



# Local Climate Action and Policy Implementation in Egypt and Somalia: A Multilevel Governance Perspective

Mohamed Ibrahim Hassan Farag<sup>1</sup>

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## Corresponding Author(s):

Mohamed Ibrahim Hassan Farag

Department of Political Science, Faculty of Economics and Political Science, Cairo University, Giza, Egypt. Email: [mohamed\\_ibrahim2020@feps.edu.eg](mailto:mohamed_ibrahim2020@feps.edu.eg)

**Abstract:** As climate change intensifies, local governments have become increasingly important in translating national climate commitments into context-specific action, particularly in regions affected by institutional fragility and climate vulnerability. This study aims to examine how local climate initiatives contribute to climate policy implementation and multilevel governance integration in Egypt and Somalia. The two countries provide contrasting governance contexts: Egypt represents a centralized, state-led model with emerging local engagement, whereas Somalia reflects a fragmented, hybrid governance setting in which community-based and externally supported initiatives often compensate for weak formal state capacity. Methodologically, the study adopts a comparative qualitative case study design and applies thematic content analysis to policy documents, development reports, project-based materials, and academic literature. The findings show that local actors in both countries contribute primarily to implementation, adaptation, service delivery, community mobilization, and resilience-building rather than to direct national policy formulation. In Egypt, local climate action is generally shaped by national strategies, administrative hierarchy, and centrally guided implementation. In Somalia, local initiatives are more adaptive and community-driven but remain constrained by insecurity, donor dependency, weak coordination, and limited institutional continuity. The study concludes that local climate action becomes more effective and policy-relevant when supported by clear mandates, technical capacity, climate finance, coordination mechanisms, monitoring systems, and feedback channels. The implications suggest that strengthening multilevel climate governance in Africa requires bridging the gap between national frameworks and local realities by empowering local actors, improving institutional coordination, and transforming local implementation experience into policy learning.

**Keywords:** Local Climate Governance, Climate Policy Implementation, Decentralization, Multilevel Governance Integration, Climate Adaptation, Egypt, Somalia

## 1. Introduction

The escalating severity of climate change has emerged as one of the most significant global challenges of the twenty-first century. Its impacts extend far beyond environmental degradation, influencing economic stability, social development, public health, infrastructure, and political governance systems worldwide. Increasing occurrences of extreme weather events, including floods, droughts, heatwaves, and water scarcity, highlight the urgent need for coordinated responses across multiple levels of governance (Corfee-Morlot et al., 2009; Karlson et al., 2023). Although international agreements and national strategies have traditionally dominated climate policy discussions, growing scholarly attention emphasizes that effective climate governance must also incorporate the role of subnational and local authorities in translating broad climate commitments into context-specific implementation and adaptation practices.

Local governments are particularly well-positioned to address climate change because they operate closest to the communities and ecosystems that directly experience climate-related impacts. Their proximity enables them to develop place-based responses that reflect local environmental conditions, socio-economic priorities, infrastructure needs, and community vulnerabilities. Moreover, municipal authorities influence several sectors that are directly linked to climate mitigation and adaptation, including urban planning, transportation, energy management, land-use regulation, water services, and waste management (Corfee-Morlot et al., 2009; Lee et al., 2025). Through these functions, local governments can translate national and international climate commitments into practical actions at the community level. However, this role should not be understood only in terms of direct policy formulation. In many developing and fragile contexts, local governments are more often involved in implementation, adaptation, coordination, service delivery, and feedback processes that connect national strategies with local realities.

Nevertheless, the ability of local governments to implement effective climate policies varies considerably across regions and governance systems. In many developing countries, particularly across Africa, local administrations face structural challenges such as limited financial resources, insufficient institutional capacity, weak technical expertise, unclear mandates, and political instability. These constraints can restrict their ability to implement large-scale climate initiatives or sustain long-term adaptation strategies (Lehmann & Irigoyen Rios, 2024; OECD, 2023). Despite these challenges, local governments in developing contexts have demonstrated adaptability and innovation by engaging local communities, collaborating with civil society organizations, and fostering partnerships with private-sector actors to address

<sup>1</sup> Department of Political Science, Faculty of Economics and Political Science, Cairo University, Giza, Egypt

climate-related risks (Bulkeley & Betsill, 2005; Corfee-Morlot et al., 2009). Therefore, local climate governance represents an important analytical site for examining how institutional capacity, decentralization, community participation, external partnerships, and multilevel coordination shape the practical implementation of climate policy.

These dynamics are particularly evident in Egypt and Somalia, two countries with contrasting governance environments that offer valuable insights into local climate action in Africa. Egypt operates within a relatively centralized governance structure, where national institutions have traditionally dominated climate policy formulation, strategic planning, and resource allocation. Nevertheless, recent developments indicate increasing involvement of local authorities, particularly in urban sustainability initiatives, infrastructure management, environmental planning, and climate-related service delivery (Bulkeley & Castán Broto, 2013; Betsill & Bulkeley, 2007). In contrast, Somalia faces a more fragmented governance system characterized by weak state institutions, political instability, insecurity, and uneven administrative capacity. In this context, community-based initiatives, regional authorities, informal governance structures, civil society organizations, and international development actors often play a central role in responding to climate threats and building resilience at the local level (Bulkeley & Betsill, 2005; Corfee-Morlot et al., 2009). The contrast between Egypt and Somalia, therefore, provides a useful comparative lens for examining how local climate action operates under two different conditions: centralized state control and fragile, hybrid governance.

Although existing research has made important contributions to the study of climate governance, several gaps remain. Much of the literature focuses either on national climate policy frameworks or on urban climate action in relatively stable governance environments. Less attention has been given to how local climate initiatives function in African contexts marked by strong centralization on the one hand and state fragility on the other. Moreover, previous studies often discuss local climate action without clearly distinguishing between local policy implementation, local policy influence, and multilevel governance integration. This distinction is important because local initiatives may support national climate objectives without necessarily shaping national policy formulation directly. Consequently, there is a need for a more nuanced understanding of how local actors interact with national climate frameworks through implementation alignment, donor-supported programming, community participation, institutional coordination, and policy feedback.

This study addresses this gap by examining local climate action and policy implementation in Egypt and Somalia through a multilevel governance perspective. Its novelty lies in comparing two contrasting African governance contexts to show how local actors contribute to climate policy implementation under different institutional conditions. Rather than assuming a direct bottom-up influence on national climate policy, the study investigates the mechanisms through which local initiatives are incorporated into, supported by, aligned with, or disconnected from national climate frameworks. In doing so, the study reframes the problem not as a simple question of whether local governments directly shape national climate policy, but as an inquiry into how local climate initiatives interact with national frameworks under centralized and fragile governance conditions.

The comparison between Egypt and Somalia is significant for theoretical, empirical, and practical reasons. Theoretically, the study contributes to multilevel and polycentric governance debates by showing that local climate governance functions differently in centralized and fragile state contexts. It also clarifies that local policy implementation should not be treated as identical to direct influence over national policy formulation. Empirically, the study examines Egypt and Somalia as underexplored comparative cases in African climate governance literature (Bulkeley & Castán Broto, 2013; Betsill & Bulkeley, 2007). Egypt demonstrates how local climate initiatives are shaped by centralized planning, administrative hierarchy, and national development strategies, whereas Somalia illustrates how fragile governance, local autonomy, community networks, and donor-supported interventions shape climate adaptation on the ground. Practically, the study provides insights for policymakers, development agencies, and climate practitioners seeking to strengthen the relationship between local initiatives and national climate objectives.

Furthermore, the study is relevant for designing climate policies that move beyond formal national commitments and address the practical requirements of implementation. These requirements include local capacity-building, access to climate finance, technical support, participatory planning, institutional coordination, and feedback mechanisms between local and national institutions. By identifying the barriers faced by local governments, as well as the conditions that enable effective local climate action, the study supports the development of more inclusive governance models that empower local actors, improve resource allocation, and enhance coordination across governance levels. Ultimately, effective climate governance must operate across multiple levels and incorporate the perspectives, capacities, and practical experiences of local actors. Recognizing and supporting local initiatives is therefore essential not only for improving policy effectiveness but also for fostering long-term climate resilience and sustainable development in both stable and fragile state contexts.

Accordingly, this study seeks to examine how local government initiatives contribute to climate policy implementation and multilevel governance integration within two distinct governance contexts. By focusing on Egypt and Somalia, the research aims to identify the mechanisms through which local actors contribute to environmental planning, the degree of alignment between local and national policy efforts, and the structural barriers that may hinder effective integration. In addition, the study considers whether, and under what conditions, local initiatives can generate feedback, learning, or practical evidence that informs broader climate governance processes. The study is guided by the following main research question: How do local climate initiatives in Egypt and Somalia contribute to climate policy implementation and multilevel governance integration, and what institutional conditions enable or constrain their interaction with national climate policy frameworks?

## 2. Literature Review

Over the past two decades, the literature on climate change governance has expanded significantly, reflecting growing recognition that effective climate action requires engagement beyond national and international policy arenas. Increasingly, scholars and practitioners have emphasized the role of local governments as pivotal actors in advancing both mitigation and adaptation strategies (Bulkeley & Betsill, 2013; Agrawal et al., 2008). This shift reflects a broader rethinking of governance that emphasizes decentralization, multilevel coordination, institutional collaboration, and place-based responses to complex environmental challenges. Rather than treating climate policy as a purely national process, the literature demonstrates that climate governance increasingly depends on interactions among national strategies, subnational institutions, local communities, civil society organizations, and external development actors.

Theoretical contributions from multilevel environmental governance underscore the importance of aligning climate action across different scales, ranging from global agreements and national policy frameworks to municipal interventions and community-based initiatives (Ostrom, 2010). Within this framework, local authorities are understood not merely as implementers of top-down policies, but also as actors capable of adapting, translating, and operationalizing climate strategies in ways that reflect local realities, knowledge systems, institutional capacities, and resource constraints. Research has shown that when local governments are empowered and adequately resourced, they can introduce innovative solutions, improve responsiveness to climate impacts, and enhance policy legitimacy through closer engagement with citizens (Corfee-Morlot et al., 2009; Betsill & Bulkeley, 2006). However, the literature also suggests that local agency should not automatically be equated with direct influence over national policy formulation. In many cases, local governments contribute more visibly through implementation, experimentation, service delivery, community mobilization, and feedback to higher levels of governance.

Closely related to multilevel governance is the concept of polycentric governance, which emphasizes the existence of multiple centers of decision-making authority operating across different scales. Polycentric governance is particularly relevant to climate change because adaptation and mitigation often require flexible, experimental, and locally responsive forms of action (Ostrom, 2010). Nevertheless, the operation of polycentric governance differs across political and institutional contexts. In centralized systems, local autonomy may be constrained by national ministries, hierarchical planning structures, and limited fiscal discretion. In fragile or weak-state contexts, by contrast, polycentric arrangements may emerge by necessity, as local authorities, communities, non-governmental organizations, international agencies, and informal institutions assume roles that central institutions cannot fully perform (Bulkeley & Castán Broto, 2013; Betsill & Bulkeley, 2007). This distinction is central to understanding the different forms of local climate governance found in Egypt and Somalia.

In the African context, however, the academic discourse reveals a more complex and uneven picture. On the one hand, decentralization reforms in several countries have created formal channels for local involvement in climate governance (Tarschys, 2007; Ribot, 2002). On the other hand, structural barriers, including inadequate funding, capacity gaps, weak institutional coordination, unclear mandates, and political instability, continue to limit the effectiveness of local actors (Ayers, 2011; Di Gregorio et al., 2019). As a result, a persistent disconnect often exists between national climate plans and local realities, particularly in fragile, post-conflict, or resource-constrained states. This disconnect raises an important analytical question: whether local initiatives are incorporated into national climate frameworks through clear coordination mechanisms, or whether they remain isolated, donor-dependent, and weakly institutionalized.

Although a growing number of studies address urban climate governance in African metropolises such as Cape Town, Nairobi, and Accra, comparative research on local government responses in fragile or highly centralized contexts remains limited (Castán Broto & Bulkeley, 2013). This gap is especially relevant to Egypt and Somalia. Egypt's governance system has historically been top-down, yet recent national development plans, including Vision 2030 and the Sustainable Development Strategy, have increasingly encouraged local participation in environmental planning, especially in large cities and coastal regions (Horlings & Wills, 2025; Cid et al., 2024). Somalia, meanwhile, presents a distinctive case in which governance is highly localized, often informal, and shaped by clan-based systems, community networks, regional administrations, and international aid actors. Consequently, Somalia raises important questions about how local climate resilience is built in the absence of a strong and fully coordinated state apparatus (Menkhous, 2007; Williams et al., 2020). The comparison between Egypt and Somalia is therefore useful because it allows this study to examine how local climate action functions under two contrasting institutional conditions: centralized state control and fragmented state capacity.

This literature review reveals several gaps that the present study seeks to address. First, there is limited comparative analysis examining how different governance structures condition the role and capacity of local governments in climate policy implementation and governance integration. Second, much of the existing literature does not sufficiently integrate insights from fragile states, despite their high vulnerability to climate change and their dependence on local, informal, and externally supported governance arrangements. Finally, there remains a need to better understand how local initiatives, whether formal or informal, interact with national frameworks without assuming that such interaction necessarily amounts to direct influence over national policy formulation. This distinction between policy implementation, policy interaction, and policy influence remains underdeveloped in existing studies and represents a central gap addressed by this article.

By engaging with these gaps, this study contributes to a deeper understanding of the challenges and opportunities facing local governments in Egypt and Somalia. It offers a grounded and context-sensitive perspective on how subnational actors contribute to climate governance across varying institutional landscapes, an issue of increasing importance as climate impacts intensify across the Global South. More specifically, the study applies multilevel and polycentric governance perspectives to compare how local climate initiatives operate in a centralized state context and a fragile, hybrid governance context. In doing so, it advances the argument that local climate action should be assessed not only by whether it directly shapes national policy, but also by how it supports implementation, adaptation, coordination, community resilience, and institutional learning across levels of governance.

### 3. Research Methodology

This study adopts a document-based comparative qualitative case study design to examine how local climate initiatives contribute to climate policy implementation and multilevel governance integration in Egypt and Somalia. This approach is appropriate because the study seeks to understand governance processes, institutional arrangements, policy interactions, and contextual differences rather than to measure causal relationships statistically. Moreover, a comparative case study design enables the analysis of how different governance contexts shape the role of local actors in climate policy implementation (Yin, 2018).

Egypt and Somalia were selected as contrasting cases because they represent two distinct governance settings. Egypt reflects a relatively centralized climate governance system in which national institutions play a dominant role in policy formulation and strategic planning. Somalia, by contrast, represents a fragile and hybrid governance context in which regional authorities, local actors, community-based structures, civil society organizations, and international development partners often play important roles in responding to climate-related challenges. Therefore, the comparison provides a useful analytical basis for examining how local climate action operates under different institutional conditions.

The study relies on secondary qualitative data obtained from policy documents, national climate strategies, legislative and institutional frameworks, government reports, municipal and development plans, international organization reports, donor-supported project documents, and peer-reviewed academic literature. The empirical document base focused mainly on the period from 2015 to 2026, reflecting the post-Paris Agreement phase and recent climate governance developments in both countries. However, foundational theoretical sources published before 2015 were retained where they were necessary for explaining multilevel governance, polycentric governance, decentralization, and fragile-state governance. Priority was given to documents produced by government institutions, United Nations agencies, the World Bank, development organizations, and verified policy or project sources. In addition, grey literature was included only when it provided relevant information on local climate initiatives and could be cross-checked against more authoritative sources.

The document search was conducted through government and institutional websites, UN and World Bank repositories, policy databases, and academic search platforms such as Google Scholar and other scholarly databases. Search terms included combinations such as “local climate governance Egypt,” “climate policy implementation Egypt,” “governorates climate adaptation,” “Somalia climate resilience,” “local governance Somalia,” “Somaliland drought adaptation,” “Puntland reforestation,” “municipal climate action,” “community-based climate adaptation,” and “multilevel climate governance.”

Documents were selected using clear inclusion and exclusion criteria. Sources were included if they addressed climate change policy, adaptation, mitigation, local governance, decentralization, environmental planning, climate finance, disaster risk reduction, or local resilience in Egypt or Somalia. Sources were excluded if they were opinion-based, lacked identifiable institutional authorship, had no direct country relevance, duplicated information already covered by more authoritative sources, or did not address local or subnational climate governance.

A structured screening process was applied to ensure transparency. In total, 92 records were initially identified. After removing 15 duplicates, 77 records were screened for relevance based on title, abstract, executive summary, or document description. At this stage, 26 records were excluded because they were not directly related to climate governance, local implementation, Egypt, Somalia, or multilevel policy interaction. The remaining 51 full-text documents were assessed against the inclusion and exclusion criteria. Of these, 12 were excluded because they were either too general, lacked country-specific relevance, did not address local or subnational governance, or could not be verified through an identifiable institutional or academic source. Consequently, 39 documents were included in the final analysis. The final document corpus included peer-reviewed academic studies, national policy documents, climate strategies, development reports, and institutional publications. These sources were grouped by country, source type, policy level, and thematic relevance. The purpose of this organization was to ensure that the analysis did not rely on isolated examples but instead compared Egypt and Somalia through a consistent analytical structure.

The collected documents were analyzed through manual thematic content analysis, which is appropriate for identifying recurring patterns, meanings, and governance themes across qualitative documents (Hooghe & Marks, 2003; Braun & Clarke, 2006; Bowen, 2009). First, the documents were organized by country, source type, policy level, and climate governance theme. Second, relevant information was extracted into a structured comparative matrix covering national climate frameworks, local actor roles, types of climate initiatives, funding and partnership structures, implementation mechanisms, coordination arrangements, and reported barriers. Third, the material was coded through both deductive and inductive procedures. Deductive codes were derived from multilevel and polycentric governance perspectives, including vertical coordination, local autonomy, institutional capacity, policy integration, resource allocation, and stakeholder participation. Inductive codes emerged from the reviewed documents, including donor dependency, informal governance, community ownership, implementation gaps, local adaptation practices, and policy feedback mechanisms.

The comparative analysis was organized around six analytical dimensions: governance structure, legal and institutional mandates, types of local climate initiatives, local-national coordination mechanisms, barriers and enabling conditions, and evidence of policy feedback or institutional learning. These dimensions were applied consistently to both cases to ensure comparability and to avoid a purely descriptive discussion. Consequently, the analysis focused on identifying similarities, differences, and explanatory patterns in how local actors contribute to climate policy implementation under centralized and fragile governance conditions.

To strengthen the credibility of the study, the analysis relied on source triangulation, cross-case comparison, transparent document selection criteria, and a consistent coding framework. Claims about local initiatives were assessed cautiously and, where possible, supported by more than one source type. Nevertheless, the study has limitations. As it is based on secondary documents, it does not include interviews, surveys, or field observations. Therefore, it does not claim to measure the direct effectiveness of local climate initiatives or establish causal relationships. Instead, it provides a document-based qualitative assessment of how local climate action interacts with national climate frameworks and contributes to multilevel governance integration in Egypt and Somalia.

#### 4. Findings and Analysis

This section presents the findings of the document-based comparative analysis of local climate action and policy implementation in Egypt and Somalia. Using the structured comparative matrix described in the methodology, the analysis identifies three main findings. First, governance context strongly shapes the role of local actors in climate policy implementation. Second, local climate initiatives in both countries contribute mainly to implementation, adaptation, service delivery, and resilience-building rather than direct national policy formulation. Third, local initiatives become policy-relevant only when they are supported by coordination mechanisms, technical capacity, finance, documentation, monitoring, and feedback channels.

##### 4.1. Governance Context and the Role of Local Actors

The first finding shows that Egypt and Somalia represent two contrasting pathways of local climate governance. In Egypt, climate governance is embedded within a centralized state-led planning system. National institutions define strategic climate priorities through frameworks such as Egypt Vision 2030, the National Climate Change Strategy 2050, and updated national climate commitments (Egyptian Ministry of Environment, 2022; Government of Egypt, 2023; Ministry of Planning, Economic

Development and International Cooperation, 2024). Within this structure, governorates and municipalities primarily function as implementation actors. They support environmental management, urban sustainability, infrastructure planning, waste management, and local adaptation activities. However, their capacity to independently design, finance, or revise climate policy remains limited.

Somalia presents a different pattern. Although formal national climate frameworks exist, implementation capacity remains constrained by state fragility, insecurity, limited public revenue, weak institutional continuity, and fragmented authority across federal, regional, and local levels (Federal Republic of Somalia, 2020, 2021, 2025; Federal Government of Somalia, 2020; Ministry of Environment and Climate Change, 2024; World Bank, 2022). Consequently, local authorities, regional administrations, community-based institutions, NGOs, diaspora networks, and international development partners often assume practical responsibility for climate adaptation and resilience-building. Therefore, while Egypt reflects centrally guided local implementation, Somalia reflects adaptive and locally driven climate action shaped by weak formal state capacity.

This comparison indicates that local climate governance is not determined simply by the presence of local institutions. Rather, it is shaped by the wider governance environment in which local actors operate. In Egypt, local action is structured but constrained by centralization. In Somalia, local action is flexible and community-responsive, but it is often fragmented and donor-dependent.

**Table 1:** Comparative Findings on Local Climate Governance in Egypt and Somalia

Analytical dimension	Egypt	Somalia	Comparative interpretation
Governance structure	Centralized and state-led	Fragmented, federal, and hybrid	Local climate action in Egypt is shaped by central authority, whereas local action in Somalia emerges through dispersed governance arrangements.
Role of local actors	Mainly implementation-oriented	Operational, adaptive, and gap-filling	Egyptian local actors implement national priorities, while Somali local actors often compensate for weak formal institutions.
Institutional capacity	Stronger national institutions but uneven local capacity	Weak national capacity and reliance on regional, local, and community actors	Capacity is concentrated at the national level in Egypt but dispersed across local and external actors in Somalia.
Local-national linkage	Alignment with national strategies, but weak upward feedback	Fragmented linkage between community adaptation and federal frameworks	Both countries require stronger mechanisms for connecting local implementation experience to national climate planning.
Main governance challenge	Limited local autonomy and restricted fiscal flexibility	Insecurity, weak coordination, and donor dependency	Egypt requires more flexible decentralised implementation, whereas Somalia requires stronger coordination and institutional continuity.

Source: By the author

Table 1 shows that both countries have local climate activity, but the institutional pathways differ. Egypt's local authorities operate mainly within centrally defined national frameworks. Somalia's local actors, by contrast, often act in response to governance gaps and immediate climate risks. As a result, local climate action in both cases is important, but it requires stronger institutional support to become more durable and policy-relevant.

#### 4.2. Local Climate Initiatives and Implementation Pathways

The second finding shows that local climate initiatives are visible in both countries, although their form and governance significance differ. In Egypt, local initiatives are generally aligned with national development and climate priorities. Urban areas and governorates have been associated with activities related to waste management, environmental awareness, air quality improvement, urban greening, coastal adaptation, infrastructure planning, renewable energy, and climate-smart agriculture (Corfee-Morlot et al., 2009; Karlson et al., 2023). These initiatives suggest that local authorities can contribute to national climate objectives when they are supported by central programmes, donor assistance, and sectoral planning frameworks.

In Somalia, local climate initiatives are more community-oriented and externally supported. Local and regional actors in areas such as Puntland, Somaliland, Mogadishu, Benadir, and Hargeisa have been associated with drought response, reforestation, land restoration, flood management, drainage rehabilitation, water management, early warning systems, and community resilience activities (UNDP, 2021; UNEP, 2023; World Bank, 2022). These initiatives are important because they respond directly to local vulnerabilities and immediate climate risks. However, their wider policy impact remains limited when they are not systematically documented, evaluated, or connected to national and regional climate planning.

**Table 2:** Examples of Local Climate Initiatives in Egypt and Somalia

Country	Local actor / area	Type of initiative	Governance relevance	Required source
Egypt	Cairo and major urban governorates	Waste management, air quality improvement, urban greening, and environmental awareness	Demonstrates how local authorities support centrally guided urban sustainability and environmental implementation.	Egyptian Ministry of Environment, (2022)
Egypt	Alexandria and coastal governorates	Coastal adaptation, infrastructure planning, and flood-risk management	Links local vulnerability to national adaptation priorities, particularly in climate-exposed coastal zones.	Government of Egypt (2023)

Country	Local actor / area	Type of initiative	Governance relevance	Required source
Egypt	Upper Egypt and desert fringe municipalities	Solar-powered irrigation, climate-smart agriculture, and improved water-use practices	Demonstrates local adaptation in areas affected by water scarcity, agricultural vulnerability, and food security pressures.	UNDP. (2021).
Somalia	Puntland and Somaliland local/regional actors	Reforestation, land restoration, drought response, and ecosystem-based adaptation	Shows locally driven resilience-building where formal state capacity is limited.	UNEP (2023) and World Bank (2022)
Somalia	Mogadishu Municipality / Benadir Regional Administration	Flood management, drainage rehabilitation, and urban resilience activities	Demonstrates municipal-level adaptation to urban flooding and settlement vulnerability.	UNDP (2021)
Somalia	Hargeisa and community-based actors	Early warning, climate risk awareness, and community preparedness	Highlights the role of community actors and local knowledge in fragile governance contexts.	World Bank (2022)

Source: By the author

Table 2 strengthens the empirical basis of the analysis by showing how local initiatives contribute to climate policy implementation in practice. In Egypt, local initiatives are more closely aligned with national strategies and centrally guided development priorities. In Somalia, local initiatives are more adaptive, community-based, and externally supported. Therefore, local initiatives in both countries are significant not because they directly formulate national policy, but because they translate climate priorities into practical interventions, identify local risks, and mobilize community-level responses.

### 4.3. Barriers, Enablers, and Policy Integration

The third finding concerns the barriers and enabling conditions that shape local climate governance. In Egypt, the main barriers include centralized authority, bureaucratic procedures, overlapping mandates, limited fiscal autonomy, and uneven technical capacity at the local level. These conditions restrict the ability of local authorities to adapt national climate priorities to local needs. Nevertheless, Egypt benefits from relatively stronger national institutions, formal policy frameworks, international partnerships, and growing policy attention to climate change.

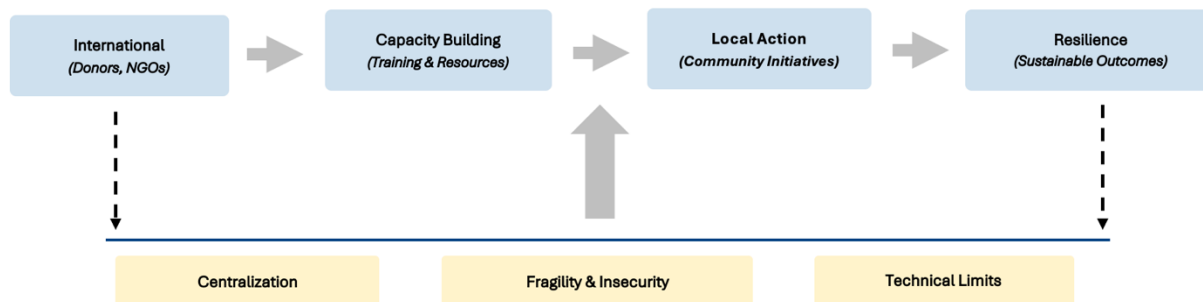
In Somalia, the barriers are more closely linked to state fragility. Local climate action is constrained by insecurity, limited technical infrastructure, weak national coordination, scarce local revenue, and dependence on external actors. However, Somalia also demonstrates important enabling conditions, including community ownership, traditional knowledge, local leadership, diaspora engagement, and NGO-supported adaptation. These factors allow local actors to respond flexibly to climate risks even where formal state capacity is weak.

**Table 3:** Barriers and Enablers of Local Climate Action in Egypt and Somalia

Analytical dimension	Egypt	Somalia	Comparative implication
Political and institutional barriers	Centralized authority, bureaucratic procedures, overlapping mandates, and limited local discretion	Weak central coordination, insecurity, fragmented authority, and fragile institutions	Egypt requires more flexible decentralised implementation; Somalia requires stronger coordination and institutional continuity.
Technical barriers	Uneven local technical expertise and limited municipal climate planning capacity	Weak technical infrastructure and reliance on external expertise	Both cases require long-term technical capacity-building at the local level.
Financial barriers	Restricted local budgets and dependence on central allocations	Limited local revenue and strong donor dependency	Local climate action cannot be sustained without predictable and accessible climate finance.
Enabling conditions	National climate strategies, international partnerships, pilot projects, and technical support	Community ownership, local leadership, diaspora engagement, NGO support, and traditional knowledge	External support is useful in both cases, but it should strengthen local institutions rather than create parallel project systems.
Sustainability risks	Project dependence, weak institutional memory, and limited upward feedback	Short-term donor cycles, weak documentation, and limited scalability	Monitoring, evaluation, and learning systems are needed to make local initiatives policy-relevant.
Policy integration challenge	Local implementation experience is not always fed back into national planning	Community-based adaptation is often weakly connected to federal climate frameworks	Both countries need stronger feedback mechanisms linking local experience to national climate governance.

Source: By the author

Table 3 demonstrates that Egypt and Somalia face different barriers, but both require stronger institutional integration. In Egypt, the main challenge is limited local autonomy within a centralized governance system. In Somalia, the main challenge is fragmented coordination within a fragile and hybrid governance system. Across both cases, local climate action becomes more effective when supported by finance, technical capacity, documentation, monitoring, and policy feedback.



**Figure 1:** Key Enablers and Barriers Affecting Local Climate Action in Egypt and Somalia

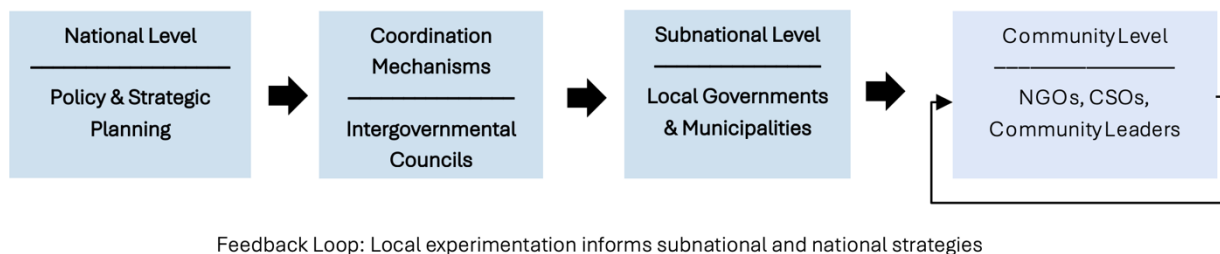
*Source: By the author. Note. Figure 1 illustrates how enabling factors, including institutional support, international partnerships, community engagement, local leadership, technical assistance, and climate finance, interact with barriers such as centralization, weak capacity, limited funding, insecurity, donor dependency, and fragmented coordination. The figure shows that local climate action becomes more effective when enabling conditions are supported by monitoring, documentation, and policy feedback mechanisms.*

The comparison shows that Egypt and Somalia face different governance constraints but share a common integration problem. In Egypt, the problem is not the absence of national climate planning but the limited ability of local actors to shape, adapt, or provide feedback on centrally defined priorities. In Somalia, the problem is not the absence of local action but the weak institutional pathways through which local adaptation practices can be coordinated, scaled, and incorporated into national planning. Consequently, both countries require stronger multilevel governance integration, although the reform priorities differ.

#### 4.4. Multilevel Governance Integration and Policy Learning

The findings further indicate that local climate initiatives become policy-relevant only when they are connected to wider governance systems. In Egypt, national frameworks provide strategic direction, but local implementation experience is not always systematically communicated upward into national policy learning. This limits opportunities for governorates and municipalities to contribute practical knowledge to future climate planning. Therefore, Egypt requires stronger institutional mechanisms for two-way coordination between central ministries and local authorities.

In Somalia, local initiatives are often active and adaptive, but they remain fragmented when disconnected from regional and federal planning. Community-based adaptation, NGO-supported projects, and donor-led resilience programmes may respond effectively to immediate climate risks, yet their longer-term contribution depends on whether they are documented, evaluated, and integrated into national climate frameworks. Therefore, Somalia requires flexible coordination systems that connect federal institutions, regional administrations, local councils, informal governance structures, civil society organizations, and development partners.



Feedback Loop: Local experimentation informs subnational and national strategies

**Figure 2:** Multilevel Climate Governance Integration Model.

*Source: By the author. Note. Figure 2 presents climate governance as a two-way process. National climate frameworks guide local implementation, while local experience generates evidence, feedback, and learning for policy adjustment. The model emphasizes that local climate action becomes policy-relevant when implementation is connected to coordination platforms, monitoring systems, finance, documentation, and institutional learning.*

Therefore, the findings demonstrate that local climate action in Egypt and Somalia contributes most directly to climate policy implementation, adaptation, service delivery, and resilience-building. Egypt illustrates the strengths and limitations of centrally guided local implementation, whereas Somalia illustrates the adaptive potential and coordination challenges of local climate action in fragile settings. Therefore, the study supports a more nuanced understanding of multilevel climate governance: local actors matter not only when they directly influence national policy, but also when they translate climate priorities into practice, expose implementation gaps, mobilize local knowledge, and generate lessons that can inform broader climate governance when appropriate institutional channels exist.

## 5. Discussion

The findings of this study demonstrate that local climate action in Egypt and Somalia contributes primarily to climate policy implementation, adaptation, and resilience-building rather than to direct national policy formulation. This distinction is important because much of the climate governance literature recognizes the growing role of local actors but does not always differentiate clearly between implementation, influence, and policy integration. In this respect, the study supports the view that effective climate governance depends on the interaction between national strategies, subnational institutions, local communities, and external development actors (Corfee-Morlot et al., 2009; Bulkeley & Betsill, 2013). However, it further shows that the nature of this interaction varies considerably according to governance structure, institutional capacity, and the availability of coordination mechanisms.

In Egypt, the findings indicate that local climate action operates within a centralized governance system in which national institutions define priorities and local authorities mainly implement them. This confirms the relevance of multilevel governance theory, which emphasizes the distribution of responsibilities across different levels of government, but it also shows the limits of such distribution when fiscal and administrative authority remains concentrated at the center. Although Egypt has relatively strong national climate frameworks, including national sustainability and climate strategies, local authorities appear to have limited autonomy to adapt these frameworks to specific territorial needs. Therefore, Egypt's experience suggests that the presence of national climate planning does not automatically produce effective multilevel governance. Instead, local implementation becomes more meaningful when supported by fiscal flexibility, technical capacity, participatory planning, and formal channels for upward policy feedback.

Somalia presents a different but equally significant pattern. In contrast to Egypt's centrally guided implementation model, Somalia's local climate action often emerges from institutional fragmentation, weak state capacity, and the practical urgency of climate-related risks. Local authorities, regional administrations, community organizations, NGOs, diaspora networks, and international development partners frequently fill governance gaps by supporting drought response, reforestation, flood management, water-related interventions, and community resilience activities. This finding extends polycentric governance theory by showing that polycentric arrangements may emerge not only through deliberate institutional design, but also through necessity in fragile and hybrid governance contexts (Ostrom, 2010). Nevertheless, while such arrangements can enhance flexibility and responsiveness, they may also generate fragmentation, uneven coverage, donor dependency, and weak accountability when not connected to national planning systems.

The comparison between Egypt and Somalia, therefore, refines the understanding of local climate governance in two important ways. First, it shows that centralization and fragility create different constraints for local climate action. In Egypt, the main challenge is not the absence of a national climate policy but the limited ability of local actors to influence, adapt, or redesign centrally determined priorities. In Somalia, the main challenge is not the absence of local initiative, but the lack of stable institutional pathways through which local adaptation practices can be coordinated, scaled, documented, and incorporated into national climate governance. Consequently, both countries require stronger multilevel integration, but for different reasons: Egypt requires more flexible decentralization and stronger local feedback mechanisms, whereas Somalia requires more coherent coordination between federal, regional, local, community-based, and donor-supported actors.

Second, the findings show that local climate initiatives should be evaluated not only by whether they directly shape national policy, but also by whether they improve implementation, reveal policy gaps, mobilize local knowledge, and generate lessons for institutional learning. This is particularly relevant in developing and fragile contexts, where local governments may lack formal authority but still play a practical role in translating climate priorities into action. Moreover, community-based and locally embedded initiatives can improve the social legitimacy of climate interventions by aligning them with local needs, vulnerabilities, and knowledge systems. However, such initiatives remain limited if they are not supported by finance, technical expertise, monitoring systems, and mechanisms for policy feedback.

The study also highlights the double-edged role of external actors. In both Egypt and Somalia, international organizations, donors, NGOs, and development partners provide important technical, financial, and operational support. In Egypt, external support often strengthens nationally aligned climate and sustainability projects. In Somalia, it frequently provides the capacity required for local adaptation activities where state institutions remain weak. However, excessive reliance on project-based external support may weaken long-term sustainability if it does not build domestic institutional capacity. Therefore, donor and development assistance should move beyond short-term project delivery and focus more explicitly on strengthening local institutions, improving knowledge transfer, supporting monitoring and evaluation systems, and creating durable links between local initiatives and national climate planning.

Theoretically, this study contributes to multilevel and polycentric governance debates by demonstrating that local climate governance does not operate in a uniform manner across different political contexts. In centralized systems, local actors may be formally incorporated into national frameworks but remain constrained by hierarchical control. In fragile systems, local actors may exercise greater practical agency but lack institutional continuity and formal integration. As a result, the study suggests that multilevel climate governance should be understood not merely as the existence of multiple governance levels, but as the quality of coordination, resource distribution, feedback, and institutional learning among those levels.

Practically, the findings imply that strengthening local climate governance requires more than formal decentralization. It requires clear mandates, predictable finance, technical capacity, participatory planning, and mechanisms through which local implementation experience can inform national policy adjustment. For Egypt, this means creating stronger channels between central ministries, governorates, municipalities, and communities so that local experience can improve national climate planning. For Somalia, it means building flexible coordination systems that recognize the roles of regional authorities, community-based institutions, informal governance structures, and development partners while gradually strengthening national policy coherence.

Thus, the discussion confirms that local actors are essential to climate governance because they translate broad commitments into context-specific action. However, their contribution becomes more durable and policy-relevant only when local initiatives are embedded within wider systems of coordination, finance, documentation, monitoring, and feedback. Therefore, the central challenge for both Egypt and Somalia is not simply to increase local climate activity, but to transform local initiatives into a more integrated system of multilevel climate governance capable of supporting implementation, adaptation, and long-term resilience.

## 6. Policy Implications and Recommendations

The findings suggest that strengthening local climate governance in Egypt and Somalia requires clearer institutional links between national climate priorities and local implementation capacity. Although the two countries represent different governance contexts, both cases show that local climate action becomes more effective when supported by finance, technical expertise, coordination mechanisms, and policy feedback.

In Egypt, policy efforts should focus on strengthening the adaptive role of governorates and municipalities within the centralized climate governance system. National climate strategies provide important direction; however, local authorities require clearer mandates, greater fiscal flexibility, and stronger technical capacity to adapt national priorities to local environmental and socio-economic conditions. Therefore, regular coordination mechanisms between central ministries, governorates, municipalities, and community stakeholders should be established to ensure that local implementation experience informs national planning.

In Somalia, the priority should be to improve coordination across federal, regional, local, and community levels while recognizing the country's fragile and hybrid governance realities. Local authorities, community-based actors, NGOs, diaspora networks, and development partners already contribute to climate adaptation, yet many initiatives remain fragmented and donor-dependent. Consequently, stronger coordination platforms, better documentation of local initiatives, and clearer links between community-based adaptation and national climate frameworks are required.

Across both contexts, climate finance and technical capacity are essential. Local actors need predictable funding, transparent allocation mechanisms, and training in climate risk assessment, adaptation planning, disaster risk reduction, monitoring, and evaluation. Moreover, development partners should move beyond short-term project delivery and support long-term institutional capacity-building. Finally, both countries should strengthen monitoring, evaluation, and policy learning systems. Local initiatives can generate valuable evidence about climate risks, implementation barriers, and community needs; however, this evidence must be documented and fed back into national and subnational planning. As a result, local climate action can move from isolated project activity toward a more integrated system of multilevel climate governance.

## 7. Conclusion

This study examined local climate action and policy implementation in Egypt and Somalia through a multilevel governance perspective. The comparison shows that local actors contribute significantly to climate policy implementation, adaptation, and resilience-building, although their roles differ according to institutional context. In Egypt, local climate action is largely shaped by centralized planning and national policy direction. In Somalia, by contrast, local and community-based initiatives often emerge as practical responses to weak state capacity, environmental stress, and fragmented governance.

The study contributes to climate governance literature by clarifying that local climate action should not be evaluated only in terms of direct influence on national policy formulation. Rather, local actors also matter because they translate national priorities into practice, identify implementation gaps, mobilize community knowledge, and generate lessons that can support institutional learning. This distinction is particularly important in African contexts where local authorities often operate under financial, technical, and administrative constraints.

The findings further suggest that effective multilevel climate governance requires stronger links between national frameworks and local implementation. In Egypt, this requires clearer mandates, greater local flexibility, and stronger feedback mechanisms between central and subnational institutions. In Somalia, it requires improved coordination among federal, regional, local, community-based, and donor-supported actors. Across both cases, climate finance, technical capacity, monitoring systems, and participatory planning are essential for making local initiatives more sustainable and policy-relevant.

This study is limited by its reliance on secondary documents and therefore does not claim to measure the direct effectiveness of local climate initiatives through field-based evidence. Future research could address this limitation by using interviews, local case studies, participatory methods, or field observations to examine how local actors experience climate policy implementation in practice. Nevertheless, the study demonstrates that local climate action is a crucial component of climate governance and that its long-term value depends on whether local initiatives are institutionally supported, documented, and integrated into broader policy processes.

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#### About the Author (s)



**Mohamed Ibrahim Hassan Farag** is a Ph.D. holder in Political Science and holds a DBA in Business Administration (English Program). He is a researcher specializing in governance, public policy, and strategic studies. His work focuses on the role of institutions in addressing contemporary challenges, including climate change, sustainable development, and policy-making in the MENA region.