




CLIMATE SWARAJ: A DECENTRALIZED GOVERNANCE FRAMEWORK FOR CLIMATE RESILIENCE AND JUSTICE IN THE GLOBAL SOUTH

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RESEARCH ARTICLE



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Abstract

Climate adaptation policies in the Global South frequently falter due to the concentration of authority and finance at central institutional levels, which marginalizes local resilience planning. While global frameworks advocate for participation, current systems continue to privilege top-down priorities over community realities. This study proposes Climate Swaraj, a decentralized governance framework that re-conceptualizes adaptation as a political-institutional process rather than a technical intervention. Utilizing a Qualitative Comparative Analysis (QCA) across India, Kenya, and Bangladesh—validated by a case study of the Meenangadi Panchayat in Kerala—this research demonstrates that devolved governance significantly enhances resilience. Integrating resilience theory with climate justice and alternative development perspectives, the analysis argues that adaptation outcomes are a function of institutional design. The Climate Swaraj model is operationalized through five interlinked pillars: governance sovereignty, resource decentralization, localized finance, participatory planning, and ethical low-carbon development. By shifting the focus to community autonomy and ecological responsibility, this framework provides a scalable pathway for equitable and durable climate resilience in the Global South.

Keywords: *Climate Swaraj, Decentralized Governance, Climate Resilience, Climate Justice, Global South*

Introduction

Across the Global South, climate change has intensified floods, droughts, heatwaves, biodiversity loss, and livelihood insecurity. These impacts fall most heavily on communities with limited institutional support and fragile economic capacity. Although international policy discourse increasingly emphasizes adaptation and resilience, many regions continue to experience wide adaptation gaps. Weak governance, unequal access to finance, and tokenistic participation remain persistent barriers (IPCC, 2022; UNEP, 2023). The central difficulty lies in how adaptation systems are organized. National governments, donor agencies, and international institutions typically set priorities, while local governments and communities are tasked with implementing externally designed plans. This top-down structure produces a disconnect between policy design and local ecological realities, particularly in rural and vulnerable regions (Agrawal, 2008). Climate finance follows a similar trajectory: despite rising global commitments under the Paris Agreement, only a small fraction of resources reach local institutions directly. Funds are routed through central bureaucracies, slowing delivery and limiting community control (OECD, 2021).

Research on decentralization and resilience demonstrates that adaptation outcomes improve when authority is located closer to those experiencing climate risks. Ostrom's work on collective resource management shows that communities adapt more effectively when they participate in decision making and monitoring. Adger highlights the importance of social networks and institutional trust in building adaptive capacity. These insights collectively suggest that resilience is shaped less by technical interventions than by the distribution of governance power. Yet, existing adaptation systems rarely translate this into practice. Climate justice perspectives deepen the critique. Communities least responsible for emissions often bear the greatest climate burdens, linking vulnerability to structural exclusion rather than hazard exposure alone (Shiva, 2005). If adaptation ignores justice, it risks reproducing inequality even while reducing short term risks. Alternative development scholarship further challenges growth-driven models that exacerbate ecological stress. Thinkers such as Escobar and Kothari argue for pathways rooted in ecological limits, fairness, and local autonomy—yet these ideas remain marginal in mainstream adaptation policy. Existing approaches like Community-Based Adaptation (CBA) and Locally Led Adaptation (LLA) represent important steps forward. They encourage participation and strengthen local influence, but authority and finance largely remain centralized.

Communities may be consulted, but they seldom control the systems that shape decisions (Soanes et al., 2021). This limits their transformative potential.

This paper addresses that structural gap by proposing Climate Swaraj- a governance framework that moves beyond participation to institutional transformation. Climate Swaraj shifts decision-making, financial control, and ecological resource governance toward local communities. Through comparative analysis of India, Kenya, and Bangladesh, with the Meenangadi Panchayat in Kerala as a case example, the study argues that resilience improves when communities govern adaptation rather than merely implement it. In doing so, it positions adaptation as a democratic process rooted in justice and local sovereignty, not simply a technical exercise.

Research Problem: Climate adaptation in the Global South continues to be dominated by centralized governance structures. Authority, planning, and financial control remain concentrated at national and international levels. While such systems may improve coordination, they often fail to reduce vulnerability at the community level. Their reliance on top-down design and technical targets sidelines local realities, erodes trust, and weakens long-term resilience.

Communities—including farmers, women, Indigenous groups, and other marginalized populations—carry direct experience of climate risks and hold ecological knowledge essential for adaptation. Yet policy frameworks frequently treat them as implementers rather than decision makers. This exclusion undermines ownership and perpetuates climate injustice, particularly in regions already burdened by poverty and fragile institutions.

Research Gap: Existing scholarship has advanced important insights:

- Community-Based Adaptation (CBA) demonstrates the value of local participation.
- Decentralization studies highlight how authority closer to affected populations can improve accountability.
- Climate justice research exposes the unequal distribution of risks and resources.
- Alternative development approaches challenge growth-driven models and call for ecological balance and local control.

Despite these contributions, the literature remains fragmented. CBA often remains project-focused without altering governance structures. Decentralization is usually framed as administrative reform, rarely linked to climate finance or justice. Climate justice scholarship identifies inequality but does not always provide operational governance models. Alternative development theory offers ethical direction but is seldom translated into policy tools. The absence of an integrated framework is the core gap. Current approaches treat governance, finance, participation, and sustainability as separate issues. Without synthesis, adaptation risks becoming bureaucratic and fragmented, failing to shift power toward communities or address root causes of vulnerability.

Research Objectives: The primary objective of this study is to develop Climate Swaraj as a decentralized governance framework for climate resilience. The framework integrates:

- Local autonomy and governance sovereignty
- Resource decentralization and ecological control
- Participatory planning rooted in community decision-making
- Localization of climate finance
- Ethical low-carbon development

Research Questions: This study is guided by the following questions:

- Why do centralized adaptation systems fail to reduce vulnerability and ensure meaningful participation?
- What structural and institutional barriers limit local decision-making in climate governance?
- How can climate finance be localized to strengthen community-level resilience?
- In what ways do local knowledge, participatory planning, and resource control improve adaptation outcomes?
- How can Climate Swaraj be applied across diverse Global South contexts in practice?

By reframing adaptation as a political and institutional process rather than a technical exercise, this study positions communities as agents of governance. Climate Swaraj seeks to transform adaptation into a democratic system rooted in justice, autonomy, and resilience.

Literature Review and Theoretical Foundation

Research on climate adaptation has grown significantly across multiple fields, including resilience theory, decentralization, climate justice, and alternative development. Each of these areas has contributed valuable insights into vulnerability and governance. However, they often develop independently of one another, which limits their combined policy relevance. Most studies agree with a few core ideas: that local participation is important, that institutions shape outcomes, and that long-term sustainability requires systemic change. Yet, very few works bring together governance authority, financial systems, ecological control, and ethical development within a single integrated framework. This fragmentation leaves adaptation efforts scattered and often limited in impact. Community-Based Adaptation (CBA), for instance, highlights the importance of local engagement but is frequently implemented as a set of isolated project interventions rather than a broader governance transformation. Decentralization research emphasizes the value of local authority, but often pays less attention to how climate finance is actually distributed. Climate justice literature clearly identifies inequality in vulnerability and responsibility, but it does not always translate these insights into workable governance structures. Similarly, alternative development theory offers strong critiques of growth-centered economic models but is less successful in converting these critiques into operational policy tools. Together,

these gaps reveal a structural limitation: climate adaptation tends to remain bureaucratic and fragmented rather than becoming fully democratic and transformative. The concept of Climate Swaraj is introduced here as a response to this limitation. It seeks to integrate governance decentralization, localized financial control, participatory planning, ecological sovereignty, and ethical development into a unified framework.

Governance-Centered Resilience

Early approaches to climate adaptation largely focused on physical infrastructure and disaster response mechanisms. Over time, research has shown that vulnerability is not only shaped by exposure to hazards, but also by institutions, governance systems, and power relations. Adger (2003) emphasizes that trust and social cooperation are central to effective collective action. Agrawal (2008) demonstrates that local institutions play a crucial role in managing shared natural resources such as land and water. Pelling (2011) further reframes adaptation as a governance process that can redistribute authority and decision-making power. The IPCC (2022) also highlights weak institutions and unequal access to resources as major barriers to effective adaptation. Taken together, this literature suggests that resilience should be understood as an outcome of governance systems rather than simply an environmental condition.

Decentralization and Local Institutions

Decentralization theory argues that governance becomes more effective when decision-making authority is closer to the communities affected by those decisions. Ostrom (1990), for example, shows that communities often manage shared resources more sustainably when they are actively involved in creating and enforcing rules. In climate policy, these ideas have influenced approaches such as Community-Based Adaptation (CBA) and Locally Led Adaptation (LLA), both of which emphasize participation at the local level (Ayers & Forsyth, 2009; Soanes et al., 2021). However, in practice, decentralization is often incomplete. Local governments may be given responsibilities without corresponding authority or control over financial resources. As a result, participation can become more procedural than meaningful—communities are included in decision-making processes, but do not always hold real power over outcomes.

Climate Justice and Financial Exclusion

Climate justice research highlights a fundamental imbalance: those least responsible for greenhouse gas emissions are often the most affected by climate impacts. Vulnerability is therefore closely linked not only to exposure, but also to exclusion from decision-making power and financial systems. Shiva (2005) links ecological justice to local control over essential resources such as land, water, and food systems. Newell (2023) shows how global governance structures can reinforce inequality through financial exclusion. Despite increased global commitments to climate action, most adaptation funding still flows through national governments or international agencies, with limited direct access for local institutions (OECD, 2021; UNEP, 2023). This slows down implementation and weakens trust between communities and governing systems.

Alternative Development and Ethical Sustainability

Alternative development scholarship challenges conventional growth-centered models that often lead to ecological degradation and social inequality. Escobar (2018) critiques mainstream modernization theory and argues for development approaches rooted in local culture and ecological balance. Kothari et al. (2019) advance post-development thinking that prioritizes justice, dignity, and ecological coexistence. Similarly, Raworth (2022) and Hickel (2023) promote post-growth perspectives that emphasize sufficiency, equity, and well-being rather than continuous GDP expansion. These perspectives collectively suggest that climate adaptation cannot succeed if it only adjusts existing economic systems; it must also question the underlying model of development itself.

Comparative Positioning of Existing Approaches

Community-Based Adaptation (CBA) and Locally Led Adaptation (LLA) have both improved climate practice by encouraging participation and local responsiveness. However, both approaches still operate largely within centralized governance structures. CBA typically involves communities in project implementation, while LLA strengthens local leadership roles. Despite this, control over finance, legal authority, and institutional frameworks often remains external. In many cases, communities are consulted but not fully empowered to shape the systems that govern them (Soanes et al., 2021). Climate Swaraj differs from these approaches by shifting the focus from participation alone to structural transformation. It integrates decision-making authority, financial control, and ecological sovereignty into a unified governance model. Table 1 highlights this distinction by showing how Climate Swaraj moves from project-based outcomes toward systemic institutional change.

Table 1: Comparative Distinction Between Community-Based Adaptation (CBA), Locally Led Adaptation (LLA), and Climate Swaraj

Dimension	Community-Based Adaptation (CBA)	Locally Led Adaptation (LLA)	Climate Swaraj
Core Focus	Community participation in adaptation projects	Local leadership in adaptation planning and implementation	Decentralized governance architecture for climate resilience
Role of Community	Beneficiaries and participants	Local actors with increased planning roles	Primary institutions of resilience governance

Decision-Making Power	Limited; often project-based consultation	Moderate; stronger participation within donor/state frameworks	High; institutional sovereignty over adaptation decisions
Climate Finance Access	Mostly mediated through NGOs, governments, and donors	Greater emphasis on local access, but often externally structured	Direct localization of climate finance to grassroots institutions
Resource Governance	Limited focus on ecological sovereignty	Partial attention to local resource management	Central focus on land, water, forests, food, and energy sovereignty
Development Model	Adaptation within existing development systems	Improved adaptation within current governance models	Ethical low-carbon development and sufficiency-based sustainability
Institutional Goal	Improve project effectiveness	Improve adaptation ownership and responsiveness	Transform governance from centralized control to democratic resilience
Long-Term Vision	Stronger local adaptation practices	Better locally responsive adaptation systems	Structural transformation of resilience, justice, and development

Source: Author's synthesis based on Ayers & Forsyth (2009), Ostrom (1990), Pelling (2011), and Soanes et al. (2021).

Research Gap and Need for Integration

Although existing literature provides strong insights into participation, governance, justice, and sustainability, these contributions remain fragmented across disciplines. This separation limits their ability to inform a comprehensive governance model. CBA enhances participation but does not fundamentally change power structures. Decentralization supports local authority but often overlooks financial control. Climate justice exposes inequality but does not always offer institutional solutions. Alternative development provides ethical critique but is rarely translated into policy design. This lack of integration results in a fragmented adaptation landscape, where interventions are often project-based and administrative rather than transformational. Consequently, existing systems struggle to address the root causes of vulnerability or shift meaningful power to communities. To address this gap, this study proposes Climate Swaraj as an integrated governance framework. It combines decentralized decision-making, localized climate finance, participatory planning, ecological sovereignty, and ethical low-carbon development. The goal is to offer a unified model for climate resilience and justice, particularly relevant to the Global South.

Methodology

This study adopts a qualitative comparative research design to examine whether decentralized, community-led governance offers a more equitable and durable pathway for climate adaptation in the Global South compared to centralized governance systems. Instead of measuring resilience through quantitative indicators, the study focuses on how governance arrangements influence adaptation outcomes such as institutional trust, access to climate finance, participation in decision-making, and long-term sustainability. Climate vulnerability is therefore treated as an outcome of governance structures rather than only environmental exposure. The analysis is grounded in the view that institutions determine how authority, resources, and decision-making power are distributed across scales of governance (Ostrom, 1990; Agrawal, 2008). The study combines conceptual framework development with comparative institutional analysis, enabling the formulation of the Climate Swaraj model as an interpretive governance framework.

Research Design

This study adopts a qualitative comparative research design grounded in interpretive policy analysis (IPA) and institutional comparison. The approach is appropriate for examining climate adaptation as a governance problem shaped by institutions, power relations, financial access, and participation rather than purely environmental variables (Ostrom, 1990; Agrawal, 2008). The study has two core objectives:

- To critically assess the limitations of centralized climate adaptation governance.
- Developing the Climate Swaraj framework as an alternative decentralized governance model.

The research proceeds in three analytical stages: (i) identification of limitations in centralized systems, (ii) examination of decentralized governance practices across selected cases, and (iii) synthesis of findings into a conceptual framework.

Case Selection Strategy

Case studies were selected using purposive, theory-driven sampling to capture variation in governance arrangements relevant to climate adaptation. The selection is not intended to be statistically representative but to enable structured institutional comparison across diverse contexts. The cases include:

- **India** – decentralized governance through Panchayati Raj institutions
- **Bangladesh** – community-based adaptation under high climate vulnerability
- **Kenya** – devolved county-level climate finance mechanisms
- **Costa Rica** – ecological governance and low-carbon development through conservation policy

These cases were chosen to reflect variation across four governance dimensions central to the analysis: decentralization, finance access, participation, and ecological governance.

Analytical Framework and Indicator Development

The comparative analysis is structured around four governance indicators derived from a synthesis of established literature in decentralization theory, climate justice, and adaptation governance (Ostrom, 1990; Adger, 2003; Pelling, 2011; Soanes et al., 2021). These indicators function as interpretive analytical lenses, not quantitative variables. The four indicators are:

- **Degree of Decentralization** – extent of decision-making authority transferred from central to local institutions (e.g., Panchayats, municipalities, county governments).
- **Access to Climate Finance** – degree to which local institutions can directly access adaptation funding versus dependence on national or international intermediaries.
- **Quality of Community Participation** – distinction between consultative participation and substantive decision-making authority in planning and implementation.
- **Long-Term Policy Effectiveness** – extent to which governance arrangements generate sustained resilience outcomes, including reduced vulnerability, institutional strengthening, ecological restoration, and livelihood stability.

These indicators were selected because they repeatedly emerge in literature as core determinants of effective and equitable adaptation governance.

Data Sources: The study relies exclusively on secondary qualitative data, including:

- Peer-reviewed journal articles
- Government policy documents
- Reports from IPCC, UNDP, UNEP, OECD
- World Bank and United Nations publications
- Local governance and Panchayat-level reports
- Case study reports from India, Bangladesh, Kenya, and Costa Rica
- Scholarly books on climate justice, decentralization, and sustainability

Data were triangulated across sources to enhance interpretive validity and reduce single-source bias.

Method of Analysis: The study employs thematic comparative analysis within an interpretive policy analysis framework. The focus is on identifying governance patterns and institutional logics rather than measuring statistical relationships. The analytical procedure includes:

- Mapping limitations of centralized adaptation systems.
- Documenting decentralized governance practices across cases.
- Systematic comparison using the four governance indicators.
- Identifying recurring institutional patterns linked to effective adaptation.
- Synthesizing findings into the Climate Swaraj framework.

This approach enables structured comparison while preserving contextual depth across cases.

Scope and Limitations: This study focuses on governance structures rather than climate modeling, emissions analysis, or hazard prediction. It does not engage in quantitative climate simulation or forecasting. The geographical focus on the Global South reflects the concentration of climate vulnerability, financial exclusion, and institutional constraints in these regions. As such, findings may not be directly generalizable to high-income governance contexts. The reliance on secondary data limits control over data consistency and granularity. However, this limitation is mitigated through triangulation across multiple authoritative sources and emphasis on institutional pattern recognition rather than numerical precision.

Methodological Position: This research is primarily conceptual and interpretive. It does not test hypotheses statistically but develops a governance framework through comparative institutional reasoning. Case studies are used as analytical evidence to identify governance patterns rather than to establish causal inference. The primary output of this study is the Climate Swaraj framework as an integrated model for decentralized climate governance. Future research may operationalize this framework through empirical fieldwork, including surveys, participatory assessments, and localized resilience indicators at Panchayat, municipal, or county levels.

Climate Swaraj Framework: The Climate Swaraj Framework is conceived as a decentralized, community-led model for climate resilience and justice. It directly addresses the shortcomings of centralized adaptation systems by relocating authority, finance, and decision-making closer to vulnerable communities. Adaptation is treated as a governance transformation rather than a technical exercise, linking resilience with local democracy and ecological responsibility (Pelling, 2011; Ostrom, 1990). The framework rests on five interconnected pillars that function as a single governance system rather than isolated policy tools.

Local Governance Sovereignty: This pillar emphasizes genuine decision-making power for local institutions. Panchayats, municipalities, and community bodies are positioned to set adaptation priorities and oversee implementation. Ostrom (1990) demonstrates that shared resource systems thrive when local users participate in rule-making and monitoring, while Agrawal (2008) shows that adaptation outcomes depend on the strength of local institutions managing land, water, and livelihoods. Without legal authority, participation remains symbolic; Climate Swaraj ensures that local institutions hold substantive governance power.

Resource Decentralization: This pillar focuses on community control over ecological systems such as land, forests, water, food, and local energy. Shiva (2005) argues that ecological justice depends on resource sovereignty. Centralized control increases vulnerability, while decentralization strengthens livelihood security and aligns adaptation strategies with local ecological conditions. It also reduces dependence on external systems, embedding resilience in everyday resource governance.

Climate Finance Localization: A core weakness of current adaptation systems is the limited direct access to finance for local institutions. Most climate funds continue to flow through national governments, donors, and multilateral agencies (OECD, 2021; UNEP, 2023), slowing delivery and reducing community control. Climate Swaraj proposes direct access to funds for Panchayats, municipalities, cooperatives, and community groups. Financial autonomy enables faster responses to climate risks and reinforces institutional sovereignty.

Participatory Resilience Planning: This pillar moves beyond consultation to treat communities as decision-makers in planning, implementation, and monitoring. Evidence from CBA and LLA shows that participation improves adaptation outcomes (Ayers & Forsyth, 2009; Soanes et al., 2021), but participation without authority has limited impact. Climate Swaraj links participation with power, ensuring that local knowledge and lived experience guide adaptation priorities rather than external planning systems.

Ethical Low-Carbon Development: This pillar integrates adaptation with development choices, challenging growth-based models that exacerbate ecological stress and inequality. Escobar (2018) critiques development systems that ignore ecological limits and local autonomy, while Raworth (2022) and Hickel (2023) advocate post-growth approaches rooted in sufficiency, fairness, and planetary boundaries. Climate Swaraj aligns resilience with these perspectives, promoting development paths that reduce emissions, protect ecosystems, and enhance community well-being.

Integrated Resilience Outcomes: Together, these five pillars form a coherent system of governance transformation. When communities hold authority, resource control, financial access, and genuine participation, adaptation becomes more stable and locally grounded. Expected outcomes include:

- Stronger adaptive capacity
- Higher institutional trust
- Climate justice in practice
- Improved ecological management
- Long-term resilience at the community level

Climate Swaraj thus shifts adaptation from top-down management to democratic governance of resilience.

Core Proposition: Climate resilience becomes sustainable when communities:

- Govern adaptation directly
- Control of key ecological resources
- Access climate finance without intermediaries
- Lead planning processes
- Pursue low-carbon, sufficiency-based development paths

This is the foundation of Climate Swaraj.

Conceptual Framework of Climate Swaraj: The framework can be understood as a governance chain: Centralized Failure → Governance Gaps → Climate Swaraj Framework → Resilience Outcomes. This sequence illustrates how weaknesses in current systems create the need for a new model, and how Climate Swaraj addresses those gaps through decentralized governance.

Figure 1: Conceptual Framework of Climate Swaraj: Governance Transformation Model

Note. Developed by authors to illustrate the governance chain linking centralized failure, governance gaps, Climate Swaraj pillars, and resilience outcomes.

Explanation of Figure 1

Figure 1 presents Climate Swaraj as a governance transformation model. It begins with the limits of centralized adaptation systems—weak local authority, centralized finance, low participation, ecological dependency, and growth-focused development.

CENTRALIZED CLIMATE GOVERNANCE FAILURE
<ul style="list-style-type: none"> • Top-down planning • Centralized finance • Weak local participation • Ecological dependency • Growth-centered development models

NEED FOR ALTERNATIVE MODEL
Recognition that adaptation requires governance transformation rather than administrative expansion

CLIMATE SWARAJ FRAMEWORK
A decentralized and community-led governance model for climate resilience and climate justice

FIVE INTERCONNECTED PILLARS
<ol style="list-style-type: none"> 1. Local Governance Sovereignty 2. Resource Decentralization 3. Climate Finance Localization 4. Participatory Resilience Planning 5. Ethical Low-Carbon Development

RESILIENCE OUTCOMES
<ul style="list-style-type: none"> • Stronger Adaptive Capacity • Climate Justice • Institutional Trust • Ecological Sustainability • Long-Term Resilient Communities

In response, Climate Swaraj advances five pillars: governance sovereignty, resource decentralization, finance localization, participatory planning, and ethical low-carbon development.

Comparative Findings and Discussion

This section evaluates the Climate Swaraj Framework through a comparison of climate governance systems in India, Kenya, Bangladesh, and Costa Rica. These cases were selected because they represent distinct institutional models of decentralization, climate finance access, participation, and ecological governance. The purpose is not to rank national climate performance but to examine how governance structures shape adaptation outcomes. The analysis applies four indicators: decentralization level, climate finance access, community participation, and long-term policy effectiveness.

The results reveal a consistent pattern: adaptation outcomes improve when authority, finance, and planning are located closer to local institutions.

Comparative Analysis Across Selected Countries

Table 2 A: Governance, Finance, and Participation across India, Kenya, Bangladesh, and Costa Rica

Dimension	India	Kenya	Bangladesh	Costa Rica
Governance Structure	Panchayati Raj system with constitutional decentralization, uneven fiscal power	County-level devolution with strong climate planning roles	Centralized national adaptation system with limited local autonomy	Strong municipal and environmental governance systems
Decision-Making Power	Moderate; local input exists but key decisions remain centralized	High; counties control planning and implementation	Low; central agencies and donors set priorities	Moderate to high in environmental governance, less in adaptation decentralization
Climate Finance Access	Mostly routed through state and central schemes	Stronger local access through County Climate Change Funds	Donor and national ministry controlled	Mixed access through sustainability and environmental programs
Community Participation	Strong through Gram Sabhas, uneven in execution	High through county-level planning systems	Project-based and NGO-driven participation	Strong in environmental and conservation activities

Note. Comparative institutional analysis compiled from secondary sources (IPCC, UNEP, OECD, national governance reports).

Table 2 B: Outcomes, Limits, and Policy Lessons across India, Kenya, Bangladesh, and Costa Rica

Dimension	India	Kenya	Bangladesh	Costa Rica
Resource Governance	Partial local control over land and water systems	Stronger local role in planning and ecosystem management	Centralized disaster and resource systems	Strong ecological governance focused on forests and biodiversity
Development Model	Growth-led with increasing climate integration	Mixed development with decentralized resilience planning	Centralized development with disaster-focused adaptation	Sustainability-oriented development model
Key Limitation	Fiscal dependence limits local autonomy	Uneven capacity across counties	Weak local authority reduces ownership	Limited focus on political decentralization
Policy Lesson	Finance must match legal decentralization	Local finance improves resilience outcomes	Participation without authority limits impact	Sustainability needs stronger governance decentralization

Note: Synthesized from comparative case study findings.

Discussion of Comparative Findings

India and Kenya: Strong Institutional Alignment- India and Kenya demonstrate the strongest link between decentralization and resilience. In India, Panchayati Raj institutions and Gram Sabhas create space for participation, but fiscal dependence on higher levels of government restricts autonomy. Kenya shows stronger alignment, with devolved county systems and Climate Change Funds enabling local governments to control planning and finance. The lesson is clear: decentralization is most effective when governance authority and financial access are combined.

Bangladesh: Strong Participation, Weak Authority- Bangladesh illustrates how participation without authority limits impact. NGOs and community groups play an active role in adaptation, particularly in disaster response, but central institutions and donors retain control over priorities. This imbalance undermines long-term ownership and institutional stability.

Costa Rica: Strong Sustainability, Limited Decentralization—Costa Rica demonstrates robust ecological governance through forest conservation and ecosystem payment programs. Community involvement in environmental management is strong, yet adaptation governance remains partly centralized. This case shows that ecological success does not automatically translate into decentralized adaptation authority.

Cross-Case Institutional Lessons: Three clear lessons emerge from the comparative analysis:

- Decentralization must include real authority. Formal delegation is insufficient; local institutions require legal and financial power to shape adaptation outcomes.
- Climate finance determines local capacity. Where local institutions control funding, adaptation becomes faster and more responsive. Centralized finance reduces flexibility and slows action.
- Participation must be institutional, not project-based. Short-term consultation is inadequate; participation must be embedded in governance systems to sustain resilience.

Across all four cases, a consistent pattern emerges: climate resilience improves when governance, finance, and participation are decentralized together. The findings reinforce the central argument of this study—adaptation becomes more effective when communities are not only involved but also hold real power over decisions, resources, and planning.

Case Validation: Meenangadi Panchayat: The Meenangadi Panchayat in Wayanad, Kerala provides a grounded example of the Climate Swaraj Framework in practice. It illustrates how a local government can embed climate action into everyday governance and build resilience through community ownership. Unlike centralized systems that rely on top-down delivery, Meenangadi demonstrates how authority embedded at the local level enables institutions to lead climate planning. This case is significant because it moves the framework from theory into real governance practice.

Background of the Meenangadi Model: Meenangadi is a Gram Panchayat in Wayanad district, Kerala, a region vulnerable to landslides, floods, irregular rainfall, biodiversity loss, and agricultural stress. In response, the Panchayat launched a climate-focused development strategy aimed at carbon neutrality. Initiatives include:

- Afforestation and tree planting
- Watershed and water resource restoration
- Sustainable farming practices
- Biodiversity protection
- Local water management
- Community environmental monitoring

Importantly, climate planning is not treated as a separate project but integrated into routine governance.

Practical Relevance of the Case: The Meenangadi model shows how local governments can function as genuine climate governance institutions when they hold planning authority. Key features include:

- Panchayat leadership in planning and implementation
- Climate priorities aligned with local ecological conditions
- Active involvement of farmers, women's groups, schools, and self-help groups
- Integration of environmental work with livelihoods, particularly farming and water use

This linkage between ecology and livelihoods strengthens both adaptation and development outcomes. The carbon-neutral goal further ties environmental action to long-term community well-being.

Policy Lessons from Meenangadi: Several lessons emerge:

- Local authority enables real climate governance. Recognized decision-making power allows local governments to manage adaptation effectively.
- Integration matters more than standalone projects. Climate action is most effective when embedded in everyday governance.
- Local control improves ownership. Even limited autonomy in finance and planning enhances responsibility and implementation strength.
- Livelihood links improve resilience. Connecting ecological restoration with livelihoods increases sustainability and adoption.
- Institutional participation is more durable than project participation. Long-term resilience depends on structured roles rather than temporary involvement.

Case Validation Conclusion: Meenangadi demonstrates that decentralized climate governance is not only theoretical but already emerging in practice. The case supports the Climate Swaraj Framework by showing that:

- Local institutions can lead adaptation.
- Community participation improves outcomes when tied to authority.
- Ecological restoration is most effective when embedded in governance systems.

This strengthens the argument that climate adaptation improves when governance is localized, not merely when participation is increased.

Policy Implications: The Climate Swaraj Framework suggests that climate adaptation requires institutional transformation, not just increased funding. Policy must focus on how authority, finance, and ecological control are structured at the local level.

Strengthening Local Governance Institutions: Local bodies such as Panchayats and municipalities should be treated as core climate governance institutions rather than implementation units. Policy reforms should:

- Grant legal authority over adaptation planning.
- Enable local governments to set resilience priorities.
- Involve them in vulnerability assessment and climate planning.

This enhances accountability and grounds adaptation in local realities.

Localization of Climate Finance: Climate finance must reach local institutions directly. Current systems often route funds through national ministries and donor structures, slowing delivery and reducing flexibility (OECD, 2021). Policy direction should include:

- Direct funding channels for local governments
- Decentralized climate adaptation funds
- Simplified access systems for local institutions
- Transparent, community-managed funding structures

Localized finance improves speed, ownership, and effectiveness.

Institutionalizing Participatory Planning: Participation must be embedded in governance rather than treated as occasional consultation. Communities should be involved in:

- Risk mapping
- Adaptation planning
- Disaster preparedness
- Ecological restoration

This includes farmers, women, Indigenous groups, and marginalized populations. Participation becomes meaningful only when it influences decisions.

Strengthening Resource Sovereignty: Climate policy should support local control over key ecological systems—land, water, forests, food systems, and local energy. Policy support should strengthen:

- Watershed management
- Sustainable agriculture
- Biodiversity protection
- Local food systems
- Community-based renewable energy

Local control enhances resilience during climate shocks such as floods or droughts.

Supporting Ethical Low-Carbon Development: Adaptation policy must also rethink development models. Growth-centered systems often intensify ecological pressure and inequality. Climate resilience improves when development emphasizes sufficiency, equity, and ecological balance. Policy should support:

- Regenerative agriculture
- Circular local economies
- Low-carbon rural livelihoods
- Sustainable consumption systems
- Community-based green development

Strategic Policy Direction: The central implication is clear: climate adaptation depends on governance structure, not only financial investment. Resilience improves when:

- Local institutions hold authority
- Finance is decentralized
- Communities participate in decision-making
- Ecological systems are locally managed

Adaptation works best when local governance is the foundation of resilience, not merely the delivery channel.

Conclusion

This study examined why climate adaptation systems in the Global South continue to reproduce vulnerability despite expanding global policy attention, financial commitments, and institutional initiatives. The analysis shows that the core challenge is not simply climate exposure or technological gaps, but governance. Authority, finance, and decision-making remain centralized, distancing communities from the processes that most affect their resilience. In many contexts, adaptation still functions as a top-down administrative exercise. Communities are positioned as recipients of policy rather than decisionmakers, which reduces ownership, weakens trust, and produces uneven resilience dependent on external systems. To address this structural gap, the study introduced Climate Swaraj, a decentralized governance framework built on five pillars: local governance sovereignty, resource decentralization, climate finance localization, participatory resilience planning, and ethical low-carbon development. Together, these elements place communities at the center of adaptation governance. Comparative analysis of India, Kenya,

Bangladesh, and Costa Rica reveals a consistent pattern: resilience improves when governance is decentralized, finance is locally accessible, and communities hold real authority over planning and resources. The Meenangadi Panchayat case in Kerala further validates this argument, showing how community-led climate governance can operate effectively in practice.

Key Contributions: This study makes three contributions:

- It reframes climate adaptation from a technical management issue to a governance reform challenge.
- It integrates decentralization, climate justice, and sustainable development into a single framework.
- It proposes a policy-relevant model for the Global South that links resilience with justice and local autonomy.

Future Research and Quantitative Operationalization: Climate Swaraj is developed here as a conceptual and comparative framework. Future research can strengthen its empirical basis by operationalizing each pillar into measurable indicators, such as:

- Level of local decision-making authority
- Share of climate finance reaching local institutions
- Degree of community participation in planning
- Extent of ecological resource control
- Adoption of low-carbon livelihoods

These indicators can support comparative studies across regions and help evaluate whether decentralized governance improves adaptation outcomes more effectively than centralized systems. Surveys, governance indices, resilience scorecards, and field-based institutional assessments at Panchayat, municipal, or county levels would provide valuable empirical validation.

Final Implication

The central implication of this study is direct: climate adaptation depends on governance structure, not only on funding or technology. Resilience becomes stronger, more just, and more sustainable when communities hold genuine decision-making power. Climate Swaraj offers a structured pathway to achieve this shift by linking governance decentralization, resource sovereignty, localized finance, participatory planning, and ethical low-carbon development into one integrated framework. Climate resilience becomes durable when communities govern adaptation.

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