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Building Inclusive Climate Governance Through Institutional Change: A Case Study from Lebanon

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Policy Problem Statement

Lebanon stands at a critical climate governance crossroads. The country increasingly faces high climate vulnerability, including wildfire risk, land degradation, water stress, and post-conflict environmental damage, while its governance system is marked by institutional fragmentation, limited resources, and political instability. Notably, national policies, strategies and international commitments often fail to translate into effective local implementation, creating a persistent gap in policy implementation.

At the same time, Lebanon possesses strong community-based assets including active universities, civil society organizations (CSOs), youth networks, municipalities, and local community groups. In contexts where state capacity is constrained, these actors have increasingly filled institutional voids, coordinating action, generating evidence, and supporting operational responses. This creates an opportunity to channel local innovation and coalition-based action into national climate governance, transforming fragmentation into a platform for inclusive institutional reform.

The core policy challenge is therefore not only environmental risk, but how to reform institutions so they can integrate science, local action, and partnerships into sustainable governance systems.

Key Policy Questions and Policy Relevance

- 1. How can Lebanon bridge the gap between national climate commitments and local implementation?**
Ensuring that strategies and plans translate into operational risk reduction and adaptation on the ground.
- 2. How can coalitions of universities, CSOs, municipalities, and communities be institutionalized rather than remaining ad hoc?**
Sustained climate governance requires formal recognition of multi-actor coordination, especially where state capacity is limited.
- 3. How can digital tools and AI strengthen evidence-based policymaking in resource-constrained institutions?**
Earth Observation platforms, AI-supported analysis, and digital dashboards can compensate for limited analytical capacity and improve transparency and accountability.
- 4. How can local communities move from beneficiaries to co-leaders in climate governance?**
Community first responder teams, cooperatives, and local networks increase legitimacy, reduce resistance to policy measures, and strengthen monitoring and stewardship.
- 5. How can international partnerships reinforce national systems rather than bypass them?**
Specific regional programs (for example, Mediterranean cooperation, Arab youth networks) can provide funding, knowledge exchange, and joint accountability that support institutional reform.

Policy Recommendations

National Government

National authorities should prioritize the institutionalization of multi-actor governance by formally integrating universities, CSOs, and municipal networks into national climate and environmental platforms. In Lebanon, this is particularly relevant given the limited operational capacity of central institutions during overlapping economic, political, and environmental crises. Existing practices already point in this direction. Universities such as the University of

Balamand and other national academic institutions regularly support ministries with technical studies, risk mapping, and environmental monitoring, while local NGOs and municipal unions play key roles in wildfire response, reforestation, and water management. Formalizing these roles through advisory councils, technical working groups, and structured consultation platforms would move these collaborations from ad hoc arrangements to recognized governance mechanisms, improving continuity and accountability.

National authorities also need to embed stronger science-policy interfaces. Lebanon provides clear examples where university–public sector partnerships have helped fill operational gaps, particularly in wildfire risk management and environmental monitoring. In the past few years, academic institutions have contributed to fire danger assessment, burned-area mapping, and post-fire impact analysis using satellite data, often in coordination with the Ministry of Environment, Civil Defense, and local authorities. Institutionalizing such partnerships through formal agreements, joint units, or standing technical cooperation frameworks, would ensure that scientific tools, training, and decision-support systems are co-designed with end users.

In parallel, national authorities should mainstream digital and AI-enabled decision support. Lebanon has already seen the use of EO platforms, Geographic Information System (GIS) dashboards, and satellite remote sensing analyses to track forest fires, land degradation, urban expansion, air pollution and conflict-related environmental damage. However, these tools often remain project-based rather than embedded in official workflows. Recognizing EO-based monitoring systems, national environmental data platforms, and AI-supported analytics as official decision-support tools, linked to ministries and operational agencies, would enhance early warning, risk assessment, and recovery planning. Also, promoting open data policies and interoperability between institutions, such as between environment, agriculture, and disaster management actors, would also address long-standing fragmentation in environmental information.

Finally, national authorities should strengthen vertical integration across governance levels. In Lebanon, municipalities and community groups are frequently the first responders to fires, floods, and environmental degradation, yet their knowledge and priorities are not always systematically reflected in national planning. Structured mechanisms, such as municipal reporting channels into national risk platforms, regular local-national coordination forums, and standardized data-sharing protocols, would help ensure that local evidence informs national climate adaptation and disaster risk reduction strategies. At the same time, this would improve the translation of national policies into locally feasible actions, bridging the persistent gap between strategy and implementation.

Municipalities and Local Authorities

Municipalities and local authorities should be positioned as central hubs of climate governance, especially in contexts like Lebanon where local actors often respond faster than national systems. Municipal structures can play a coordinating role among community groups, volunteer first responder teams, agricultural cooperatives, and youth networks. In many Lebanese regions, such as forested, fire-prone, or water-stressed areas, municipalities already act as de facto coordinators during emergencies, mobilizing local resources, equipment, and volunteers. Recognizing this role formally and strengthening municipal coordination capacities would allow local authorities to serve as effective intermediaries, particularly when national-level processes are delayed by political or administrative bottlenecks.

Municipalities should also support community co-leadership in environmental governance. Local first responder teams (sometimes using very simple communication channels such as WhatsApp groups), environmental committees, farmer groups, and cooperatives often possess detailed knowledge of landscapes, risks, and seasonal patterns. Institutionalizing these actors as official partners in prevention, monitoring, and stewardship, rather than treating them only as informal volunteers, can significantly enhance preparedness and sustainability. Participatory planning processes led by municipalities, where communities help identify priorities, risks, and solutions, can increase the legitimacy of local decisions and improve compliance with environmental regulations and risk reduction measures.

In addition, municipalities should leverage digital tools to strengthen local governance. Mobile-based reporting systems such as Firepatrol (developed by local actors to report on a fire), citizen science applications, and simple local dashboards can help track fire outbreaks, illegal dumping, water shortages, pest outbreaks, and other climate-related impacts in near real time. In Lebanon, such tools have been used in pilot initiatives for fire reporting, environmental monitoring, and damage assessment, but scaling them at the municipal level would greatly enhance early detection and response. Municipalities often lack the technical capacity to process and interpret these data alone, so partnerships with universities and CSOs are essential. Academic and civil society partners can help analyze satellite data, field observations, and community reports, translating them into practical local action plans for risk reduction, land management, and climate adaptation.

Donors and International Climate Funds

Donors and international climate funds should move beyond funding isolated, short-term projects and instead invest in coalitions as part of long-term governance infrastructure. In countries such as Lebanon, where institutional fragility and resource constraints limit state capacity, solid partnerships between universities, ministries, municipalities, and civil society



organizations often provide continuity and technical stability. Supporting these multi-actor coalitions as standing platforms, rather than temporary project consortia, helps maintain knowledge, tools, and coordination mechanisms beyond individual funding cycles. Accordingly, donors can design calls and reporting frameworks that require collaboration between national ministries, local authorities, academic institutions, and civil society. This approach reflects the reality that climate adaptation and environmental risk management are inherently cross-sectoral and multi-level.

Donors should also prioritize investment in digital public goods. Financing AI-supported analytics, and mobile-based tools can significantly improve transparency, monitoring, and evidence-based decisionmaking. Ensuring that tools are low-cost, user-friendly, and accessible to municipalities, communities, and local organizations is essential so that digitalization reduces inequalities rather than reinforcing them.

Finally, donors should make inclusivity a core design principle. In a country like Lebanon, where trust in formal institutions may be limited, inclusive approaches can strengthen legitimacy, improve uptake of interventions, and ensure that climate governance reflects the needs and knowledge of those most affected.