute to mobility constraints and delaying access.
- Insufficient funding for rehabilitation and continuity of services.
- Limited availability of materials and skilled labor for infrastructure works.

D. Land Restoration and Food Resilience

Objective:

To reactivate local agriculture and transition to sustainable local food systems. This requires detailed inventory and assessment of lands and crops, along with strengthening small-scale farming systems.

Implementation Measures:

Utilize Abandoned Agricultural Lands: Facilitate agreements between owners of abandoned lands and potential new venturers through temporary use agreements or leasing models.

➜ Coordinate with municipalities, local cooperatives, and landowners.

Conduct Soil, Land, and Crop Assessments: Test soil for contamination, especially in areas exposed to chemical attacks, shelling, or white phosphorus.

➜ Engage the Ministry of Agriculture and environmental engineering experts.

Apply Optimal Land Recovery Techniques Based on Contamination Level:

- Moderate: Use sustainable engineered landfills.
- Severe: Apply thermal conductive treatment.
- Through Adaptation: Introduce alternative crop types suitable for soil durability.

➜ Engage the Ministry of Agriculture, agricultural experts, and environmental engineers.

Encourage Bioremediation Techniques for Land Decontamination: Use soil worms, beneficial bacteria, fungi, and plants as sustainable and cost-effective methods to address heavy metals, organic pollutants, and toxins present in contaminated soil.

➜ Engage the Ministry of Agriculture, Pure Earth NGO, Green Cross International, other environmental NGOs, and environmental engineers.

Promote Sustainable Urban Farming: Introduce roof gardens, vertical wall gardens, and community gardens.

➜ Collaborate with local NGOs, schools, the Ministry of Agriculture, the Ministry of Environment, and OEA.

Support Small-scale Farming with Training and Seeds: Provide technical assistance, certified seeds, and climate-resilient crops following FAO recommendations.

➜ Partner with FAO, the Ministry of Agriculture, the Ministry of Environment, OEA, and cooperatives.

Encourage Shared Resource Management: Create systems for shared irrigation, machinery, and storage infrastructure across villages.

➜ Coordinate regionally with water establishments, cooperatives, and NGOs.

Implement Valuation Standards to Compensate for Olive Trees Damage: Apply fair valuation standards for olive tree fields destroyed by bombardment, considering the age and economic lifespan of the tree(s). Based on FAO compensation frameworks, lost income calculations are utilized as valuation standards.

➜ Engage the central government, FAO, the Ministry of Agriculture, and local NGOs.

Provide Incentives for Sustainable Agriculture:

- Specific loans for sustainable farming equipment, crops, and lease of agricultural lands for farmers.
- Tax reductions for farmers using eco-friendly practices and climate-smart agricultural technologies (such as automatic and efficient irrigation).
- Promote urban greening initiatives on a local scale to ensure food security.

➜ Engage the central government, local banks, NGO, crowdfunding and donor programs.

Tools:

- Soil and crop testing
- Farmer training
- Loans for sustainable farming equipment and crops

Implementation Challenges:

- Contaminated and poisoned soils from war-related toxins (e.g., lead, barium, phosphorus).
- Disruption of the supply chain and available supplies (e.g., farming tools, irrigation systems, and fertilizers).

- Limited funding and technical support for farmers.
- Weak coordination between local agricultural actors and national support programs.
- Incomplete governmental soil testing for phosphorus impacts due to high costs and limited staff.
- Loss of farmers as many shifted professions after destruction of their lands.

E. Valorizing Built Heritage

Objective:

To restore, repair, and repurpose war-damaged heritage and historic structures, to protect cultural identity of the areas while promoting tourism to raise interest and funds, and integrating them into sustainable recovery efforts.

Implementation Measures:

Acquire External Assistance: Engage NGOs, local professionals, and heritage experts to guidance, skills, and technical knowledge for restoration and reconstruction.

➔ Coordinate with the Ministry of Culture, UNESCO, ICOMOS, specialized heritage NGOs, academics, and research centers within universities (such as “Center for Restoration and Conservation of Historic Monuments and Sites” in LU Tripoli).

Restoration of Heritage Sites: In heritage areas that have been heavily damaged or destroyed, re-establishing the capacity of surviving attributes, even if fragmented, is necessary to convey their significance. Incorporate intangible cultural practices into the recovery process.

➔ Engage engineers, architects, traditional craftsmen, cultural historians, the Ministry of Culture, UNESCO, ICOMOS, and specialized heritage NGOs.

Reconstruction Based on Heritage Typology:

- Monuments: Require temporary structural support (e.g., scaffolding) or protective status to protect its cultural integrity.
- Historic Buildings: Follow conservation standards that preserve integrity, habitability, and function.

➔ Involve structural engineers, conservation architects, the Ministry of Culture, UNESCO, and ICOMOS.

Introduce Adaptive Re-Use: Facilitate the activation or reactivation of specific cultural sites, if needed, by integrating them into the productive economic cycle of the village. Adaptive re-use could be temporary or permanent.

➔ Engage engineers, architects, traditional craftsmen, cultural historians, and residents.

Encourage Community Involvement in Preservation: Form local heritage preservation groups to identify, maintain and promote local heritage assets and foster ownership over built cultural heritage.

➔ Engage residents, NGOs, and municipalities.

Leverage International Expertise and Funding:

- ICOMOS: Conduct risk assessment, promote protection, develop conservation plans for heritage sites, and support the conservation of historical and archeological heritage.
- UNESCO: Assist in the identification, protection, and preservation of cultural and natural heritage sites, provide emergency funding and training for local authorities and communities.
- UNDP: Assist in post-conflict recovery programs that include the restoration of cultural heritage.

Tools:

- Guidelines for restoration and reconstruction
- Local heritage groups

Implementation Challenges:

- Limited financial and human resources for rehabilitation, restoration and renovation.
- Risk of improper treatment or demolition of historic structures.
- Property owners' opposition to heritage designation.
- Lack of incentives.
- Weak integration of heritage protection in existing urban regulations.

F. Elaboration of Sustainable Masterplans

Objective:

To formulate a cohesive masterplan that enables sustainable land-use management through a series of tools to be utilized based on need. These tools reflect the area's specific conditions, limitations, and opportunities, and can be applied to upgrade existing masterplans.

Implementation Measures:

Implement Protective Guidelines and Recommendations for Heritage Sites: Such guidelines would dictate the level of protection required, temporary or permanent buffer zones, urban policies for the surrounding area, and/or regulations that complement heritage tourism.

➔ Coordinate with the Ministry of Culture, ICOMOS, and local heritage groups.

Limit Urban Sprawl on Agricultural Lands and Natural Landscapes: Implement strict regulations to prevent urban encroachment on productive farmlands and natural landscapes. Incorporate these areas into future masterplans.

➔ Coordinate with the Ministry of Agriculture and DGUP.

Encourage Sustainable and Inclusive Planning: Promote holistic neighborhood design that integrates affordable housing solutions (mixed-use development, community housing), ensure accessibility for people with disabilities, public services and spaces and apply cost-effective designs and sustainable materials for durability and affordability.

➔ Engage DGUP, municipalities, and local developers.

Introduce Traffic Calming Measures: Reduce speed, traffic volumes, and risks within village cores and sensitive areas, and increase the awareness of the driver to their surroundings (e.g., wider sidewalks, bike lanes, speed bumps, pavement cladding of areas with high vulnerability, street pacification, etc.).

➔ Engage municipalities.

Integrate Climate Risk Mapping into Masterplans: Identify fire-prone areas, floodplains, drought-vulnerable areas, seismic areas, and other risk-prone areas, ensuring they are embedded in masterplans.

Develop a Structural Plan: Prepare a long-term, sustainable, and strategic document that outlines the framework for the development of a certain area. The plan should connect road hierarchy with primary and secondary nodes, built heritage, and natural landscapes. The structural plan guides development in an orderly manner. It may focus on growth areas or activity centers, integrating housing, employment, and recreation. (For further details, see Annex 1: Structural Plan Methodology.).

Establish a Growth Management Plan (GMP): Adopt a strategy to guide the type, location, and timing of new developments, minimizing environmental impacts and ensuring sustainable land use management. It is based on the delineation of fixed boundaries and conditional urban growth aiming to contain haphazard urban sprawl. A GMP utilizes tools such as Urban Growth Boundaries (UGB), which allow for a sequential approach of expansion based on set milestones at various periods, conditional upon filling at least 70% of the capacity of the previous UGB. Instructions on the methodology of establishing UGBs are in Annex 2. Similarly, tools such as growth strategy designations (extension, intensification, and densification) are further detailed in Annex 3. The GMP aims for the following:

- Discouraging and delaying unnecessary construction on untapped lands or protection areas.
- Limiting construction on productive lands outside protective boundaries through the use of green belts.
- Sustaining municipal budgets and capabilities by concentrating development efforts in targeted areas.
- Protecting land values through market-driven demand in designated growth areas.

➔ Engage planners, architects, municipalities, local developers, and DGUP.

Develop a Densities Plan: Identify and out define the density of development in each area based on population, building types, activities, and long-term vision. Higher-density development helps reduce urban sprawl, preserve agricultural lands, and minimize impacts on environmentally sensitive areas. This distinction can be made through identifying agricultural lands, high/medium/low density mixed-use areas, and high/medium/low density housing areas.

Develop a Land Use Plan: Provide a long-term strategic vision by identifying existing land uses and outlining permitted developments across different zones, while ensuring flexibility and adaptability to the needs of the area. The plan should map a broad range of parameters which are defined in Annex 4. For details on proposed intervention methods, see Annex 5.

Develop a Regulatory Framework Form: Develop a complementary document to the land-use plan, specifying building parameters, conditions of construction, permitted and forbidden usage, and visual examples if available. For the regulatory form, see Appendix 1.

Tools:

- Traffic Calming Measures
- Structural Plan
- Densities Plan
- Land Use Plan
- Growth Management Plan

Implementation Challenges:

- Lack of available resources for data collection
- Risk of ground surveys and field work
- Lack of municipal enforcement capabilities

III. Phase Three:

Medium-Term Reconstruction (1 Year - 5 Years)

III. Phase Three: Medium-Term Reconstruction (1 Year - 5 Years)

Purpose:

Phase Three shifts from structured urgent recovery to systematic sustainable reconstruction. It aims to achieve long-term resilience through restoration and revitalization of different sectors. This phase focuses on revitalizing public services, supporting sustainable land management, and ensuring that post-war recovery becomes a foundation for equitable, inclusive, and climate-resilient development.

Who Should Use This Chapter:

- Technical directorates of municipalities overseeing reconstruction works.
- DGUP, CDR, and the Ministry of Public Works leading infrastructure and spatial reorganization.
- Ministries of Environment and Culture guiding ecological and heritage restoration.
- Syndicates (e.g., OEA, Order of Architects and Engineers) are involved in resilient infrastructure.
- Green and construction-sector NGOs assisting in nature-based solutions and debris recycling.
- International donors and development banks invest in infrastructure and livelihoods.
- Local cooperatives, artisans, and SMEs contributing to economic recovery.

The above list is indicative and can include a wider array of concerned stakeholders.

Timeline and Key Objectives:

Phase Duration: 1–5 years

Key Objectives:

- Upgrade infrastructure to be climate-resilient and inclusive.
- Restore degraded landscapes and ecosystems.
- Support long-term economic recovery and green job creation.
- Integrate sustainability into planning, zoning, and construction.
- Lay the groundwork for long-term land use and development strategies.

Key Areas of Intervention:

A. Upgrade infrastructure for Climate-Resilience and Inclusivity.

B. Restoring Landscapes and Ecosystems.

C. Economic Recovery and Job Creation.

D. Implementation of the Elaborated Masterplans.

A. Upgrade Infrastructure for Climate-resilience and Inclusivity

Objective:

To rehabilitate and upgrade infrastructure through implementing climate-smart systems and resilient approaches. This includes integrating green infrastructure, designing public spaces, and utilizing renewable materials to improve livability and sustainability.

Implementation Measures:

Implement Local-Level Renewable Energy Solutions: Integrate solar energy into public infrastructure, including solar streetlights, speed-bump power generators, piezoelectric tiles, and solar panels.

➔ Coordinate with the Ministry of Energy and Water and NGOs.

Promote Water Conservation Systems:

- Apply low-cost methods such as water reservoirs, decentralized water systems, rainwater harvesting, drip irrigation, and greywater recycling filtration systems.
- Apply nature-based solutions such as green roofs, wetlands for flood control, and permeable pavements.

➔ Coordinate with the Ministry of Environment, the Ministry of Agriculture, the Ministry of Energy and Water, academic research centers, and CNRS.

Design for Accessibility: Retrofit sidewalks, public buildings, gardens, and designed public spaces to be accessible. Potentially provide technologies to ensure inclusive access such as elevators, electrical ramps, or electrical doors.

➔ Coordinate with the Ministry of Social Affairs, engineers, and OEA.

Integrate Green Infrastructure: Create pocket gardens in between and in proximity to houses to re-introduce greenery even with the lack of space. Add trees along roads and planted roundabouts as green reliefs within the built fabric.

➔ Coordinate with the Ministry of Public Works, landscape architects, and local NGOs.

Use Climate-Resilient Materials: Employ construction materials resistant to corrosion, heat, and flooding to ensure longevity, safety, and reduced carbon footprint for rebuilding or maintenance of flooring, sidewalks, and construction.

➔ Engage OEA, engineers, and material experts.

Advance Infrastructure with Smart Technologies: Add smart technology (sensors, automatic monitoring) and consider alternative means for required services (solar panel fields, solar water pumps) where possible.

➔ Engage OEA, academic institutions, suppliers, engineers, and material experts.

Implementation Challenges:

- Limited integration of renewable energy infrastructure at the local level.
- General lack of knowledge and funding for water conservation.
- Minimal planning to accommodate accessibility needs.
- Shortage of public green space in dense or damaged areas, and utilization of public spaces for service provision.
- Reconstruction using non-resilient construction materials.
- High cost of modernizing certain infrastructure, often results in outdated service provision.

B. Restoring Landscapes and Ecosystems

Objective:

To restore ecosystems, repair degraded landscape, protect biodiversity, reintroduce sustainable land management, and achieve climate resilience. These actions assist in integrating the principles of Land Degradation Neutrality (LDN) into land-use planning.

Implementation Measures:

Assess Landscape Hazards and Classify Damage: Use earlier assessments as a base to identify new potential threats and classify areas requiring treatment or recovery. Utilize records from local research to find suitable treatments.

➔ Coordinate with CNRS, the Ministry of Environment, and universities.

Treat Chemically Contaminated Soils and Water Bodies: Give priority to decontamination of soils in agricultural areas and water bodies, which may require unique decontamination strategies.

➔ Engage the Ministry of Environment, UN Environment Programme, scientific labs, and CNRS.

Restore Ecosystems and Encourage Reforestation: Rehabilitate wetlands, forests, and agroforestry areas. Promote low-cost sustainable agricultural practices to maintain or restore soil health and reduce environmental impacts (e.g., crop rotation, organic farming).

➔ Coordinate with the Ministry of Agriculture, reforestation NGOs, UNDP, and local cooperatives.

Introduce Nature-Based Infrastructure: Design green buffers, floodplains, and water filtration wetlands to reduce climate and urban risks. Use indigenous, drought-resistant trees.

➔ Involve hydrologists, ecologists, landscape architects, the Ministry of Agriculture, the Ministry of Environment, and climate engineers.

Establish Permanent and Temporary Protection Zones: Designate biodiversity corridors, national parks, and recovery areas under special environmental protection to safeguard ecosystems.

➔ Collaborate with the Ministry of Environment and NGOs.

Develop an Eco-Tourism Plan and Network: Connect rural villages through green corridors and walking trails. Cultural and historical landscapes, including traditional irrigation systems, religious shrines, and ancient terraces, should be mapped, and preserved as part of the ecological and tourism strategy.

➔ Collaborate with the Ministry of Tourism, the Ministry of Environment, and NGOs.

Identify and Map Ecological Corridors: Incorporate ecological mapping into reconstruction and recovery planning to prevent the fragmentation of ecosystems.

➔ Collaborate with the Ministry of Environment and local municipalities.

Introduce Baseline Environmental Monitoring Protocols: Establish systems to monitor air, water, and soil pollution, flora and fauna, and biodiversity shifts, including invasive species proliferation.

➔ Collaborate with the Ministry of Environment, CNRS, local environment groups, and municipalities.

Apply Sustainable Land Management Criteria: Reintroduce native plants and trees and develop agroforestry. Organize community groups for planting, maintaining, and protecting forests and green spaces, with support from environmental NGOs to secure funding.

➔ Work with UNDP, FAO, NGOs, and residents.

Tools:

- Environmental Impact Assessments (EIAs)
- Permanent and Temporary Buffer Zones
- Eco-tourism Plan and Network

Implementation Challenges:

- Identifying new threats on landscapes as well as new classifications for future urban planning.
- Limited funding for ecosystem treatment and restoration.
- Fuel leaks contaminating groundwater and farmland.
- Low community interest in environmental restoration, often seen as a lower priority.
- Weak institutional coordination for environmental zoning.

C. Economic Recovery and Job Creation

Objective:

To revitalize the economy through sustainable, culturally rooted, and green job creation. This includes rebuilding local markets, promoting cultural and eco-tourism, and supporting small businesses, artisans, and green industries.

Implementation Measures:

Promote Green Construction Industries: Prioritize eco-friendly, resilient, and locally sourced building materials, creating new job opportunities. Green construction initiatives can include recycling programs for building waste, energy efficient building techniques, low-carbon construction methods, and vocational training programs for artisans and workers.

➔ Coordinate with the Ministry of Public Works, LGBC, and OEA.

Revive Cultural and Eco-Tourism: Restore landmarks and develop sustainable tourism strategies for long-term economic benefits. This includes adaptive re-use of historic buildings, community-based tourism, and introducing digital and virtual tourism platforms.

➔ Collaborate with the Ministry of Tourism, DGUP, local tour operators, locals, and culture-based NGOs.

Support Local Artisans and Traditional Crafts: Valorize intangible heritage and revive cultural practices (e.g., pottery, textiles, artists, and other handicrafts). Create artisan cooperatives coupled with regional markets as platforms for sustainable exchange and economic empowerment.

➔ Link with the Ministry of Culture, local cooperatives, women's associations, and artisans.

Provide Subsidized Loans for Green Start-Ups: Direct financial support to sustainable entrepreneurships by the municipality, the government, and national ministries through subsidized loan programs for different renewable energy ventures (e.g., solar installation, Agri-tech development and research, or university mentorship programs).

➔ Partner with the Ministry of Economy, UNDP, Berytech, Kiva, or microfinance institutions.

Identifying Investment Zones: Designate specific areas suitable for investments (e.g., real estate development, light and eco-friendly industries) within the proposed land use plan, provided that these areas respect the natural and environmental setting of the concerned rural area.

➔ Partner with the Ministry of Economy, the Ministry of Public Works, DGUP, local planners, and the municipality.

Tools:

- Green business training programs
- Digital tourism platforms

Implementation Challenges:

- Minimal support for green jobs and limited financing options.
- Decreased residency and population outflow post-war.
- Limited awareness and support for cultural and nature-based tourism.

D. Implementation of the Elaborated Masterplans

Objective:

To develop an implementation plan and make amendments to ensure proper implementation and sustainable development.

Implementation Measures:

Develop an Implementation Plan: Outline clear steps for implementation based on priority, availability of skilled labor, community and stakeholder engagement, and scheduling milestones.

➔ Engage DGUP, municipalities, and local groups.

Combine Funding Opportunities: Mobilize funding from both public and private sources, locally and internationally, including loans from the central bank, public–private partnerships (PPPs), green bonds, incentive-based investments, or donations pooled from diaspora or NGOS. Phasing assists in sustainable implementation, as proposed in the UGB Plan (referenced as a tool for the elaboration of masterplans).

➔ Engage the Ministry of Finance, Ministry of Environment, DGUP, municipalities, local and international NGOs, and local groups.

Tools:

- Implementation Plan
- Funding opportunities

Implementation Challenges:

- Limited Financing for the implementation of the masterplan.
- Emerging challenges linked to land use changes or specificities of the area.
- Potential resistance from the residents to certain initiatives.

IV. Phase Four:
Long-Term Sustainable Development
(2 Years - 5+ Years)

IV. Phase Four: Long-Term Sustainable Development (2 Years- 5+ Years)

Purpose:

Phase Four indicates the culmination of post-war recovery and reconstruction, shifting the focus toward sustainable and inclusive steady growth. It focuses on long-term systematic interventions that promote resilience, economic innovation, community strengthening, and institutional permanence.

Who Should Use This Chapter:

- Municipal councils and planning departments steering strategic development.
- DGUP and relevant ministries (Economy, Industry, Environment, Tourism) crafting policy and monitoring frameworks.
- Parliamentary committees and national policymakers setting legal and regulatory reforms.
- Universities, research centers, and observatories monitoring masterplan implementation.
- Private sector, diaspora investors, and green entrepreneurs supporting diversification.
- International partners (e.g., UNDP, EU, ICOMOS, UNESCO) co-financing and supporting capacity building.
- Civil society and community-led networks sustaining engagement in inclusive development.

The above list is indicative and can include a wider array of concerned stakeholders.

Timeline and Key Objectives:

Phase Duration: 2 – 5+ Years

Key Objectives:

- Promote diversified and inclusive economies.
- Establish strong and transparent institutional and policy frameworks.
- Enable adaptive and long-term monitoring of masterplans.
- Embed sustainability, equity, and resilience across all urban development efforts.

Key Areas of Intervention:

A. Achieving Economic Diversification

B. Institutional and Policy Frameworks

C. Monitoring and Adaptation of Masterplans

A. Achieving Economic Diversification

Objective:

To reduce rural dependency on traditional sectors and increase opportunities by expanding green industries, attracting investment, and equipping the workforce with skills for emerging markets.

Implementation Measures:

Introduce New Sectors: Encourage the development of green industries such as renewable energy manufacturing, eco-tourism, and/or technology in rural areas.

➔ Coordinate with the Ministry of Economy and Trade, LGBC, the Ministry of Environment, and renewable energy associations.

Attract Investors through Incentives: Develop investment-friendly strategies, such as simplified business registration and targeted incentives (tax abatements, support for training programs, subsidized lands for development projects, microloans for SMEs, etc.).

➔ Partner with the Ministry of Economy and Trade, investment promotion agencies, and CDR.

Decrease the Skill Gap through Vocational Training: Offer training in digital literacy, production, energy systems, and manufacturing skills through local workshops or certified programs.

➔ Collaborate with the Ministry of Labor, international agencies (e.g., EU, UNDP), and technology firms such as Cisco.

Implementation Challenges:

- Heavy reliance on traditional sectors (agriculture, informal trade...) with limited diversification.
- Low private sector interest due to perceived risks and medium-to-slow market recovery.
- Skills mismatch for modern and green industries.

B. Institutional and Policy Frameworks

Objective:

To ensure the proper implementation of sustainable development goals and vision, masterplans, and accountability. It allows for systemic governance reforms and upgrades, and participatory decision-making.

Implementation Measures:

Reinforce Municipal Capacities: Strengthen municipalities through training, staffing support, and technical tools in areas such as budgeting, land use, and resilience planning.

➔ Link with DGUP, the Ministry of Interior and Municipalities, and capacity-building programs (e.g., UN-Habitat, GIZ).

Produce Policies that Support the Implementation of the Masterplans: Introduce supporting set of policies related to governance and funding. For reference on existing policies and exceptions, see Annex 6.

➔ Coordinate with the Parliament, the Ministry of Public Works and Transport, the Ministry of Finance, and legal units.

Promote the Creation of Green Policies: Encourage municipalities to develop or adopt local policies for the promotion and valorization of green spaces, forests, wooded areas, as well as cultural heritage tied to agriculture and eco-tourism.

➔ Collaborate with the Ministry of Environment, NGOs, CNRS, and forestry experts.

Implementation Challenges:

- Municipal structures weakened by the over-use of its resources and the responsibilities of its members.
- Lack of enforceable green policy instruments.
- Limited budgets and workers to implement long-term and consistent maintenance strategi

C. Monitoring and Adaptation of Masterplans

Objective:

To ensure that spatial masterplans remain relevant, risk-informed, and responsive to community needs through monitoring, evaluation, and adaptive planning processes.

Implementation Measures:

Develop a Monitoring Process and Reporting System: Create an urban observatory to track implementation and monitor progress, outcomes, and duration of implementation of the masterplan against its vision and goals.

➔ Partner with DGUP, Lebanese universities, and UN-Habitat.

Rely on CNRS' Research Network: Leverage CNRS' long-term networks for socio-ecological research, employing advanced tools for monitoring, early warning systems, and long-term observatories to aid environmental management. The specifics of the role of the CNRS-L are elaborated on in Appendix 2.

➔ Coordinate with CNRS, the Municipality of Environment, and local municipalities.

Adapt the Masterplan: Revise plans periodically to reflect updated risks (e.g., floods, population shifts) or legal changes.

➔ Coordinate with planning committees, DGUP, and community representatives.

Tools:

- Progress dashboards and indicator templates

Implementation Challenges:

- Potential community resistance to changes in land use.
- Altered data or conditions following rebuilding and reconstruction.

Conclusion and Next Steps:

This guide offers a practical call to action to bridge short-term recovery efforts with long-term, sustainable land use planning. It emphasizes the importance of continuous coordination between all stakeholders and municipalities, technical agencies, ministries, civil society, and international partners, to ensure an effective and inclusive recovery process.

Designed as a flexible and evolving tool, the guidebook is grounded in field-based feedback and real-world implementation experiences. It is meant to be adapted, amended, and updated over time to remain responsive to changing needs and on-the-ground realities. Municipalities and technical teams are encouraged to use it dynamically (by phase, by sector, or by planning challenges) depending on their roles and responsibilities.

Ultimately, the guide aims to support Lebanon's transition from post-war recovery to long-term sustainability by promoting participatory planning, institutional learning, and integrated development across rural areas.

Appendix 1: Regulatory Form

(Land Use Parameter, e.g., Agricultural Zone)			
1. Description & Objectives			
2. Uses			
Main Use		Permitted Uses	Conditional Uses
3. Building Parameters			
Floor (Max)			(insert visual 3D if available)
Building Height (Max)			
Plot Coverage			
Floor Area Ratio (FAR)			
Setbacks (min)	Front (A)		
	Side (B)		
	Rear (C)		
Parking			
4. Construction Requirements:			
Exterior Façade (Elevation Material)			
Roofs			
Basements			
Un-artificialized Area Ratio (UAAR)			
5. Plot Parameters			
After Division (min)			
After Merging (max)			

Appendix 2: Centre National de la Recherche Scientifique (CNRS) Role Based on the Phase of Rebuilding:

Phase	Emergency Housing	Temporary Housing
Before Reconstruction: Pre-War	Data collection	Conflict related research, environmental studies, cultural heritage preservation studies...
	Knowledge Preservation	Archiving data collected, protecting researchers
	Damage Mapping	Utilizing CNRS earth observation labs to map damage, debris locations and volume.
	Risk Assessment	Providing research on urban planning, socio-economic impacts,and disaster resilience.
During Construction: Immediate Post-War	Damage Assessment	Satellite imagery, engineering studies, archaeology, and geospatial analysis.
	Engineering Expertise	Regulations, materials, and structural engineering expertise on rebuilding sustainable infrastructure.
	Epidemiology and Medical Research	Tracking disease outbreaks post-war, war trauma, mental health...etc.
	Digital Archiving	3D modeling, Autocad/GIS mapping, and data archiving.
	Studies	Ground surveys and research on trauma, migration, and social cohesion.

Annex 1: Structural Plan Methodology

Structural Plan	Dentification of Existing Conditions	Through a plan, identify primary, main, and secondary roads, functional nodes, and areas of activity (retail, tourism, religion, social, etc.).
	Decompressing the Urban Center	Most rural villages have a dense urban center, which often acts as the economic engine of the village. These cores usually contain the heritage fabric and historic cultural buildings that should be protected and preserved. To safeguard this fabric from inappropriate modernization, haphazard remodeling, or demolition, decompressing the urban center is proposed through targeted decentralization policies that reduce development within historic cores. This would require redirecting growth to the appropriate peripheral areas and developing economic assets within them.

Annex 2: Urban Growth Boundaries (UGB) Methodology

Urban Growth Boundaries: A sustainable planning tool that follows a conditional expansion. It is a sequential approach to expansion based on milestones set at various periods. The expansion towards a new UGB is conditional upon filling at least 70% of the capacity of the previous UGB; otherwise, expansion should be delayed and discouraged. If development is permitted in these areas before the set timeline, the applicant must assume full responsibility for providing utilities, roads, and connectivity to the central urban area. Permit issuing—including habitat and housing approvals—should be granted upon the fulfillment of these conditions.	Historic Core	Special zone area with the highest level of historic fabric in need of valorization. The urban morphology and the fabric of the historic area should be preserved, including building footprints and vernacular road networks, even if the core was partially or completely destroyed.
	UGB 1	Contains the highest density of urbanization and is established around existing and planned urban functional nodes. UGB 1 allows for densification through zoning regulations.
	UGB 2	The first expansion area is beyond UGB 1, containing some existing urbanization and infrastructure.
	UGB 3	The second expansion area, to be established only if needed. It includes unproductive lands with minimal existing infrastructure.
Green Belts: Established around green spaces, agricultural lands, or planted areas that fall outside of protection areas.	Internal Green Belts	Established among UGBs and urbanized areas, allowing for the elaboration of green parks, leisure activities, sports, and cultural activities. They may contain sports fields and camping sites. Internal green belts offer protection for valuable landscape units such as forest patches or agricultural areas from urban sprawl or unsafe activities.
	External Green Belts	Combines unprotected agricultural lands and green spaces falling on the boundaries of urban areas. They may accommodate peri-urban agriculture and farmhouses, but with strict limitations on construction materials and sizes.

Annex 3: Growth Strategy Methodology

Growth Strategy Designations	Extension Areas	New areas designated for development, where land use and density are determined through a land-use plan.
	Densification Areas	Residential areas with a vision to increase the number of people or dwelling units per area. Regulations may allow taller buildings, higher building ratios, and smaller delineation of land. Densification reduces car dependency and lower infrastructure costs.
	Intensification Areas	Areas that require or can support increased density alongside improved urban functions. Intensification areas require mixed-use developments, improved infrastructure, and a higher level of service provision. It encourages walkability and supports mixed-used neighborhoods, allowing for sustainable city solutions.

Annex 4: Land Use Parameters

Sectors	Parameters	Description
Agriculture Areas	Urban Agriculture	A zone dedicated to small farms and cultivated land for vegetable production and livestock breeding intended for human consumption.
	Intensive Farming	A zone dedicated to large-scale cultivated lands and pastures for intensive farming.
	Seafood production	A zone dedicated to seafood production, covering all activities linked to livestock farming (aquaculture: breeding in ponds, in floating cages at sea, aquaponic farms) and fishing activities.
Natzural Zones	Natural Protection Areas	Areas dedicated to the protection of forests, mountains, sand, and desert to preserve environmental qualities.
	Natural Zone	Areas with little to no human modification, dedicated to environmental preservation, biodiversity, landscape conservation, and climate regulation. These areas are essential for the conservation of ecosystems, risk mitigation and climate regulation.
	Water Bodies	Areas dedicated to water bodies and all constructions dedicated to the management of the water bodies.
	Coastal Conservation Zone	Areas dedicated to the conservation of the coastal zone.
Landscape Zone	Regional Natural Park	Areas dedicated to the creation of regional natural parks.
	Green Belt	Areas dedicated to the creation and the preservation of internal and external green belts to combat desertification and regulate agricultural activity.
	Landscape High Value Protection Area	Areas dedicated to protecting landscapes of high environmental value.
Public Realm	Public Open Space	Areas dedicated to the creation and preservation of public open spaces.
	Parks and Playgrounds	Areas dedicated to the creation and preservation of parks and playgrounds.
	Public Marine time Domain	Areas dedicated to the preservation of public maritime domain, where construction is prohibited.

Economic and Industrial Sector	Economic sectors	Areas dedicated to all activities related to crafts, commerce, industry, hospitality or office, logistics areas, mining and quarrying.
	Commercial Sector	Areas dedicated to commercial activities, including commercial transactions of goods and services, business administration, creative and economic services, and accommodation.
	Workshops and Handcrafts zones	Areas dedicated to craft and manual manufacturing workshops, encouraging creation, artisanal production, and the sharing of traditional or innovative know-how.
Civic Facilities	Communities and Civic Facilities	Areas Dedicated to education, health, religious, administration, sports, and leisure facilities, and cemeteries.
Special use areas	Special Use Areas	Areas dedicated to all military activities, operations, and infrastructure. It can be used for training armed forces, storing weapons, national defense, and/or technological development.
Heritage Zone	Heritage Zone (and Buffer)	Areas dedicated to the protection of cultural heritage and natural assets to preserve their authenticity, including monuments, historic buildings, archaeological sites, natural landscapes, or old neighborhoods.
Downtown CDB	Downtown CDB	Areas dedicated to the economic and financial heart of the city, characterized by a high concentration of offices, banks, corporate headquarters, as well as high-end retail and hotels.
Residential Zone	Low-Density Residential	A residential zone dedicated to single-family houses, typically villas on small plots of land, up to 2–3 floors, arranged around neighborhood centers with services.
	Medium-Density Residential	A residential zone dedicated to single-family houses and small buildings, arranged in a semi-regular pattern, supported by community centers and emergency services.
	High-Density Residential	A residential zone dedicated to medium- and high-rise buildings, supported by community services, government facilities, sports, and leisure.

Mixed-Use Zone	Mixed-Use	Areas dedicated primarily to residential use (about 60%) combined with commercial, services, city facilities, low-rise or open-air markets, and handcrafts, typically concentrated on the ground floor.
	High Density Mixed-Use	Areas dedicated to residential use (about 50%) combined with large-scale commercial outlets, malls, or standalone facilities near medium- to high-rise residential buildings.
Mixed-Use Linear Residential + Commercial	Mixed-Use Linear Strip	Areas along major commercial roads, usually connecting multiple areas together, the ground floor is activated for street entertainment and pedestrian comfort. Developments should be aligned to create a harmonious context, with potential open or green pockets for pedestrian spaces or parking.
Growth/ Extension Sectors		Areas dedicated to secondary urban growth, to be utilized after primary urban growth zones have reached at least 70% capacity. These areas allow for planned densification according to a timeline suited to the local context.

Annex 5: Land Use Interventions

Enhancing Key Community Areas	Applicable Locations	Community areas of interest include cultural heritage sites, communal activities (religious, ceremonial), market locations (e.g., *Souk El Ahad*), or town squares. These areas should be qualified to host interventions that address community needs or provide a better quality of life for the surrounding neighborhoods.
	Physical Improvements	Landscaping dedicated to improving functionality and visual appeal, through the design of gardens, public furniture (benches, trash cans, shading structures, fountains...etc.), and pavements, using sustainable and durable materials.
		Designated parking areas dedicated to respecting cultural integrity and prevent encroachment onto sidewalks and public spaces.
		Complementary functions and amenities dedicated to activating underutilized spaces and encouraging development within the area.
	Mobility Improvements	Urban design guidelines dedicated to enhancing mobility and pedestrian walkability in the area. This can include traffic calming measures and designating pedestrian-only areas.
	Cultural Heritage Protection and Integration	Cultural heritage in the area of interest (tangible and intangible) highlighted and valorized with supporting regulations for its protection where needed.
		Cultural preservation integrated into the planning of streetscapes and gathering areas, dedicated to maintaining the cultural identity of the area.

Annex 6: Existing Policies and Exceptions

Legalities of Post-War Reconstruction:

- Temporary Tax Exemptions:

Decree 410 was passed urgently to grant exemptions from taxes and fees for those affected by the Israeli war on Lebanon. The decree also suspends deadlines related to tax rights, duties, and legal obligations. Further details are set to be released soon (El Nashra, 2025).

- Temporary Permits and Exceptions:

Rebuilding in the case of infractions and illegalities should only be permitted if they are reshaped in detailed conditions and requirements adapted to each area. Otherwise, no new construction should be permitted within an illegal framework. For infractions that pose safety concerns, structural threats, and environmental damage, reconstruction must undertake corrective measures to ensure compliance with safety and zoning regulations under the current construction law. New construction based on previous unsafe infractions should be halted with a stop-work order, fines, penalties, and eventual demolition to protect residents from posed construction threats.

- Construction Permits on Rural Parcels

Law 139/2019 was introduced as part of efforts to address the housing situation through a series of settlement laws. This law followed earlier measures, such as Circular 33 (Presidency of the Council of Ministers, 13/11/2013), which outlined a two-stage process: first, the legalization of certain building violations, and second, their settlement.

Regarding the regulation of building activities, Circular 483 (30/5/2013) reinstated the authority of mayors and governors to issue residential building permits in rural areas, provided that the built area did not exceed 150 m^2 and that additional conditions were met. Similarly, in 2014, the Ministry of Interior and Municipalities (MoIM) issued Circular 613, granting municipalities—on a temporary basis of one year—the authority to issue construction permits under the same conditions, thereby bypassing the role of the Directorate General of Urban Planning (DGUP) and the Order of Engineers and Architects (OEA).

The stated rationale for these measures included addressing widespread construction without formal approval, reducing unregulated building practices, and mitigating rural depopulation by facilitating access to housing. However, these measures also resulted in an increase in legally recognized violations, including the construction of buildings of varying sizes and uses on agricultural and natural lands. This development posed challenges for the preparation of functional master plans and had implications for food security in rural areas.

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