

Exploring Effective Strategies for Integrating Locally Led Adaptation (LLA) into NGO Practices



MASTERS THESIS

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Declaration

I, the undersigned, confirm that the work presented in this thesis is my own. It has been written under the guidance of Dr. Rumana Sultana, Assistant Professor, Department of Environmental Science and Management, Independent University Bangladesh (IUB).

I declare that this is an original work and that it has not been submitted, either in whole or in part for any other diploma or degree elsewhere for any purpose. I have referenced all the sources in this thesis to give due credits as per the academic traditions of IUB.

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Abstract

With growing intensity of climate change, vulnerable countries such as Bangladesh increasingly struggle to deliver equitable and sustainable adaptation. This study addresses the integration of Locally Led Adaptation (LLA) principles into the activities of NGOs working in the climate-vulnerable coastal upazila of Shyamnagar, Satkhira District. Despite their crucial role in local adaptation, NGOs often struggle to align top-down solutions with the lived experiences of marginalized communities. As a result, these organizations may not fully resonate with local perspectives.

By employing a qualitative methodology with IDIs, FGDs, and KIIs, this study seeks to investigate the current integration and operationalization of LLA principles in NGOs. It identifies the major challenges faced by NGOs in incorporating and practicing LLA, systematizes these challenges, and critically examines the approaches used to mainstream LLA principles, assessing how effective such approaches are at achieving desired adaptation outcomes. The study is grounded in a framework that explores the relationship between LLA principles, NGO practices and challenges, community participation, and the effectiveness of LLA integration strategies.

The findings emphasize that NGOs participate informally in LLA, promoting community-driven decision-making and inclusivity. However, obstacles remain such as centralized finance and misalignment of policy, capacity deficiencies (both at local government level and in local communities), duplication of effort, under-investment in environmental/infrastructure vulnerabilities. To address these tensions, the paper finds that NGOs utilize proactive strategies given by policy reform advocacy, making LLA typical within their organization, capacity building for local leaders and government, coordination platforms and, tailoring and community-driven designs. Such strategies help to promote greater local leadership (by providing the impetus), long-term community ownership, enhanced inclusivity and output-based adaptation delivery, thus reinforcing community resilience and accountability.

This paper seeks to identify obstacles and opportunities for effective integration of LLA, positing that transformative adaptation will only follow if NGOs re-orient themselves towards inclusive, rights-based framework of development processes that shift the locus of decision-making and funding away from the center. The results will also complement the discussions on recasting the role of civil society in responding to climate change, including forming alliances to build solidarity and reinforce local ownership. Eventually, this research aims to contribute to the development of more equitable and context-sensitive adaptation interventions that support livelihood resilience and justice for marginalized communities at the front lines of climate change.

Keywords: *Locally Led Adaptation (LLA), NGO Practices, Climate Change Adaptation, Community Resilience, Climate Justice, Local Ownership, Decentralized Finance, Policy Alignment, Capacity Building, Vulnerability.*

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Chapter 1: Introduction

1.1 Background and Problem Context

Climate change represents one of the most pressing global challenges of the 21st century, with profound and escalating impacts on ecosystems, societies, and economies worldwide (IPCC, 2018). Climate change is a global issue, but for countries that are already highly vulnerable, such as Bangladesh, the regional dimension is more pronounced than just about any other issue. Climate change impacts are felt more in Bangladesh as a result of increasing sea level, increasingly frequent and powerful cyclones, riverbank erosion and intrusion of saline water. Bangladesh lies on the Ganges, Brahmaputra and Meghna floodplains (Rahaman, 2023). Their impacts are felt acutely on agriculture, water resources and livelihood, and highlight the necessity of robust and workable local style adaptation plans.

In the face of this deepening crisis, there is an emerging realization of the importance of contextually specific and community-led climate change adaptation (CCA) strategies. In this setting, non-governmental organizations (NGOs) in Bangladesh are increasingly emerging as a fulcrum through which global climate policies are connected with local practices. They play a pivotal role in the operationalization of community-based adaptation interventions and enabling resilience-building programs in at-risk areas.

Many of the past actions to respond to adaptations have been introduced through top-down approaches, whereby finance, design and implementation decisions were made in international or national forums, with little if any input from local communities. This conventional paradigm frequently overlooked the unique lived realities, priorities, and indigenous knowledge of marginalized populations, leading to interventions that were often unsustainable, ineffective, or even maladaptive (Masud-All-Kamal & Nursey-Bray, 2022; Schipper, 2020). Such approaches run the risk of escalating already-existing power disparities and fostering injustices within communities (Rahman et al., 2023).

Against this backdrop, the concept of Locally Led Adaptation (LLA) has gained significant prominence since its emergence in 2019. LLA advocates for a fundamental shift in power, empowering local actors—including communities, community-based organizations (CBOs), local governments, and local private sector entities—to lead the definition, prioritization, design, implementation, monitoring, and evaluation of adaptation actions that directly affect them (Soanes et al., 2021; Tye & Suarez, 2021). This approach is based on the perspective that community-level actors on the forefront of climate change will be most apt to recognize relevant and solutions and potential solutions, leading to increased ownership, sustainability and equity (Coger et al., 2022). This object of engagement differs significantly from previous models of community-based adaptation (CBA), which tend towards ‘engagement’ rather than a substantive form of ‘leadership’ exhibited by, or product for locals (see, for example, Lankapura, 2023; Westoby, 2023).

Although LLA has attracted increasing global attention, with innumerable workshops and publications, there is still a lack of academic literature on the ability of NGOs in Bangladesh to apply LLA in the implementation of their projects. While previous efforts have explored the broader scope, strategies, and barriers associated with LLA at the local level, comprehensive research on the specific context and capabilities of NGOs in operationalizing LLA, particularly in a highly vulnerable region like Shyamnagar, is scarce. This study contributes towards filling that gap by exploring the extent of LLA integration into NGOs, along with obstacles and facilitators, and the efficacy of integration strategies.

1.2 Rationale and Significance

The motivation of this study comes from the demand for effective and equitable climate change adaptation in such highly vulnerable regions like coastal Bangladesh. NGOs have a major role to play in this continuum between global climate politics and local practices. Understanding how they integrate LLA is therefore paramount for several reasons:

Enhancing Adaptation Effectiveness: LLA promises more effective and sustainable adaptation outcomes by ensuring interventions are contextually relevant and driven by local needs and knowledge (Rahman et al., 2023). By examining current NGO practices, this research can identify successful approaches that enhance resilience on the ground. The study's findings on tangible adaptation outputs and increased local leadership directly contribute to this understanding.

Promoting Climate Justice: At its core, LLA seeks to tackle systemic inequities and power relations. It aims to ensure that marginalized communities, including women, young individuals, and other underserved groups, are recognized in society. Aboriginal communities also play an important role in adapting (Coger et al., 2022). This study contributes to understanding how NGOs can adopt a rights-based, transformative approach to foster more equitable outcomes, as evidenced by findings on improved inclusivity.

Filling a Research Gap: As noted in the background, there is a significant dearth of comprehensive academic research on the capacity of NGOs in Bangladesh to integrate LLA. This study provides empirical evidence from a critical climate-vulnerable region, offering insights into the specific challenges and capabilities within the NGO sector. This aligns with that NGOs frequently operate in terms of specialized tasks and the need of for further investigation of their LLA integration capabilities (ICCCAD, 2022). The identified limitations in the existing literature highlight the novelty of the present study.

Informing Policy and Practice: The results will lead to evidence-based recommendations for policy-makers, development workers and NGOs themselves. Such guidelines are to help shape agricultural policies so they become more supportive, more innovative and better-promoted funding, as well as more effective capacity-building for real locally-led action.

Contributing to Global Discourse: Through examining the intricacies involved in integrating LLA in Bangladesh, this study adds to the growing international debate on the role of civil society's role in climate action, providing useful case studies from which lessons can potentially be replicated in other vulnerable contexts globally.

1.3 Research Aim and Objectives

The overarching aim of this study is to examine the integration of Locally Led Adaptation (LLA) principles within non-governmental organizations (NGOs) operating in Shyamnagar, to identify the challenges associated with their implementation, and to evaluate the strategies employed to promote LLA in order to determine their effectiveness in achieving intended outcomes. To attain this overarching aim, the study is directed by the following specific objectives:

1. *To investigate the extent to which LLA principles are integrated into the practices of NGOs and to analyze the challenges that influence their adoption and implementation.*
2. *To identify and critically evaluate the strategies employed by NGOs to promote and implement LLA principles, and to assess the effectiveness of these strategies in achieving desired adaptation outcomes.*

1.4 Research Questions

In alignment with the research objectives, this study seeks to address the following key questions:

1. *In what ways are LLA principles currently integrated and operationalised within NGOs?*
2. *What key challenges do NGOs encounter in adopting and implementing LLA principles?*
3. *What strategies are employed by NGOs to promote and implement LLA principles, and how effective are these strategies in achieving intended adaptation outcomes?*

1.5 Scope, Delimitations, and Key Definitions

1.5.1 Scope

This study focuses on the integration of LLA principles within the practices of NGOs actively involved in climate change adaptation efforts in Shyamnagar Upazila, Satkhira District, Bangladesh. The scope includes:

- Examining how NGOs understand and operationalize LLA principles in their programs.
- Identifying the primary challenges encountered during the adoption and implementation of LLA.
- Analyzing the specific strategies employed by NGOs to overcome these challenges.
- Assessing the perceived effectiveness of these strategies in enhancing community resilience and achieving LLA outcomes.
- Investigating the viewpoints of NGO personnel, LLA specialists, and local community members.

1.5.2 Delimitations

The research is confined to Shyamnagar Upazila, Satkhira District. While findings may offer insights applicable elsewhere, direct generalizability to all climate-vulnerable regions of Bangladesh or other countries is not claimed. The study focuses specifically on NGOs and their integration of LLA. It does not extensively cover the roles of other actors (e.g., private sector,

academic institutions, or solely government-led initiatives) beyond their interaction with NGOs in the LLA context. As a qualitative study, it offers deep, nuanced explanation rather than generalizable statistical findings. Results These results represent the subjective experience and perceptions of the participants. The data collection conducted within a designated timeframe, and the findings represent the circumstances of that period.

1.5.3 Key Definitions

Locally Led Adaptation (LLA): Climate adaptation action in which local communities, community-based organizations, citizen groups, local government, and local private sector entities at the lowest administrative structure are key decision-makers in the interventions that affect them. These local actors have leadership roles that include decision-making powers to identify resources and priorities needed, investments to be made, and who to involve in the design, execution, and monitoring and evaluation of projects and programs (Tye & Suarez, 2021). LLA goes beyond community engagement and applies only when local actors have agency and decision-making power on how to address climate impacts.

NGO Practices: Refers to the policies, programs and activities that NGOs implemented regarding the climate change adaptation and community participation (Coger et al., 2022).

Community Participation: Level of community engagement and ability to influence decision-making regarding climate adaptation activities in local areas (Soanes et al., 2021).

Enabling environment: The social, economic and political framework in which NGOs work, comprising governmental policy, funding procedures and power structures (Soanes et al., 2021).

Effectiveness of Strategies: The efficiency of LLA strategies toward desired results (e.g., increased community resilience, adaptive capacity and local ownership).

1.6 Thesis Structure Overview

This thesis is structured over six chapters followed by references and appendices.

Chapter 1: Introduction provides the background of the study, historical context, rationale and justification of the study, aim, objectives, research questions, and cope and definitions of key terms

Chapter 2: Literature Review reviews academic and grey literature on LLA, its development, principles, NGO functions, finance architecture, participation, coordination and the Bangladesh setting. It ends with the construction of the framework.

Chapter 3: Methodology includes description of the qualitative research design, setting, sampling strategy, participant selection, data collection, data management, ethical considerations, the approach to the data analysis (thematic analysis), and, trusts towards the study (measures for trustworthiness).

Chapter 4: Results present the findings of the fieldwork based on the four main thematic streams of research: NGO Respondents, Challenges, Strategies, and Effectiveness of Strategies, illustrated with quotes and a network diagram.

Chapter 5: Discussion draws meaning from the results in the context of the literature, considers policy and practice implications, and discusses the methodological components of the study, areas of research that are subject to limitation, and direction for future study.

Chapter 6: Conclusion and Recommendations would highlight the conclusion of the study and put forward some recommendations action points for the NGOs, government and the donor community to promote the integration of LLA in Bangladesh.

The **References** section lists all cited sources in APA style (7th edition). The **Appendices** include the final coding table, and abbreviations.

Chapter 2: Literature Review

This chapter provides an extensive review of academic and grey literature on LLA and its incorporation into NGO work in Bangladesh. It integrates the known to create a new understanding, thus developing the theoretical base to support a study that focuses on specific topics and/or research questions. In line with the theoretical framework, the review follows the trajectory of LLA, examining the development of LLA, its main principles, the place of NGOs, systems of finance, dynamics of participation and the larger policy environment.

2.1 The Evolution of Adaptation Paradigms

The narrative of climate change adaptation has changed considerably over the past two decades, from large scale, top-down interventions to more localized, bottom-up approaches (Westoby, 2023; Roy, 2022).

2.1.1 Community-Based Adaptation (CBA): Foundations and Critiques

Community-Based Adaptation (CBA) emerged as an early and influential framework, emphasizing the importance of community involvement in assessing risks, planning strategies, and implementing adaptation measures (Mfitumukiza et al., 2020). CBA sought to empower communities through participatory processes, recognizing their unique vulnerabilities and adaptive capacities. However, critiques of CBA highlighted its limitations. Often, CBA projects became "donor-dependent" and were perceived as "box-ticking exercises" where communities were merely consulted or engaged as beneficiaries rather than as genuine decision-makers. This often resulted in externally designed interventions with limited local ownership and, in some cases, led to maladaptation (Schipper, 2020; Masud-All-Kamal & Nursey-Bray, 2022). The inherent power imbalances between external actors (donors, international NGOs) and local communities frequently undermined the transformative potential of CBA, leading to superficial participation rather than true empowerment (Rahman et al., 2023; Chowdhoree et al., 2020). Studies noted that despite NGOs implementing CBA, community perceptions often differed from project goals, and participation could be ritualistic or tokenistic (Masud-All-Kamal & Nursey-Bray, 2022; Masud-All-Kamal et al., 2021).

2.1.2 The Emergence of Locally Led Adaptation (LLA): A Paradigm Shift

In response to these shortcomings, the concept of Locally Led Adaptation (LLA) gained prominence, particularly since 2019. LLA represents a significant paradigm shift from CBA, advocating for a fundamental reorientation of power and resources towards local actors (Westoby, 2023). LLA has some overlap with CBA in its community-level orientation but is distinctive for its focus on building local power and leadership (Soanes et al., 2021). LLA argues that local communities, governments and organizations should have the voice or be the decision-makers, over the adaptation actions that affect them (including financial resources and implementation processes), supports the agency, but also the autonomy, of affected people and stakeholders (Tye

& Suarez, 2021). This nuance is important, however, because it is a leap from 'engagement' to 'leadership' for those on the frontline of climate impacts (Lankapura, 2023). The movement signals a wider acceptance of local adaptation expertise and participation and many NGOs are being touted as important monitors and enablers of community governance, resilience and change (Westoby, 2023; Rahman & Tasnim, 2023).

2.1.3 Key Differences Between CBA and LLA

The development of adaptation paradigms evolved from Community-Based Adaptation (CBA) to Locally Led Adaptation (LLA), as a response to a timely re-examination of power relations and the success of climate action. This table summarizes the key differences between these two approaches, as reported in the literature.

Feature	Community-Based Adaptation (CBA)	Locally Led Adaptation (LLA)
Primary Focus	Emphasizes community involvement in assessing risks, planning, and implementing measures (Mfitumukiza et al., 2020).	Focuses on local agency and leadership, with local actors making most of the decisions. (Soanes et al., 2021; Tye & Suarez, 2021).
Power Dynamics	Communities often consulted or engaged as beneficiaries; power imbalances frequently undermined transformative potential (Rahman et al., 2023; Chowdhoree et al., 2020).	Advocates for a fundamental reorientation of power and resources towards local actors, ensuring local control (Westoby, 2023).
Decision-Making	Decisions often made at international or national levels with limited local input; can lead to superficial participation (Masud-All-Kamal & Nursey-Bray, 2022).	Local actors (communities, local governments, local organizations) have primary decision-making power over interventions (Tye & Suarez, 2021).
Funding Control	Projects are often "donor-dependent" with funding flowing through intermediaries; limited direct access or control by local actors (Soanes et al., 2017; KII data).	Advocates for devolved and localized finance mechanisms, with local actors having greater control over resource allocation and management (Soanes et al., 2021).
Sustainability	Interventions often designed externally, leading to limited local ownership and potential for maladaptation (Schipper, 2020;	Aims for greater local ownership and institutional legacy, fostering sustainability beyond project cycles (Tye & Suarez, 2021).

	Masud-All-Kamal & Nursey-Bray, 2022).	
Role of Local Government	Less clear emphasis on the leadership role of local government; generally considered as just one of many stakeholders.	Local governments are recognized as critical actors in mediating between local and national levels, capable of LLA leadership (Dinshaw et al., 2023).
Accountability	Primarily upward accountability to donors and funding bodies.	Emphasizes downward accountability to local actors and communities (Rahman et al., 2023).
Risk of Maladaptation	Higher risk due to interventions overlooking local realities and priorities (Schipper, 2020; Rahman et al., 2023).	Seeks to curtail risks of maladaptation by centering local actors in decision-making and valuing local knowledge (Rodoshee & Ranon, 2023).

Table 2.1. Key Differences Between CBA and LLA.

2.1.3 The Eight Principles of LLA: Normative Framework and Operational Demands

The LLA approach is informed by eight guiding principles, which are intended to act as normative benchmarks for the development, execution and monitoring of adaptation projects. These principles are the output of a working group formed by a coalition of research and grassroots and civil society organizations under the guidance of the Global Commission on Adaptation (Soanes et al., 2021). They offer an integrated vision of what really is locally-led action:

1. ***Devolving decision-making to the lowest appropriate level:*** The importance of directing those most impacted by climate change to have direct control over how decisions related to adaptation finance and programming are made.
2. ***Addressing structural inequalities:*** LLA works to identify and address power structures, imbalances and development gaps leading to vulnerability, primarily for women, youth, children, disabled peoples, Indigenous Peoples, and ethnic minorities.
3. ***Providing patient and predictable funding that can be accessed more easily:*** This involves simplified funding mechanisms and longer term, more predictable financial resources which enable local actors to act and promote adaptive management.
4. ***Investing in local capabilities to leave an institutional legacy:*** This addresses the need to secure local institution building, involving local actors having capacity to analyze climate risk, generate solutions, and implement adaptation actions without external financial support.
5. ***Building a robust understanding of climate risk and uncertainty:*** LLA is designed to support decision making on adaptation by drawing from local, indigenous and scientific

knowledge.

6. ***Flexible programming and learning:*** The principle of flexibility, including flexibility in programming and budgeting and adaptive management, and space for learning.
7. ***Ensuring transparency and accountability:*** LLA calls for explicit decision-making and governance and transparent mechanisms of financial flows and accountability ultimately to local actors.
8. ***Collaborative action and investment:*** This promotes the synchronization of funding sources so that they build on each other rather than competing with each other across sectors and methodologies and at different levels.

In practice, this means a completely new way of doing things. It requires a shift from fixed, top-down project design to more iterative, context-specific design. Attention to local ownership in source of funds and inclusive process, long term capacity is likely to contest prevailing institutional norms and ordering of powers in the adaptation field (Rahman et al., 2023; Tye & Suarez, 2021).

2.2 Key Actors and Their Roles in LLA

2.2.1 Non-Governmental Organizations (NGOs): Facilitation, Capacity Building, and Advocacy

The role played by NGOs in climate change adaptation regime is multitiered having serious implications in countries such as Bangladesh. Their roles typically encompass:

Facilitation: NGOs often work as mediators between local needs and external resources, leading participatory workshops and consultations and supporting communities to articulate their adaptation priorities.

Coordination: NGOs often collaborate with a range of partners to harmonize efforts, inform each other and avoid duplication. Initiatives such as the National Platform on Locally-Led Adaptation (NPLLA) are instances of these attempts at coordination, with the objective to unify diverse parties from a single platform (Huq, 2022; Rozario, 2023).

Capacity-development: A key function of NGOs is to enhance local capacity to adapt, through technical training and development of leadership, especially among women and young people. The aim is to create an "institutional legacy" (beyond project cycles) that is sustainable (Tye & Suarez, 2021).

Advocacy: NGOs frequently advocate in order to influence policy reforms and advocate for a more enabling environment for LLA; this entails lobbying for flexibility in funding mechanisms and decentralized decision-making.

While NGOs are essential for implementing LLA, how effective they are does depend on capable local partners enable NGOs to move from implementers to facilitators, which empower local actors to lead. But their interventions are often limited, such as donor dependence, short-term financial support and administrative preference, which cause them to have a limited long-term effect, inclusivity (Rahman & Islam, n.d.; Jannat & Kusakabe, 2024).

2.2.2 Local Governments: Governance, Planning, and Implementation

Local governments are seen as a central player of LLA, they can play a vital role in the mediation between local needs and national authorities, and as climate finance intermediaries serving local priorities (Dinshaw et al., 2023). However, they can be capacity constrained and may reflect top-down power dynamics with higher levels of government. Projects such as the Local Government Initiative on Climate Change (LoGIC) of UNDP demonstrate the potential for strengthening local government's role in LLA. Studies highlights the need for inclusive governance and participation in decisions on behalf of local actors for successful adaptation (Westoby et al., 2023; Sultana & Luetz, 2022).

2.2.3 Community Actors: Indigenous Knowledge, Participation, and Agency

Real participation and fair representation are central to LLA and sets it apart from tokenistic processes of stakeholder engagement. From the literature a case is made for how LLA needs to be pro-active in overcoming structural inequalities to make sure that the voices of all vulnerable groups are heard and valued. Achieving this requires that local actors have “agency and decision-making power” during the entire adaptation process (Soanes et al., 2021). The literature also points to the potential for development when women and youth in LLA are empowered and given leadership responsibility and financial independence, they can also act as power brokers for change (Lankapura, 2023). Indigenous Knowledge is now increasingly acknowledged as a major paradigm shift in the Adaptive and Sustainable capacities and Disaster Risk Reductions (Ullah, 2024; Bang, 2024; Datta et al., 2025).

2.3 The Enabling Environment for LLA

2.3.1 Climate Finance Architectures: Centralization vs. Decentralization

Climate finance availability is an important factor to enable the success of LLA. Findings of the literature consistently stress a major gap between global-level pledges for adaptation financing and the funds that actually reach local levels.

Top-Down Control: Historically climate finance architectures have had top-down or centralized control with most of the funds being channeled through national governments and large international organizations (Tye & Suarez, 2021). This centralized control frequently leads to complex and bureaucratic means of access, as a result local actors and small NGOs struggle to access funding directly. The focus on pre-determined project proposals and short-term cycles amplifies this, since it fails to account for the dynamic and uncertain nature of local adaptation needs (Rahman et al., 2023).

The “10% Problem”: Analysis suggests as little as 10% of international climate finance actually arrives at local level (Soanes et al., 2017). This "trickle-down" strategy frequently results in distributive injustice, with those who suffer most from climate unrest having the least agency over the resources meant to ameliorate their conditions (Ciplet et al., 2022).

Devolved/Localized Finance: LLA calls for a re-centralization of the finance architecture to one that is more devolved and localized. This includes the provision of "patient and predictable funding that is more accessible for local actors to determine resource allocations and how these resources are to be managed" (Soanes et al., 2021). Intermediary models, such as that implemented in the case of the Climate Bridge Fund (CBF) in Bangladesh, involve a "sponge" organization that acts as an intermediary between CSOs and the bilateral donor, manages the compliance with different requirements at a central level, and disposes of the funds at a local level, allowing grassroots initiatives to access funds (BRAC, 2022). These models are designed to lower transaction costs, increase the percentage of funds that reach the ground in affected communities.

2.3.2 Policy and Regulatory Frameworks: Alignment and Barriers

While national policies acknowledge the importance of local-level action, a formal endorsement of LLA principles is still pending. This policy gap can create challenges for local governments and NGOs in fully integrating LLA, as it lacks a clear guiding framework at the national level (Mirza et al., 2023). Regulatory rigidities, particularly from national NGO regulatory bodies, impose predetermined activity lists that conflict with the adaptive and flexible nature of LLA.

2.3.3 Power Dynamics and Structural Inequalities: Micro-politics and Representation

LLA's core principle is to actively recognize and redress power dynamics and development deficits that create vulnerability for specific groups, including women, youth, and marginalized ethnic groups (Soanes et al., 2021). However, challenges remain in overcoming entrenched socio-cultural norms and ensuring that their voices are genuinely valued at all levels (Rahman et al., 2023). Studies reveal elite-pluralism and dominance of national-level actors constraining equitable participation of local stakeholders (Dev et al., 2024; Ishtiaque, 2019; Ishtiaque et al., 2021). This micro-politics can inadvertently reproduce inequalities within LLA initiatives (Rahman et al., 2023).

2.4 Operationalizing LLA: Strategies and Challenges

2.4.1 Participation, Representation, and Inclusion

LLA calls for participation that goes beyond merely inviting community members to workshops or consultations, where they are often viewed as passive beneficiaries (Tye & Suarez, 2021). Instead, it demands that local actors have "agency and decision-making power" throughout the entire adaptation cycle (Soanes et al., 2021). However, community participation is often ritualistic or tokenistic, failing to empower local decision-making fully (Chowdhoree et al., 2020; Masud-All-Kamal et al., 2021). Gender integration, while emphasized, can be superficial, with women's participation constrained by cultural norms and NGO biases (Jannat & Kusakabe, 2024; Ahmed et al., 2022).

2.4.2 Coordination, Platforms, and Accountability Mechanisms

The scattered approach of the adaptation efforts either prevents them from becoming mainstreamed or results in the replication of the efforts of different NGOs in the field of adaptation. Multistakeholder platforms are seen as important to promote knowledge transfer, exchange of resources and mutual planning (Huq, 2022; Rozario, 2023). LLA represents more than just an adjustment to accountability, it challenges and resets the dominant accountability regime of the ‘upward accountability’ to states and donors (Rahman et al., 2023).

2.4.3 Adaptive Management and Flexible Programming

The principles of LLA necessitate a departure from rigid, top-down project designs towards more iterative, context-specific approaches. This emphasizes maintaining budget and programmatic flexibility, along with space for adaptive management and continuous learning (Soanes et al., 2021). Flexible funding and programming are crucial to curtail the risks of maladaptation by allowing local actors to deal with climate-induced uncertainties in a context-specific manner (Rodoshee & Ranon, 2023).

2.5 LLA in the Bangladesh Context

The distinctive sociopolitical and ecological culture of Bangladesh impacts largely on integrating LLA. Although the country is a leader in adaptation at the global level, it has specific institutional and policy issues to address (Mirza et al., 2023). Bangladesh has strong tradition of Community Based Adaptation (CBA) actions which in many cases predate western nomenclature on climate change, having been driven by the climate risk presented by natural disasters (Lankapura, 2023). This indigenous knowledge base provides a strong foundation for LLA. Coastal communities, in particular, face severe climate vulnerabilities including salinity, sea-level rise, floods, and cyclones, which disrupt agriculture, fisheries, and livelihoods (Roy, 2022; Tasbihi, 2023).

2.6 Synthesis and Conceptual Framework

The literature review reveals that effective LLA integration is a multifaceted process influenced by the interplay of several key factors. Even while there is a strong theoretical basis for LLA and more and more real-world examples, there are still big problems, especially with finance, policy, and power dynamics.

2.6.1 Gaps identified in Current Literature

The comprehensive review highlights several critical gaps that this research aims to address:

Empirical Testing of LLA Frameworks: There is a lack of empirical studies rigorously testing the effectiveness and justice outcomes of LLA frameworks in Bangladesh (Westoby, 2023).

Power Dynamics and Elite-Pluralism: Insufficient understanding of how elite dominance and power imbalances constrain equitable participation of marginalized local actors in adaptation governance (Dev et al., 2024; Ishtiaque, 2019; Ishtiaque et al., 2021).

Integration of Indigenous Knowledge with Scientific Adaptation: Limited research on effective

institutional mechanisms for integrating indigenous knowledge (IK) with scientific adaptation approaches in NGO-led projects (Ullah, 2024; Sultana & Luetz, 2022).

Intersectional Gender Inclusion: Gender integration often remains superficial, with intersectional barriers inadequately addressed in adaptation initiatives (Jannat & Kusakabe, 2024; Ahmed et al., 2022; Masud-All-Kamal & Nursey-Bray, 2024).

Long-Term Sustainability and Funding: Short-term donor funding and administrative biases limit the sustainability and scalability of NGO-led LLA projects (Hossain & Momtaz, 2024; Rahman & Islam, n.d.).

Coordination and Multi-Level Governance: Poor coordination among NGOs, government, and local actors impedes coherent adaptation governance (Hossen, 2022; Rahman & Islam, n.d.).

Community Participation Beyond Tokenism: Community participation is often ritualistic or tokenistic, failing to empower local decision-making (Chowdhoree et al., 2020; Masud-All-Kamal et al., 2021).

2.6.2 Development of the Conceptual Framework

The conceptual framework of this research is that the eight principles of LLA should underpin and guide NGO Practices. These practices, in turn, are demonstrated to impact the Effectiveness of Strategies that result directly in Outcomes: Enhanced Adaptive Capacity, Greater Community Resilience, and Increased Local Ownership. Consequently, Community Leadership not only positively affects Facilitators of LLA Integration Strategies (i.e., Capacity Building, Inclusion, Advocacy, and Coordination) but also has a direct effect on the Effectiveness of Strategies. These strategies are aimed to enhance NGO practices and mitigate integration challenges of LLA. The model emphasizes that the NGO Practices are confronted with these LLA Integration Challenges, led by externalities such as Government Policies, Power Dynamics, and Funding Mechanisms.

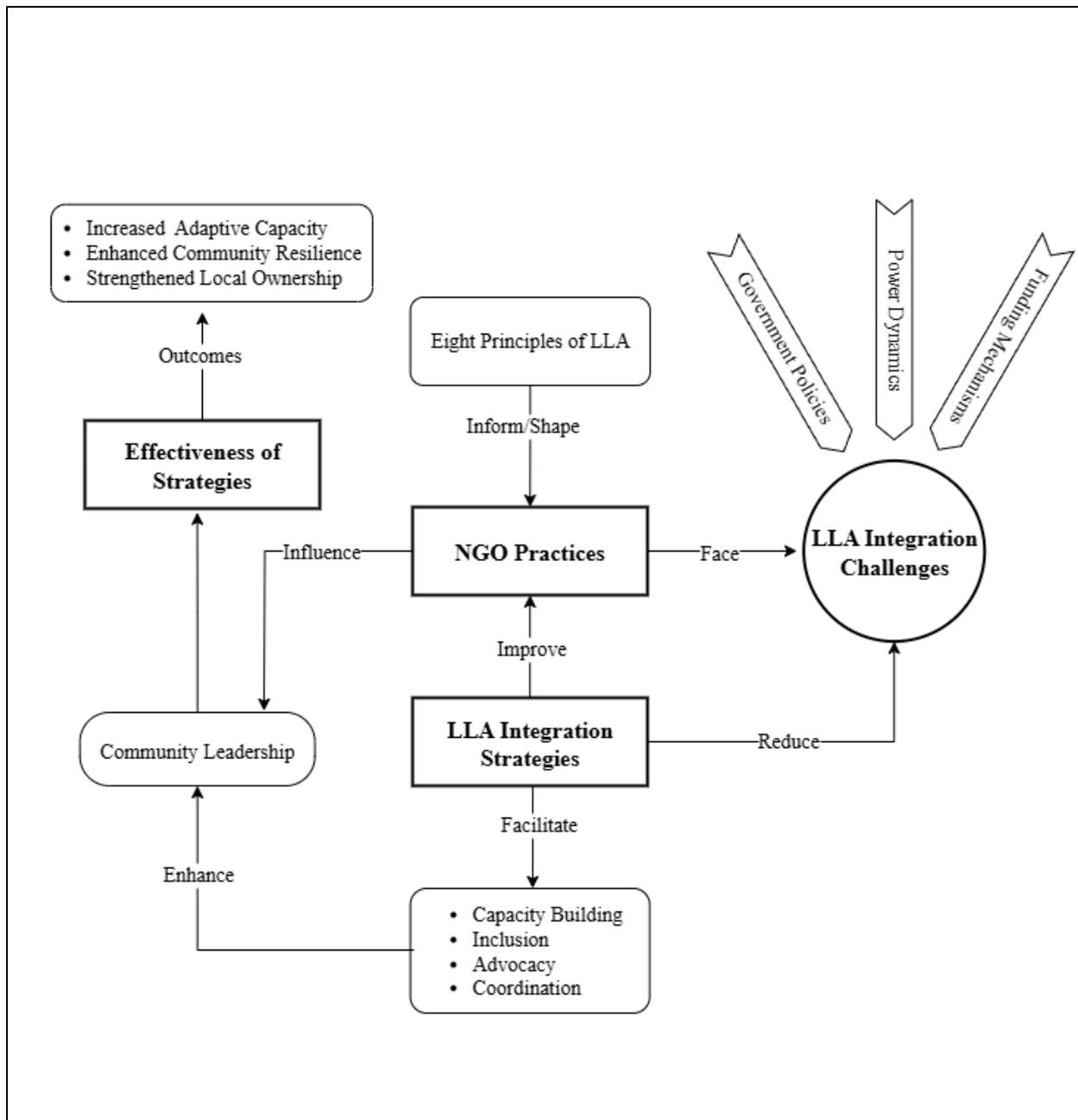


Figure 2.1. A conceptual framework showing how LLA principles might be used in NGOs to make communities more resilient to climate change (Author, 2024).

This framework also offers an organized perspective of the empirical evidence, thus providing a thorough examination of how LLA operates on the ground, some constraints encountered and strategies used, as well as its potential contribution to climate justice and resilience in Bangladesh.

Chapter 3: Methodology

This chapter describes the research approach that was undertaken to address integrating LLA principles into the work of NGOs in Bangladesh. It describes the study design, context, participant selection, data collection processes, data handling, ethics and data analysis. Ways to promote trustworthiness and considerations of limitations are also addressed.

3.1 Research Design

This research utilized a qualitative methodology to ensure rich, detailed understanding of the complex process of LLA integration in NGOs and its influence on community resilience and adaptive capacity. Qualitative reports were considered most suitable because it is an exploration study to understand "How" and "What" type of challenges and strategies are there, not quantifying associations or testing hypotheses (Elo & Kyngäs, 2008; Vaismoradi et al., 2013). It afforded the opportunity to achieve rich, contextualized understanding of the experiences, perceptions, and decision making of stakeholders. The methodology was triangulated, a design that utilised multiple sources of data and methods to provide a complete picture of the phenomenon (Hair et al. Additionally, following the analytical data emphasis described in Chapter 2, Section 2.5.3, using inductive thematic analysis as the predominant analytical approach was also congruent with the exploratory nature of the present study, where themes were derived from the raw data, rather than the hypothesis-driven approach of imposing themes on to a pre-determined framework (Elo & Kyngäs, 2008).

3.3 Instruments

Data collection Semi-structured interview and FGD guides were used and developed based on the conceptual framework and research questions.

Semi-Structured Interview Protocols (KIIs & IDIs): The KII and IDI protocols were flexible to facilitate the interviewer's examination of specific themes in depth, the respondent's detailed account of experiences, and also for the Burden. Questions were related to knowledge of LLA, use in the organisation, encountered barriers, ways of overcoming challenges and perception of effectiveness. The exploratory nature of the questions was essential to capture the nuanced attitudes needed for thematic analysis (Vaismoradi et al., 2013).

Focus group discussion (FGD) guide: The guide was designed to encourage group discussion and share collective views on community perceptions of LLA and NGO activities. It contained questions for discussion related to the impact of climate change, coping strategies, participation in decision making and appraising the efforts of the NGOs. Participatory techniques from community mapping to ranking exercises were utilised to ensure that rich, contextualised responses were extracted and analyse and add quality to responses based on local knowledge and actions.

3.2 Setting and Participants

3.2.1 Study Area

The study was carried out in Shyamnagar Upazila of Satkhira District of Bangladesh. The study area of the coastal region was chosen based on its extreme climate vulnerability where it suffered severe impacts from sea level rise, cyclones, river bank erosion and salinity intrusion (Rahaman, 2023). This background offered a crucial and appropriate environment to investigate LLA experiences and barriers, representing specific risk factors identified in the review of the literature.

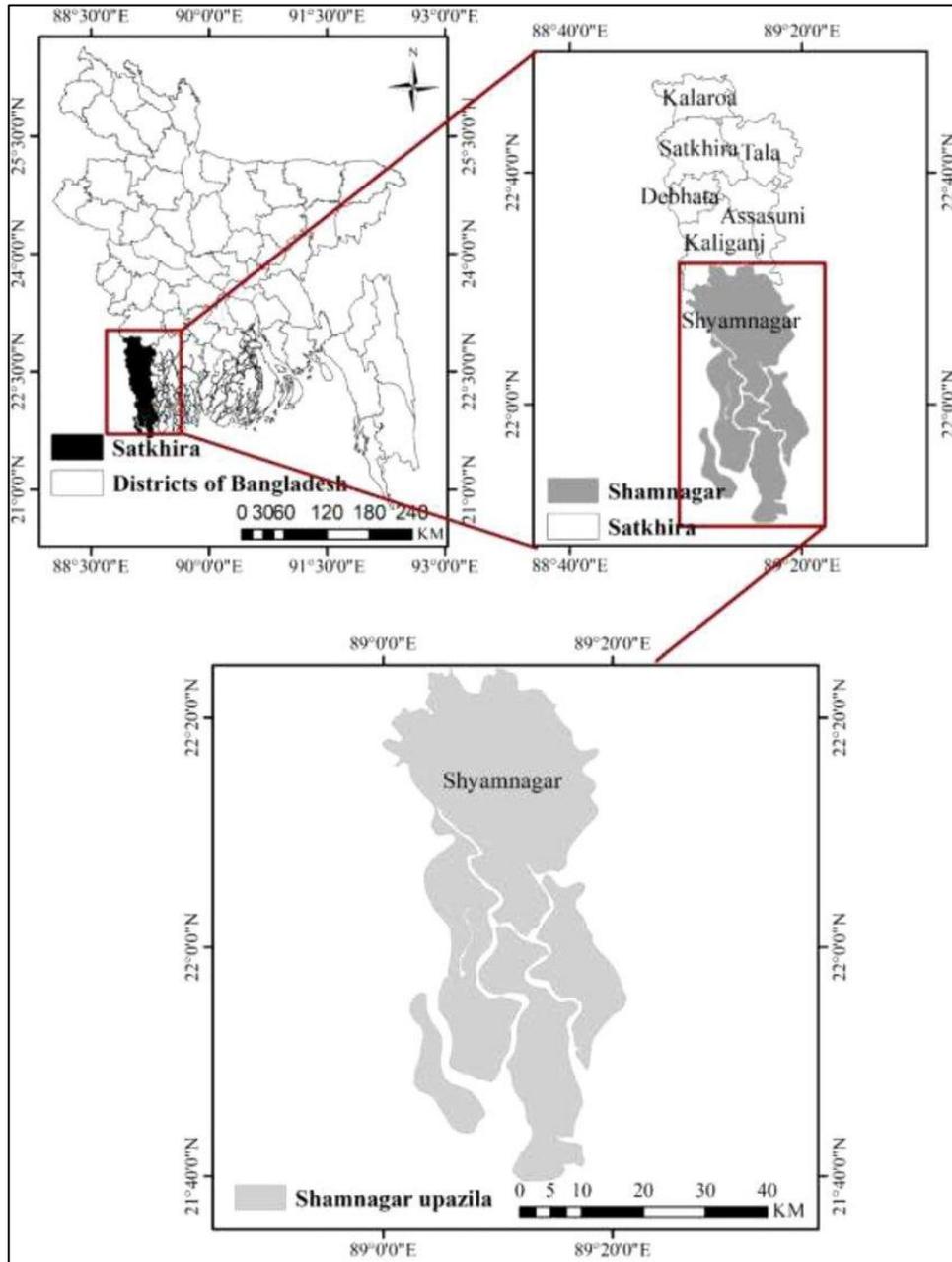


Figure 3.1. Map of Shyamnagar upazila in the Satkhira district of Bangladesh.

3.2.2 Participant Selection and Criteria

The qualitative nature of the study and the emphasis on thorough understanding led us to use a purposive sampling method. This non-probability sampling method allowed for the identification of individuals according to criteria that are pertinent to the research questions, which enabled the capture of a variety of perspectives of relevant stakeholders. Participants were selected based on the following criteria:

- NGOs engaged on the ground in adaptation work and evidencing a genuine interest in Climate Change Adaptation (CCA), particularly in LLA.
- Non-profit organizations working in climate vulnerable areas especially in Shyamnagar Upazila.
- Stakeholders directly engaged with adaptation activities, including NGO staff (at different levels: leadership, program managers, field staff), local government officials, community leaders, and project participants.
- A mix of gender and ages to gain a variety of perspectives, a reflection from the focus on structural inequalities in LLA.

3.2.3 Participants

The participants in this study were recruited from a wide range of organizations and community groups, so we attained a multi-level view of LLA integration:

Key Informants Interviews (KIIs): 06 Key Informants including 4 external experts together with 02 senior leaders from national/international NGOs (BRAC, Action Aid, ICCCAD, GCA, ULAB) who are not directly implementing the focal projects however have good knowledge on LLA and policy.

In-depth Interviews (IDIs): With a sample size of 10 (broken down as (1) project beneficiaries, i.e., community members, and (2) frontline staff from the NGOs/NGOs) of the LLA-matched project operations (e.g., LEDARS, YouthNet, UNDP).

Focus Group Discussions (FGD): FGD with 06 groups of community people involved with NGOs led project of BEDS, LEDARS and YouthNet Global). Each FGD attempted to include 6-8 participants to encourage interactive dialog and shared insights.

3.4 Data Collection Procedures

The collection of data lasted three months, between March and May in 2025. A purposeful sampling process was used for identification the potential participants. They made appointments at their convenience and in person (for FGDs/some IDIs) and through internet link (for KIIs/some IDIs). A few minutes/minutes before each interview or FGD, the interviewer fully explained the process and covered the aim of the study, anonymity and participants right to withdraw from the study at any time, to allay any concerns. A verbal consent was recorded in the presence of a witness. All interviews and FGDs were conducted by the author. A semi-structured format was flexible and allowed follow-up questions and further exploration of new emerging areas. All interviews were

audio-recorded with participants' consent to ensure verbatim and complete documentation of data. In addition, extensive field notes compiled during and directly after each session, noting non-verbal, contextual observations, and initial reflections, provided a supplement to the audio-taped sessions.

3.5 Data Management and Ethics

Ethical and robust processes for data management were central to the whole of study process. Confidentiality and anonymity were protected. All original audio files and transcriptions were securely stored on the researcher's password-protected computer as well as a back-up hard drive for data storage. Last but not the least, no monetary or non-monetary rewards were offered to participants in order to prevent any bias towards participation and resulting responses.

3.6 Data Analysis

The Inductive Thematic Analysis approach was selected to analyze the data, as the approach emphasizes the possibility of themes to arise solely from the raw data, which is most suitable when studying a phenomenon which knowledge may be partial or context specific (Elo & Kyngäs, 2008). The process was going through a series of iterations. All audio-recorded interviews and FGDs were transcribed word for word to ensure accuracy. Records were examined for completeness and clarity. Reading and re-reading of the transcripts several times to form a comprehensive view through the content, context and initial impressions, was used by the researcher to become immersed in the data (Elo & Kyngäs, 2008). This first immersion was important because it allowed us to find those patterns rather than superimpose our own assumptions. The data was line by line coded in sequence. Phrases or keywords were attached to sections of text which contained meaningful concepts, things, or actions. This open coding procedure resulted in a large set of initial codes in order to capture the richness of the data. Related codes were then combined into emerging sub-themes and broader themes. This included noting recurring themes and important concepts in the entire dataset. The four major elements of the theoretical lens facilitated the process: NGO Practice, Challenges, Strategies and Effectiveness of Strategies. During this stage, constant comparison was used, a fundamental process in qualitative analysis, in order to develop the thematic framework. Themes were cross-checked against the coded extracts and the full dataset to ensure that they meaningfully reflected the data and helped answer the research questions. This iterative process included comes of definitions, combined of similar themes or breakup of themes that were too general, making sure that the themes were mature and clear. Themes and sub themes were named and defined clearly so that they best described the concept in the codes and were consistent with the literature (Vaismoradi et al., 2013). The results of the study were communicated through a narrative, illustrating the findings with quotes from the participants in order to reveal a comprehensive picture of the data. A network map was created to visually illustrate how the strategies related to the eight LLA principles by degree of influence. The coding matrix is in Appendix B.

3.7 Limitations

This investigation has limitations; even with the most efficient methodology. The results are specific to Shyamnagar Upazila. Insights may be applicable to other climate-exposed areas but there is minimal direct generalizability. Further research may compare findings between different geographic groups in Bangladesh to identify broader patterns and context-specific nuances. Also, the information is self-reported, so subject to recall bias or social desirability bias. The time from availability of data to analysis was, albeit adequate for project needs, such that it failed to sufficiently support the ability to track LLA integration over time in a longitudinal fashion.

Chapter 4: Results

This chapter presents the empirical findings derived from the thematic analysis of qualitative data collected through Key Informant Interviews (KIIs), In-Depth Interviews (IDIs), and Focus Group Discussions (FGDs). The data collection involved NGO staff, LLA experts, and community members in Shyamnagar Upazila, Satkhira District, Bangladesh. The analysis is systematically organized around the four core components of the conceptual framework established in Chapter 2 directly addressing the study's research questions.

4.1 Introduction

This chapter presents the results of the study, "Exploring Effective Strategies for Integrating LLA into NGO Practices in Bangladesh," based on field data collected in Shyamnagar Upazila, Satkhira. The findings are organized by the four analytical components established in the research proposal—NGO Practice, Challenges, Strategies, and Effectiveness—and interpreted against the eight LLA principles (ICCCAD, 2022; Tye & Suarez, 2021). Data are drawn from six focus group discussions (FGDs), ten in-depth interviews (IDIs), and six key informant interviews (KIIs) with both project actors (NGO staff, local community) and external experts. Four focal projects explicitly claimed LLA alignment in organizational documents or interviews:

1. Institutional Capacity Building of the Local Self-help Group to Take Transparent, Accountable and Inclusive Climate Action, implemented by the *Bangladesh Environment and Development Society (BEDS)*.
2. Strengthening Livelihood Security of Climate Change Vulnerable People (SLSCCVP), implemented by the *Local Environment Development and Agricultural Research Society (LEDARS)*.
3. Community-based Resilience, Women's Empowerment and Action (CREA), LEDARS
4. Scaling-Up Inclusive Climate Resilience of Vulnerable Communities Through Locally Led Adaptation (ICRA), implemented by the Islamic Relief in collaboration with *YouthNet Global*.

Participants included committee members, women leaders, youth, farmers, and facilitating NGO staff. External KIIs involved national and international NGO/INGO leaders and LLA experts who are not directly implementing these projects. The following table provides a concise overview of the data collection methods and sources utilized for each component of the research framework, ensuring transparency and justifying the approach to data triangulation.

Component	Methods	Sources
Practice	FGD, IDI	Community, NGO actors
Challenges	KII, FGD, IDI	NGO actors, Community, Experts
Strategy	KII, IDI	Experts, NGO actors
Effectiveness	KII, IDI, FGD	Experts, NGO actors, Community

Table 4.1: Methods Summary by Component

4.2 Current Practice of LLA Integration into NGOs

This section explores the ways participating organizations operationalize LLA principles in their programs, addressing Research Question 1: "In what ways are LLA principles currently integrated and operationalised within NGOs?" The findings indicate that while LLA is a relatively new concept, many organizations were already practicing its core tenets, although without the formal terminology. The practice of LLA is largely viewed as a way to enhance community involvement and ensure interventions are context-specific.

4.2.1 LLA Framework Application in NGO Work

LLA principles are not formalized in Bangladesh's national policies, and their integration at the local level is mostly informal, with NGOs playing a supportive role rather than leading full-scale integration. Data indicates that LLA is perceived as a practical approach for local adaptation, representing an evolution from the earlier "donor-dependent" CBA model. Participating organizations acknowledge the difficulty, if not impossibility, of implementing all eight LLA principles in a single project, viewing them instead as guiding principles that projects should strive to align with. Furthermore, the Bangladesh government has not yet formally endorsed LLA.

"LLA principles are not yet formally included in the policy framework of Bangladesh."

"At that time, terms like 'locally led adaptation' didn't exist. The donors were focusing on CBA, but as they started understanding it, they realized it was becoming a donor-dependent approach."

This shows how LLA represents both a continuation and a corrective to past models of adaptation practice.

4.2.2 NGO Operational Role in LLA

Participating organizations perceive their role as supporting the government by providing technical expertise and filling resource gaps where government reach is limited. However, a critical observation is that many organizations tend to focus on the "output" of their work (e.g., delivering training) rather than ensuring the "use of output" (i.e., the practical application of knowledge by beneficiaries), which can compromise the long-term sustainability of interventions. This output-focused approach, coupled with a lack of coordination, often leads to duplication of efforts and inefficient resource allocation.

"Organizations aren't the primary implementers; they play a supporting role."

"Most of the organizations who come from the capital city only focuses till the output of the work but not the use of outcome. Without the use of outcome no project will not be successful."

This points to an operational gap between immediate deliverables and sustainable adaptation impact.

4.2.3 Local Decision-Making Mechanisms

Community involvement is a core component of NGO practice, but its effectiveness is varied. While some projects empower communities in decision-making and ownership, a persistent top-down mindset in other cases limits genuine participation. The data shows that NGOs are actively using bottom-up approaches by holding extensive consultations, FGDs, and KIIs with community members to gather information before designing project proposals. For instance, a local government initiative project prioritizes community needs and collaborates with local committees to make decisions. The establishment of a "community-led rice bank" further demonstrates local innovation and ownership.

"We take all the decisions from the community, we take part in community consultations, FGD, KII before developing a proposal."

"In a local government initiative project... we prioritize the community's needs and collaborate with local committees and the Union Parishad to make decisions."

At the same time, a persistent top-down mindset among some actors continues to constrain genuine empowerment, suggesting uneven practice across different initiatives.

4.2.4 Community Participation and Local Practices

The data highlights various forms of community participation, from active engagement in NGO-led projects to the spontaneous adoption of adaptive strategies. Community members in one study village, for example, have adopted agricultural innovations such as cultivating vegetables on lofts and in sacks to counter salinity intrusion. In another village, the community established "community-led rice bank", and "community-led seed bank," demonstrating local innovation and ownership over food security initiatives. These practices are often a blend of traditional knowledge and new techniques introduced by NGOs, showcasing a dynamic interplay between external support and local agency.

"We now grow salt-tolerant rice and vegetables, which survive even in saline conditions. This has significantly increased our food security."

"The community formed a youth club, which not only engages in social activities but also organizes festivals, strengthening social cohesion."

These findings highlight how local practices blend traditional knowledge with NGO-supported innovations, reinforcing the principle that adaptation is most effective when it draws from local agency.

4.2.5 Water Access and Management

The data consistently highlights the acute water crisis in the study area due to saline intrusion and erratic rainfall. Communities rely heavily on Pond Sand Filters (PSF) and rainwater harvesting as primary sources of potable water, while Reverse Osmosis (RO) water remains largely inaccessible due to cost. Efforts to manage water also include building and repairing embankments and lining canals for better drainage, often through collective action.

"PSF (Pond Sand Filter) is the main source of drinking water. It is freely accessible due to contributions from a local development organization and community self-funding."

"Drinking water scarcity remains the most pressing disaster; the only usable pond is over 1 km away."

Collective action in building and repairing embankments and canals has provided partial relief, underscoring the role of community mobilization in resource management.

4.2.6 Collective Action and Local Governance

Communities are forming groups and committees, such as a "Climate Resilient Group", to discuss climate issues, plan collective actions, and channel their voices to local authorities. The Union Parishad is often seen as a key liaison with NGOs, and community members are increasingly advocating for their needs, such as timely embankment construction and gender-inclusive disaster shelters. This demonstrates a growing capacity for self-organization and engagement with formal governance.

"A Climate Resilient Group, with 53 members, meets monthly to discuss... Disaster preparedness [and] Climate change awareness."

"Community members, with support from the media, are advocating for timely embankment building to prevent further land loss."

These cases reveal the growing political agency of local communities, who are gradually shifting from passive recipients to active claim-makers.

4.3 Challenges Faced During LLA Integration

This section outlines the significant barriers NGOs face in implementing LLA principles, addressing Research Question 2: "What key challenges do NGOs encounter in adopting and implementing LLA principles?" The findings suggest that these challenges are often systemic, stemming from a disconnect between local needs and national/international frameworks.

4.3.1 Centralized Finance and Policy Misalignment

A lack of formal national policy and rigid government regulations, particularly from the national NGO regulatory body, create significant hurdles for organizations trying to implement flexible, locally-led projects. The absence of a formal LLA policy in Bangladesh and a lack of alignment with existing national frameworks are major barriers. Regulations from the national NGO regulatory body, which require detailed and unchangeable activity lists in project proposals, directly conflict with the need for flexibility in LLA. Funding is consistently identified as the most significant barrier, as the current financing architecture is highly centralized, inflexible, and often unpredictable. This makes it difficult for funds to reach local communities and for organizations to adapt projects to changing realities on the ground.

"The main challenge is that LLA principles are not formally included in the policy framework of Bangladesh."

"The laws of the national NGO regulatory body require defining all the activities for approval... So, the biggest challenge lies within flexible funding and the conflict that arises among the rules and regulations of the donors and the government."

"The financing architecture in Bangladesh is highly centralized. Local governments often struggle to access the funds that are allocated to them."

4.3.2 Capacity Gaps (Local Government and Communities)

There is a widespread lack of capacity and awareness of LLA concepts among local government officials and community members. This is exacerbated by a lingering "relief mentality" in communities, where they are accustomed to receiving aid rather than leading initiatives, making it difficult for them to take on leadership roles.

"Many local governments struggle with capacity issues, and there's a lack of policy support for LLA integration."

"It's difficult to make them think outside the box and to get them to focus on long-term resilience building."

"The awareness of the people are not in a level that comprises of how to reduce their vulnerability."

4.3.3 Duplication and Weak Coordination

A lack of coordination among participating organizations and government bodies results in a concentration of efforts in a few communities, leading to duplication of work and an inefficient use of resources. This points to a need for a unified platform to share resources and avoid overlapping initiatives.

"We need a platform where all organizations working on LLA can come together, share resources, and avoid duplication of efforts."

"Duplication of work by different organizations is also a major problem. All the organizations will want to engage with the most vulnerable community."

4.3.4 Representation Gaps (Women, Youth, Marginalized)

Despite efforts by some organizations to promote inclusion, traditional power dynamics and socio-cultural norms can still limit the active participation and leadership of these groups. Youth voices, for instance, are often "undervalued at the union level" due to their age (FGD data) [cite: Final FGD Report_Aug2025.docx, 3998]. This indicates that while inclusion is a stated goal, achieving true representational justice remains a challenge.

"Gender balance in climate leadership and local planning is emphasized, but youth voices remain undervalued at the union level."

"Female members reported that they feel safer speaking to other women, especially within group settings."

4.3.5 Environmental/Infrastructure Vulnerabilities

This theme describes the specific climate impacts and existing infrastructure weaknesses that pose significant challenges to communities and adaptation efforts. The data reveals pervasive issues such as acute water scarcity due to saline intrusion, widespread damage to ponds and trees from tidal waves and cyclones, and declining crop yields. Communities also face health issues like uterine problems and high blood pressure linked to increased salinity. These vulnerabilities are often exacerbated by delays in government-led infrastructure projects, such as embankment construction.

"Water Crisis: Acute shortage of drinking water; underground water is saline. Rainwater is the main source of fresh water."

"Excess salinity has led to uterine health issues among women — 4 out of every 5 women in this region have had to undergo uterus operations."

4.4 Strategies Adopted to Overcome LLA Integration Challenges

This section details the proactive strategies participating organizations are employing to overcome challenges and advance LLA integration, addressing the first part of Research Question 3: "What strategies are employed by NGOs to promote and implement LLA principles?" These strategies are designed to build local capacity, foster collaboration, and create more flexible projects.

4.4.1 Institutionalizing LLA within Organizations

This goes beyond project-specific implementation to ensure LLA becomes an integral part of the organization's mission and operations. Participating organizations are working to "institutionalize LLA within their strategic planning," formalizing it as part of their long-term strategy. This involves ensuring that LLA principles are incorporated into the organizational structure and mission.

"The next step would be to institutionalize LLA within strategic planning."

"We ensured LLA principles are integrated into the organizational structure."

4.4.2 Capacity-Development for Local Leaders & Government

Participating organizations are actively working to develop the capacity of both community members and local government officials through various training programs, mentorship, and youth leadership initiatives. The goal is to equip local actors with the skills and knowledge necessary to understand climate risks, generate solutions, and manage adaptation initiatives independently.

"We aim to develop the capacity of youth so they can actively participate in LLA."

"Capacity development regarding LLA among union porishad, upazila porishod, local government representative, government representative and public is required."

4.4.3 Coordination Platforms and Resource Sharing

Recognizing the problem of duplication and fragmented efforts, participating organizations are actively seeking to create or participate in unified platforms that facilitate knowledge sharing, resource mapping, and joint planning. These platforms aim to streamline efforts, identify gaps, and create a more unified approach to LLA, ensuring that local communities are not excluded from the process.

"We need a platform where all organizations working on LLA can come together, share resources, and avoid duplication of efforts."

"Creating a centralized platform for coordination can help prevent overlapping efforts and ensure resources are effectively allocated."

4.4.4 Flexible/Patient Finance and Intermediated Models

Participating organizations are utilizing flexible funding mechanisms, such as keeping "unconditional grants," to allow communities to decide on activities as needs arise. Projects are also designed to allow for "learning by doing" and continuous reflection, making them more resilient to shocks. An example of an intermediary model is cited where bilateral funds are channeled directly to local civil society organizations, demonstrating a pathway for more accessible and patient funding.

"We also kept some undefined grant in this project... this money would be disbursed to support the activities that community people want to carry out."

"A funding mechanism in Bangladesh is a model for how a loss and damage fund can be operationalised to enable locally-led action and ensure funding reaches communities affected by climate-induced loss and damage."

4.4.5 Tailored, Community-Led Design

This involves moving away from standardized, top-down blueprints towards interventions that are co-created with local actors. The emphasis is on adaptive management and continuous learning, allowing for adjustments based on evolving conditions. Participating organizations ensure that the community's needs are considered by directly consulting with them and local government, and by designing interventions based on local input.

"We take all the decisions from the community, we take part in community consultations, FGD, KII before developing a proposal."

"We need more flexibility and adaptability in our interventions to make them more resilient to repeated shocks."

4.4.6 Gender and Inclusion Strategies

Organizations are employing strategies like gender-sensitive training, promoting youth leadership through clubs, and creating opportunities for women to take on leadership and financially independent roles. These strategies are crucial for challenging patriarchal norms and ensuring that marginalized voices are heard.

"In local development programs, gender-sensitive training is conducted, and women's participation in decision-making is prioritized."

4.4.7 Advocacy for Policy Reform

Organizations are actively working to push for policy reforms that support local decision-making and flexible funding mechanisms. This includes collaborating with policymakers and, in some cases, calling for international lobbying to address rigid donor regulations.

"We need to work closely with policy advocates to push for policy reforms that support local decision-making."

"An international lobby is required which will ensure that the funds from the donors disbursed to the organizations are flexible."

4.5 Effectiveness of Strategies

This section evaluates the effectiveness of the strategies employed by participating organizations, addressing the second part of Research Question 3: "...how effective are these strategies in achieving intended adaptation outcomes?" The findings suggest that LLA-aligned strategies are effective in enhancing community resilience, promoting accountability, and fostering long-term ownership. This effectiveness can be framed by the concept of a "triple dividend"—avoided losses, economic gains, and social/environmental benefits (GCA, 2019).

4.5.1 Increased Local Leadership

The data indicates that LLA-aligned strategies are effective in fostering local leadership, moving communities from being passive beneficiaries to active agents of change. The formation of local cooperatives that are now "actively participating in training programs, learning how to run businesses, and even linking up with private sector partners" demonstrates a clear increase in local leadership.

"The true success of LLA will be seen in the empowerment of local communities and their ability to continue adapting independently."

"We aim to develop the capacity of youth so they can actively participate in LLA and lead their communities in climate adaptation efforts."

4.5.2 Sustained Ownership Beyond Projects

The data suggests that strategies focused on long-term capacity building and fostering community ownership are effective in enabling communities to continue adaptation efforts and become self-sufficient after a project ends. This is crucial for ensuring the long-term viability of adaptation interventions and reducing dependency on external support.

"The true success of LLA will be seen in the empowerment of local communities and their ability to continue adapting independently."

"People who are engaged in adaptation activities with different organizations for at least 5 years will be able to continue adaptation efforts on their own."

4.5.3 Improved Inclusivity

The findings show that strategies focusing on gender-sensitive training, youth mobilization, and creating safe spaces for women have led to improved inclusivity. Women are increasingly taking on leadership roles and participating in financial decisions, challenging traditional patriarchal norms. This demonstrates a positive shift towards more equitable and representative adaptation processes.

"In local development programs, gender-sensitive training is conducted, and women's participation in decision-making is prioritized."

4.5.4 Tangible Adaptation Outputs and Services

The data provides numerous examples of enhanced resilience through tangible interventions. Community members are now using a "Community Rice Bank" to prepare for food insecurity, adopting salt-tolerant crops to counter salinity intrusion, and collectively repairing embankments to prevent flooding. These outputs directly contribute to improved food and water security and a reduction in climate-related impacts.

"The cooperative has brought us together; we now discuss and decide on issues affecting the community."

"We now grow salt-tolerant rice and vegetables, which survive even in saline conditions. This has significantly increased our food security."

4.5.5 Reported Readiness Gains

The data indicates that communities feel better equipped to cope with climate shocks due to increased awareness, improved coping mechanisms, and access to early warning systems. This reflects a shift from reactive responses to more proactive adaptation, demonstrating enhanced adaptive capacity and a greater sense of security among vulnerable populations.

"The community became significantly more aware and adaptive after a major cyclone, which was identified as the major turning point."

"We also need to track how they manage risks and vulnerabilities, and if their capacity to adapt has increased over time."

The following table provides a strong narrative that links the actions of the NGOs to the intended systemic change of LLA, using specific evidence from Shyamnagar to demonstrate the effectiveness of each strategy. The strategies are organized by their primary function, and the final column highlights all relevant principles reinforced by that activity.

Strategy	Activity / Implementation	Community-Level Impact/Effectiveness	Contributed to LLA Principles
1. Institutionalizing LLA within Organizations	Formalizing LLA principles within the organization's strategic planning and mission. Staff commitment is ensured through internal policy shifts.	Fosters Sustained Ownership Beyond Projects: Efforts continue actively after the NGO project cycle ends (e.g., Rice Banks, Seed Banks, and Self-Help Groups remain	P4: Investing in Local Capabilities: Ensures LLA is an organizational, long-term legacy, not a temporary project output). P1: Devolving Decision-making: Establishes power

		active). Reduces external dependency.	shift as a core organizational mandate.
2. Capacity-Development for Local Leaders & Government	Training local people, including women and youth on financial management, risk analysis, and resilient livelihoods (via Climate School, for example).	Improve local capabilities: Farmers' small self-help groups remain active and collaboratively offer advice and support after the NGO projects end.	P4: Investing in Local Capabilities: Directly equips local actors with the skills for independent management and resource mobilization. P5: Robust Understanding of Climate Risk: Training in Climate School provides the necessary knowledge for local, tailored risk analysis.
3. Flexible/Patient Finance and Intermediated Models	Utilizing "Unrestricted Grants" for community use. Pooled Funds (e.g., CBF) provide direct financial, organizational, and resource mobilization capacity support to local CSOs.	Reported Readiness Gains: Communities utilize flexible funds for timely, adaptive actions like small embankment repairs or purchasing emergency supplies.	P6: Flexible Programming and Learning: Allows for "learning by doing" and adaptive expenditure based on immediate shock needs. P3: Patient & Predictable Funding: Ensures resources are available when and where they are needed most.
4. Tailored, Community-Led Design	Co-creation of interventions; community members design the project priorities and activities. Indigenous knowledge is blended with scientific data.	Tangible Adaptation Outputs: Local people create Community Seed Banks to preserve native crop varieties. They adapt agricultural methods (e.g., loft/sack gardening) based on their own learning.	P1: Devolving Decision-making: Establishes local actors as Solution Designers. P6: Flexible Programming and Learning: Design accommodates continuous learning. P5: Robust Understanding of Climate Risk: Ensures solutions are context-specific by integrating local experience.
5. Gender and Inclusion Strategies	Gender-sensitive Training and creating Safe Spaces for women's planning. Promotion of women into financial and decision-making roles.	Improved Inclusivity & Agency: Women gain agency, actively engaging in income-generating, climate-resilient activities. Local women who received training now collaborate with the Union Parishad on disaster work, breaking social taboos.	P2: Addressing Structural Inequalities: Intentionally counters existing Patriarchal Norms to ensure broad participation.

6. Coordination Platforms and Resource Sharing	Participation in Unified Platforms (NGO-Local Government) for knowledge sharing and joint planning to avoid duplication of efforts.	Enhanced Community Resilience & Accountability: A youth-led NGO with significant female membership actively lobbies the Union Parishad and organizes human chains against illegal salinity intrusion.	P8: Collaborative Action and Investment: (Alignment: Eliminates the problem of fragmented efforts and promotes synchronized investment). P7: Ensuring Transparency and Accountability: Shared information and joint planning increase accountability to the community.
7. Advocacy for Policy Reform	Organizations lobby national and international bodies for flexible funding rules and policy alignment. Use successful local models as evidence for policy dialogue.	Provides the structural support: It is necessary for local efforts to scale. Increased Local Leadership is achieved as local success dictates national policy conversation.	P3: Patient & Predictable Funding: Challenges the central finance barrier, advocating for adaptable funding windows).

Table 4.2: Mapping NGO Strategies to Multiple LLA Principles and Community Impact

4.6 NGO, Community, and Expert Perspectives

This section provides a comparative overview of findings across different stakeholder groups, highlighting areas of convergence and divergence in their perspectives on LLA integration. This triangulation of perspectives offers a more holistic understanding of the phenomenon, enriching the interpretation of the results.

Topic	NGO Staff Findings	Participant Findings	Expert Findings
Practice	NGO staff perceive their role as facilitators, emphasizing efforts in coordination, partial flexible funding, and the use of accountability tools. They highlight the informal embedding of LLA principles within their operational strategies.	Community members describe active participation in committees, benefiting from WASH facilities, and engaging in local agricultural adaptation (e.g., sack gardening, salt-tolerant crops). They emphasize tangible project aspects and local innovations.	Experts confirm the facilitative role of NGOs and their efforts to integrate LLA principles into existing programs. Their perspectives often focus on the broader strategic alignment and policy implications of these practices, noting the informal nature of LLA application.

Challenges	NGO staff consistently identify funding rigidity, duplication of efforts, and limited government capacity as major challenges. They also note awareness gaps regarding LLA among communities and local officials.	Community members primarily experience challenges related to acute water scarcity, fragile infrastructure (e.g., damaged embankments), and a lack of awareness regarding transparency in project funds. They also highlight direct climate impacts like declining crop yields and health issues.	Experts corroborate the systemic issues of centralized finance, policy misalignment, and duplication of efforts as significant barriers. They also point to broader issues like lack of political will, insufficient understanding of LLA at various levels, and the persistence of a "relief mentality" in some communities.
Strategies	NGO staff emphasize capacity building for local leaders, forming alliances, and engaging in policy advocacy to overcome barriers. They also highlight efforts to institutionalize LLA internally and adopt flexible project designs.	Community members describe their own local innovations (e.g., gardening on lofts, community-led rice banks) and the benefits of small grants that empower them to take action. They focus on practical, grassroots-level solutions that are tailored to their immediate needs.	Experts endorse strategies such as flexible, multi-year finance, intermediated fiduciary support (e.g., Climate Bridge Fund), iterative/learning designs, and capacity building for both community and local government. They validate the strategic importance of these approaches for scaling LLA.
Effectiveness	NGO staff report high effectiveness in gender integration and collaboration, moderate effectiveness in funding flexibility and transparency. They observe LLA leading to increased local ownership and enhanced community resilience.	Community members report gains in water access and increased leadership within their groups. However, they express concerns about finance (e.g., affordability of RO water) and infrastructure (e.g., delayed embankment repair), indicating unevenness in perceived effectiveness.	Experts confirm increased local leadership, sustained ownership, and improved inclusivity as key outcomes. They also highlight the tangible adaptation outputs and readiness gains, while acknowledging that challenges in long-term sustainability and accountability persist due to systemic issues.

The following diagram demonstrates how the key strategies identified in the data strengthen the eight LLA principles.

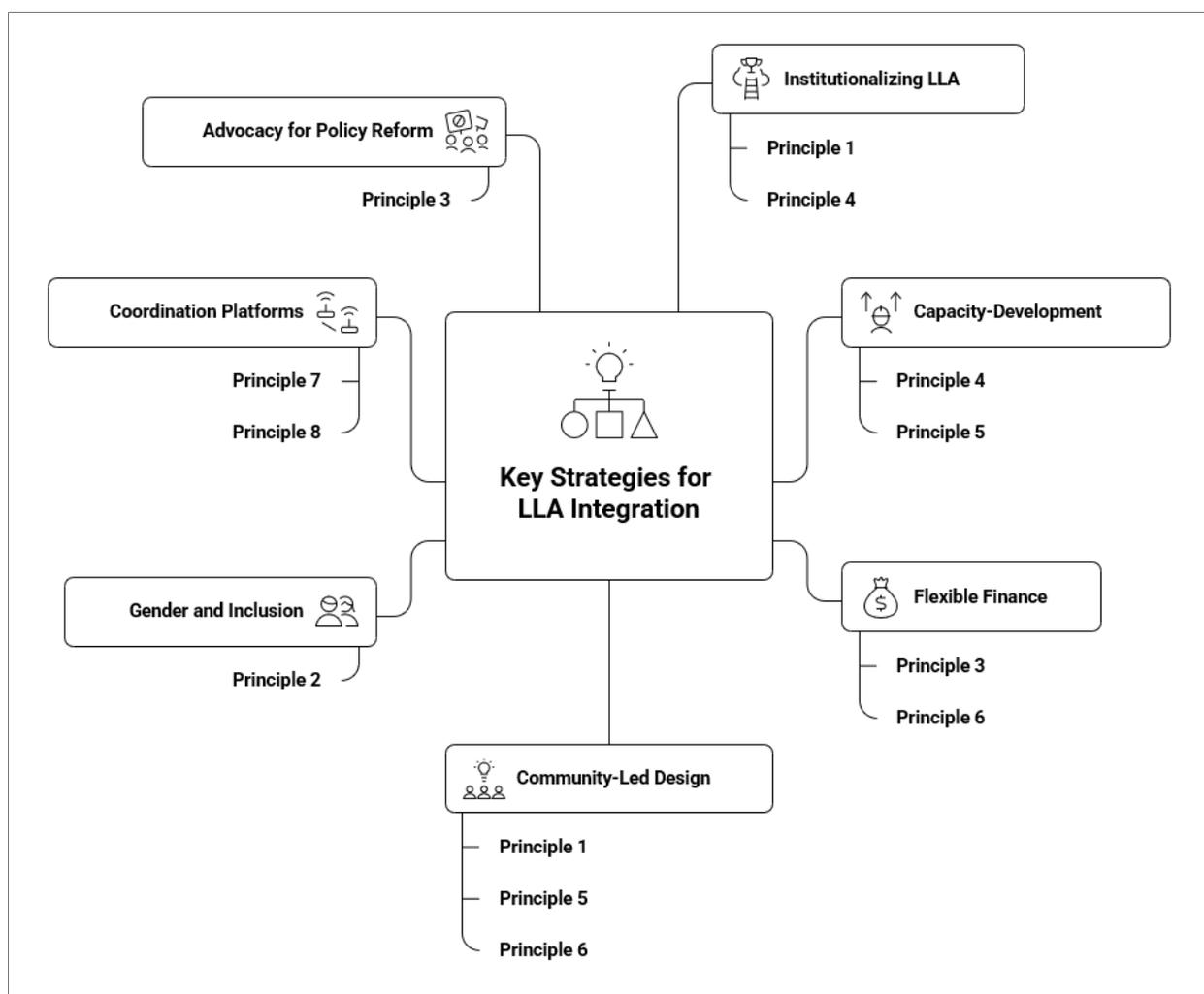


Figure 4.1: Network Diagram Mapping Strategies to LLA Principles

The diagram presented in Figure 4.1 is based on the results of this study, illustrating the effectiveness of various strategies in strengthening the eight core principles of Locally Led Adaptation (LLA). In the diagram, high-effectiveness strategies are represented by bold connections, demonstrating their significant contribution to advancing key LLA principles. These strategies include community-driven strategies, gender and inclusion strategies, and collaborative action & advocacy, which align with principles like devolving decision-making, ensuring transparency and accountability, and promoting collaborative action. On the other hand, medium-effectiveness strategies, such as institutional & capacity building and flexible & adaptive design, are represented by dotted lines, indicating their moderate impact on principles like investing in local capabilities and flexible programming.

4.7 Synthesis and Conclusion

The findings presented in this chapter demonstrate both the promise and the complexity of LLA integration in the context of NGOs working in Shyamnagar. The evidence highlights that while LLA is not yet formally institutionalized in Bangladesh's national policy framework, NGOs and communities are already experimenting with its principles in practice. Their efforts are largely informal, adaptive, and community-driven, ranging from sack gardening and rice banks to the establishment of Climate Resilient Groups and women's cooperatives. These practices demonstrate significant local innovation and agency, though they often remain fragmented and heavily dependent on NGO facilitation. At the same time, systemic barriers including centralized finance, regulatory rigidity, limited institutional capacity, and environmental stressors constrain the potential for scaling and sustaining these practices. The persistence of duplication, representation gaps, and delayed infrastructure projects illustrates how broader governance and financing architectures shape the local adaptation landscape. Despite these challenges, NGOs and communities are not passive. They are actively deploying strategies that respond to contextual constraints, including advocacy for policy reform, institutionalization of LLA within organizations, capacity-building for both community actors and government representatives, and the creation of shared coordination platforms. These strategies are supported by innovations in financial flexibility and context-specific, community-driven project design.

The effectiveness of these strategies is evidenced by notable outcomes: strengthened local leadership, growing inclusivity, tangible adaptation outputs, enhanced readiness, and emerging accountability practices. While gaps remain in sustaining these gains beyond project cycles, the findings suggest that LLA-aligned approaches are fostering a shift from externally driven aid to locally led resilience-building. Overall, the analysis underscores that LLA integration is not a singular process but a negotiated practice shaped by community agency, NGO facilitation, systemic barriers, and adaptive strategies. The results provide a strong empirical foundation for the subsequent discussion, where these findings will be critically analysed in relation to the theoretical framework and existing literature.

Chapter 5: Discussion

This chapter draws together the empirical evidence presented in Chapter 4 with wider academic and practitioner discussions of LLA. It reads the findings not as descriptions alone, but a participation in ongoing debates about what are the promise and perils and potentials of LLA (Rahman et al., 2023). The conversation is organized around the four analytical features (practices, difficulties, strategies, and effectiveness) related to, and highlighted with the 8 LLA principles (Soanes et al., 2021; ICCCAD, 2022). In doing so, it draws local experiences in Shyamnagar into broader discourses on climate governance, adaptation finance and development practice.

5.1 Key Findings

5.1.1 NGO Practice of LLA Integration

Lessons from the complementary study in Shyamnagar show that organizations have been incorporating LLA principles into their work to varying degrees, most of the time in more subtle and ad-hoc ways, before LLA was articulated at the global level. This is consistent with critiques in the literature that LLA is not a one-size-fits-all framework but a mutable one that capture processes, that legitimates already undertaken community-based adaption practices (Tye & Suarez, 2021). The findings indicate that participating organizations had already started focusing on building resilience and empowering the marginalized long before “LLA” became an official term. This is consistent with global adaptation scholarship, where Africa- and Asia-based projects frequently applied components of LLA, such as participatory design and community ownership—without naming it (Soanes et al., 2021). This history reaffirms the claim that LLA is a reframing and codifying of pre-existing practices rather than a wholly new model. Yet despite the commotion regarding frugal water purification, the lack of formal acceptance within national policy in Bangladesh presents a missing link echoing criticism of the absence of harmony between grassroots ingenuity and policy approval (Rahman et al., 2023). The data also acknowledges PBA as a development from past “donor-dependent” models of CBA, which sought to address their limitations (KII data; Schipper, 2020).

In Shyamnagar NGOs in general both strive to act as facilitators to the local government and community rather than standalone providers. This is consistent with the LLA ethos of investing in local capacities, and building institutional legacies (Soanes et al., 2021). However, the micro-evidence highlights a note of caution against a continued focus on an output-led approach, where organizations only deliver training and infrastructure without ensuring that there is continued “use of output”. This is a criticism also voiced in the adaptation literature, where project-based interventions are considered as short-term, donor-driven interventions (Ensor et al., 2019). Participatory projects are at risk of low sustainability without explicit consideration of long-term uptake.

Local governance approaches such as participation of the population in the discussion of projects, focus group discussions and participatory proposal development which emphasize inputs from the bottom of the pyramid in decision making processes. Opportunities in terms of taking this further fit squarely with LLA's foundational principle of subsidiarity – intervening at the most proximal possible level of analysis (Soanes et al., 2021). Both the community run rice bank and sack garden in salinity are examples of incorporating indigenous knowledge in relation to adaptation, which is a recurring point in the literature on hybrid knowledge systems (Archer et al., 2014). These examples illustrate agency and the innovation of communities in turning vulnerabilities into strategies for resilience, rather in contrast to traditional paradigms which saw communities predominantly as beneficiaries (Tye & Suarez, 2021).

The establishment of Climate Resilient Groups and relationship with local government institutions mean there is a developing trend of collective action and governance. These practices reflect demands for 'polycentric adaptation governance' in which actors exercise responsibility and authority across scales (Ostrom, 2010). Crucially, these community structures are not only consultative but also increasingly advocacy-oriented, pressuring local governments and entities to act on issues like embankment repairs and gender inclusive shelters. This reflects the developing local political capacity: from receiving passively to making active claims.

LLA is being promoted by organizations in Shyamnagar through bottom-up process, ethnic innovations and collective governance mechanism. But the sustainability of these initiatives is challenged by an emphasis on outputs over long-term outcomes and a lack of formal national policy support. This is both an opportunity and a threat: on the one hand, communities are showing agency and being innovative, but without institutional embedding, their efforts could be fragile.

5.1.2 Challenges Faced During LLA Integration

Although significant progress has been made by organizations and communities working to operationalize LLA, systemic and practical hurdles remain. These challenges are mirrored in international evaluations of adaptation governance, with finance barriers, poor coordination, and persistent inequalities (both between and within countries) cited as issues (Soanes et al., 2021; Rahman et al., 2023).

The results demonstrate that there is a lack of existence of formal LLA policy in Bangladesh and the rigidity in the country NGO regulatory committee guidelines in which has predefined and non-flexible framework for work. This would also be contrary to the agile, adaptive approach of LLA. The adaptation finance literature has repeatedly highlighted that global and national systems are rather top-down: less than 10% of climate finance reaches local actors directly (Soanes et al., 2019). The case of Shyamnagar also mirrors a characteristic structural problem: while local actors innovate, systemic financial and regulatory conditions limit the extent of their initiatives, confirming the "10% problem" (Soanes et al., 2017).

A cross-cutting gap is around capacity levels, and awareness, within the LG sector and with communities in terms of applying LLA approach (Chapter 4 – Section 4.3.2). Many local government bodies lack technical knowledge, and communities are mired in a “relief mentality.” These findings concur with criticism that LLA risks romanticizing local agency at the expense of structural constraints (Eriksen et al., 2021; Musah-Surugu et al., 2017). Absence of continued investment in technical and institutional support can result in communities being saddled with duties for which they are not well-prepared, to the detriment of LLA adoption.

The inefficiency of fragmented adaptation governance is exemplified by the problem of duplicate operations by multiple organizations in the same villages without coordination. This is a phenomenon that has been reported internationally to lead to duplications and waste of resources (Nagoda & Nightingale, 2017). The appeal for joint multiple-end platforms in Shyamnagar recognises the role of coordination devices to coordinate resources in order to avoid overlaps, in line with the LLA’s ‘cooperating’ principle (Soanes et al., 2021). Despite specific targeted actions at inclusion, women, youth and marginalised categories are still left out from decision making bodies (Chapter 4, Section 4.3.4). Youth voices, in particular, were undervalued at sub-national levels of government, indicating the persistence of micro-politics. This mirrors published findings that LLA can unintentionally perpetuate inequalities without attention to power relations within communities (Ribot, 2014; Rahman et al., 2023). Gender-sensitive approaches and spaces of participation are vital, however they are unevenly practiced, suggesting the difficulty in reaching real representational justice (Jannat & Kusakabe, 2024). The study’s areas high water stress, health issues caused by salinity, and infrastructure delays (e.g. embankments) highlight the way environmental vulnerabilities compound challenges of adaptation. The concept of “double exposure” (Leichenko & O’Brien, 2008) in the literature provides an explanation for these processes: climate impacts interact with institutional and infrastructural limitations to increase risk, necessitating an integrated and resilient adaptation response.

The obstacles to LLA integration in Shyamnagar are not so much those of community motivation as of systemic bottlenecks — centralized funding, poor coordination, and deepening inequity. These results reflect criticisms of the international level, that global norms, while promising equity and empowerment, are put into practice in such a way that place-based actors, or in this case place-based industries, are positioned in situations over which they have little control.

5.1.3 Strategies Adopted to Overcome LLA Integration Challenges

Despite institutional challenges, involved actors and the local communities are using innovative techniques which are an example of adaptive management in action. They also demonstrate the potential of LLA and the tensions in implementing it in constrained settings. Advocacy at both national and international levels for flexible finance and supportive policy environments is undertaken by organizations. This is consistent with demands for ‘vertical integration’ of adaptation governance, connecting local experience and actions to national and global policymaking in the literature (Dzebo & Strippel, 2015). Advocacy is also an attempt to confront

entrenched donor conditionality, with partial success. Efforts by organizations to inculcate LLA into organizational visioning, such as a project by a large NGO to institutionalize LLA into long-term planning, are an important movement from project-based to structural integration. This resonates with the LLA principle of investment in institutional memory to maintain continuity way beyond individual projects (Soanes et al., 2021). This approach is designed to make LLA an organic part of the corporate mission. Building capacity surfaced as a strategy of importance. Training, mentorship, and leadership programs are also carried out by the organizations to achieve empowerment among Youth, Women, Local government officials. This directly addresses the identified gaps and reflects international calls for “learning by doing” on adaptation (Archer et al., 2014). By providing communities with access to knowledge and by training leaders, organizations strive to break the culture of dependency toward more self-sufficiency, as LLA Principle 4 attests.

Call for a centralized coordination platform mirrors advice for a polycentric governance whereby multiple governors coordinate without central control (Ostrom, 2010). Such platforms might avert duplication and encourage shared learning but their success depends on political will and sustained resourcing. This directly aligns with LLA Principle 8: Collaborative action and investment (Soanes et al., 2021). Some organizations are testing flexible finance, such as providing longer-term uncommitted grants for community- led initiatives. One model, the Climate Bridge Fund (CBF), showcases efforts at localizing climate finance by way of directly managing funds through local civil society organizations, echoing global discussions on intermediated funding mechanisms designed to circumvent bottlenecks between donor-government relations (Soanes et al., 2021; BRAC, 2022). This all speaks directly to LLA Principle 3: Stable, predictable funding for patients.

Collaboratively designed interventions to support adaptive management reflect LLA’s iterative, learning focused approach. They countervail the hardening behavior of top-down designs and fit with adaptive management approaches often advocated in climate governance (Pahl-Wostl, 2009). This approach also supports LLA ‘Flexible programming and learning’ (Principle 6). Deliberate strategies that mainstream gender equality and social inclusion, e.g., gender-sensitive training and youth mobilization, are key to challenging patriarchal norms and to make sure those with the least power have a say. These efforts are critical for promoting authentic LLA, which inherently attempts to challenge structural injustices (Soanes et al., 2021), which is consistent with LLA Principle 2.

There are plenty of organizations in Shyamnagar that are not just passive victims of system-level obstacles – they’re trying their hand at advocacy, institutionalizing, flexible finance and even interactively designing with others. They illustrate principles of adaptive governance but they also demonstrate constraints: NGO action is innovative but precarious in the absence of changes in finance and policy.

5.1.4 Effectiveness of Strategies

The approaches pursued by participating institutions in Shyamnagar have observable benefits in advancing the outcomes concerning LLA, but their effects differ in terms of depth and sustainability. The effectiveness of NBS can be understood in reference to the “triple dividend” of avoided losses, economic returns, and wider social–environmental co-benefits (GCA, 2019).

Findings indicate that there has been move from “passive recipients” (of adaptation interventions and information in thatch leaflet) to “active leaders” of adaptation interventions within communities (Chapter 4, Section 4.5.1). Examples of such forward-looking leadership transitions include the establishment of cooperatives, which work with private sector players, assume business responsibilities. This is consistent with the study of Rahman et al. (2023) who contend that empowerment related to LLA is not only about participation but also about the “ability to initiate or sustain collective actions”.

One of the greatest potential impacts is the sustainability of the adaptations well beyond the life span of the project. Individuals within the community who have received training for multiple years state they can now maintain their organizations on their own. It reflects the principle of leaving behind legacy capacity (Soanes et al., 2021) – investing at a local level pays dividends over time. Yet, sustainability is uneven and some approaches remain at risk due to resource shortages. More and more, gender-responsive and youth-focused approaches are changing social norms. Women are already assuming leadership roles and decision-making that challenge the patriarchal paradigm, while the youth are expressing stronger and stronger voices in favor of climate action. These results are consistent with international literature that state how inclusive involvement reinforces equity and also improves the adaptation quality (Eriksen et al., 2021). However, persistent representation shortfalls indicate that inclusivity steps have been incomplete and context specific.

Concrete interventions such as community-led rice banks, sack gardening, and salt-resistant crops represent tangible reminiscences of the practical outputs of LLA. These advancements also directly tackle food and water security and lessen vulnerability to climate episodes. These findings reinforce suggestions that LLA builds the adaptive capacity by rooting adaptation in locally applicable, context-specific remedies (Archer et al., 2014). Better readiness among the communities to face future climatic events, manifested through enhanced knowledge, improved coping strategies and greater access to early warning systems. Such “perceived gains” of readiness may indicate a movement towards anticipatory adaptation. This result is consistent with Pahl-Wostl’s (2009) view that adaptive capacity is technical and social learning in a context, where over time exposure to shocks builds preparedness. LLA integration approaches taken by NGOs work well in enhancing leadership, ownership and inclusivity as well as in generating concrete adaptation outputs. However, they are not all equally effective: some communities are very

independent, while others are still resource-poor. The potential of LLA resides in these localized cases but their fragility underscores the necessity of an enduring institutional and financial support.

5.2 Implications for Policy and NGO Practice

The findings bear important implications for climate governance policy and NGO practice in Bangladesh, especially in terms of the way in which LLA could be scaled without losing the locally rooted ethos.

5.2.1 Policy Implications

- Lack of a formal LLA policy is a structural challenge. National level endorsement of the principles could be a first step in bringing national NGO regulatory bodies into line with the flexible and iterative requirements of LLA. This reflects calls in the literature for the integration of LLA in national adaptation plans and frameworks (Soanes et al., 2021).
- The relatively centralized structure at present means that funding does not get effectively down to the local level. Models such as the Climate Bridge Fund are promising for providing predictable, accessible, and flexible finance, but are in need of institutional scale-up and donor support (BRAC, 2022).
- The absence of well-resourced local structures leaves local actors overstretched. It is necessary to devolve training, resources and decision-making to local government for institutional LLA.

5.2.2 NGO Practice Implications

- Effective organizations need to focus on the “use of outcomes” and not just on delivering the trainings or inputs. There is a need for continuing involvement and oversight in order to maintain project results in implementation.
- Organizations should invest in creation of institutional legacies by training and mentoring local leaders, especially youth and women, in governance, financial management, and advocacy. These investments decreased reliance on outside actors and bolstered community resilience over time.
- Institutions have to develop participatory mechanisms, culturally-grounded, that can effectively deal with constraints, such as a relief-mentality and male dominant norms. Establishing safe women spaces and youth leadership platforms are key to inclusivity.
- Flexible project designs will continue to be necessary. Co-developed interventions and loose grants represent how flexibility can be designed into project structures, enabling them to respond to shifting climate realities.
- Organizations should actively reinforce coordination via multistakeholder partnerships. They can be more effective by pooling resources and no longer duplicating efforts.

The enabling environment for LLA should be created through the decentralization of finance, the endorsement of principles of good governance, and the reinforcement of local governance by policy reforms. For organizations, meanwhile, this involves making sure that impact runs deep—shifting from outputs to outcomes, investing in institutional legacies and embracing truly

participatory practices. Together, those changes could help LLA graduate from being fragmented local experiments and become a standardized national approach.

5.3 Connecting Findings to Research Objectives

This chapter makes direct connections between Chapter 4's findings and research objectives as specified in Chapter 1 and reveals how the current research has fulfilled the objectives.

Objective 1: To investigate the extent to which LLA principles are integrated into the practices of NGOs and to analyze the challenges that influence their adoption and implementation.

The results target the degree of LLA integration. Topics like "LLA Framework Application," "Local Decisions-Making Mechanism," "Integrating Gender and Social Equity" offer strong evidence on how LLA principles are informalized and implemented within NGO practices. An analysis of the obstacles to adoption and implementation is presented. Issues such as "Centralized Finance and Policy Misalignment," "Capacity Gaps (Local Government & Communities)," and "Duplication & Weak Coordination" capture empirical realities of challenges that organizations experience in terms of systemic and practical roadblocks. This directly confirms the first research aim by illuminating the level of integration and the barriers.

Objective 2: To identify and critically evaluate the strategies employed by NGOs to promote and implement LLA principles, and to assess the effectiveness of these strategies in achieving desired adaptation outcomes.

Chapter 4 outlines the strategies of NGOs. Themes on proactive responses include "Advocacy for Policy Reform," "Institutionalizing LLA in organizations," and "Flexible / Patient Finance and Intermediated Models. Section 4.5 reviews the extent to which they are effective in delivering the successful outcomes in adaptation that are sought. Categories such as "Greater Local Leadership," "Continued Ownership Beyond Projects," and "Clear Adaptation Results and Services" offer tangible assistance for the beneficial effects. The "Network Diagram: Mapping Strategies to LLA Principles" presents in more detail how strategies are directly connected to LLA principles and consolidates the second research objective that they can be used as means to develop resilience and ownership.

5.4 Methodological Reflections

The qualitative approach of the study, which used KIIs, IDIs and FGDs proved very helpful in gaining diverse views. The triangulation of NGO heads, local staffs and community members ensured a multiple-layered understanding of LLA. This coincides with methodological arguments that participatory and qualitative research methodologies are especially suited for studies of adaptation as insights that are intimate and grounded are paramount (Ensor et al., 2019).

This inductive approach through thematic analysis supported the development of grounded themes, which reflected and remained close to participants' experiences rather than applying existing concepts during the direction and interpretation of the results. Meanwhile, by anchoring analysis into the three LLA principles, it was possible to directly compare the paper with more general scholarship, thereby increasing both the validity and theoretical contribution.

5.5 Limitations and Future Research

This research, like any other, has limitations that shall guide future efforts.

- The results are limited to Shyamnagar Upazila. The plausibility of generalizing findings across Bangladesh, however, necessitates additional examination. Further studies may carry out comparative studies in diverse geographical characteristics of Bangladesh to understand more general patterns as well as to preserve contextuality.
- As a cross-sectional study, this research only presents LLA-in-practice in a static view. Longitudinal research is required to ascertain the durability of present leadership, ownership and inclusivity gains over time, and the long-term effects of LLA strategies on community resilience and sustainability.
- The qualitative evidence was strong enough to demonstrate effectiveness, and future research may incorporate quantitative approaches, such as household-level resilience indices or cost-benefit analyses, which can enhance the measurement of impact and contribute to a greater understanding of the social and economic benefits.
- Although the research started this work by understanding power dynamics and representation gaps, an in-depth analysis deploying specific theoretical perspectives - such as critical discourse analysis or intersectionality frameworks - would add greater depth towards unpacking how inequalities subtly continues to exist in LLA initiatives and how these can be more effectively addressed.

The analysis highlights that organizations and communities are initiating wellbeing and LLA orientated processes, using participatory design, capacity building and advocacy to advance their own understanding in the face of systemic barriers in finance, policy and governance. The methods used illustrate the scale at which LLA is promising and precarious: communities can demonstrate agency and innovation, but its sustainability depends on support systems that are frequently underdeveloped. Ultimately, the research adds to an understanding of LLA as promise and contested practice. It also highlights that while local actors are resilient and assuming leadership, the transformative potential of LLA can only be harnessed if it is accompanied by structural changes in national policy, in financing modalities, and in the practices followed by NGOs. The results offer both vindication and a warning: LLA can succeed, so long as it is rooted in real local ownership and backed by systemic transformation.

Chapter 6: Conclusion

This final chapter summarizes the key conclusions drawn from the research about how Locally Led Adaptation (LLA) principles are embedded into NGO practices in Bangladesh. It synthesizes the results on the current customs, difficulties and solutions, and their resulting impact.

The purpose of this study is to bring up to what extent LLA integrates into CSOs of Shyamnagar and realize the challenges attached with it, how much beneficial are the techniques applied. The results expose a complex scene where LLA is implicitly practiced and explicitly sought, but runs up against deep-seated system-level constraints. *First*, in respect to how LLA are currently practiced within NGOs, the research suggests that many NGOs in Bangladesh are working in the LLA mode of working (though not always formally endorsed as LLA or labeled as an LLA project). NGOs are bursting with Flowing community driven decision-making, bottom-up approaches to project design and local ownership. In addition, incorporating gender and social equity are best practice areas, with explicit steps to empower women and youth through adaptation activities. These approaches represent a fundamental congruency with LLA principles, which are frequently grounded in organizational values rather than the imposition of new policy directions and serving to highlight an emergent status of LLA as a "framework-in-waiting". *Second*, the study highlights some of the significant barriers that NGO's face in mainstreaming and operationalizing LLA. The main of these include a centralized finance and policy disconnect, in which the absence of an overarching LLA policy in Bangladesh and strict governmental regulations (in particular by the national NGO regulatory institution) act as significant barriers for both flexible financing and community led models. Unpredictable funding and financial restrictions, with donor modalities fixed in rules, severely constrain funds from reaching local level. Moreover, there are wide-scale capacity and knowledge gulfs between local government and community members and a recurring "relief mentality" has impeded the authorship of genuinely local responses. Finally, the duplication and poor coordination of activities of NGOs results in wastage of resources and lack of synergy. These are structural problems, originating in a lack of alignment between the local necessities and national and international logics. *Third*, with regards to NGOs' strategies to advocate and adopt LLA principles the discussion points to proactive ways of addressing those obstacles. Advocacy for policy change, cooperation with policy makers, as well as international lobbying to replace funding rigidities is pursued by NGOs. They are beginning to institutionalize LLA into their organizations' decision-making, incorporating principles into long-range planning. Substantial resources are invested in developing the capacity of local political and state administrators, and in growing communities and local governments. The use of flexible and adaptable project designs, such as "unspecified grants," permit response to changing local circumstances. Also, targeted gender and inclusion strategies are being pursued by NGOs to secure equal participation and leadership. Together, these tactics represent a pragmatic attempt to address structural and situational barriers. *Finally*, in terms of the success of these strategies, the studies concludes that LLA-aligned interventions are successful in achieving desired adaptation outcomes contributing to a 'triple dividend' of avoided losses, economic gains' and social and environmental benefits

(GCA, 2019). Tactics have resulted in the growth of local leadership, as communities become involved in and spearhead strategies. These fostered community ownerships which went beyond projects and reduced dependence on external support. Evidence of enhanced representation and inclusivity, especially of women and youth, in decision making has also been reported. The approaches have led to concrete adaptation outcomes and services (including community rice banks and salt-tolerant varieties) as well as reported increases in preparedness with communities feeling more prepared for climate changes and shocks. These results are indicative of steps to greater locally sustainable community-based adaptation pathways.

The integration of Locally Led Adaptation principles into NGO practices in Bangladesh represents a critical pathway towards achieving equitable and effective climate action. While significant strides have been made in operationalizing LLA at the grassroots level, persistent challenges related to policy, finance, and capacity continue to hinder its full potential. By embracing the implications outlined in this study, NGOs, government bodies, and donors can collectively foster an enabling environment that truly empowers local actors, strengthens community resilience, and contributes to a more just and sustainable future in the face of intensifying climate change. This research underscores that genuine LLA is not merely an approach but a transformative imperative, requiring concerted effort and a fundamental shift in traditional power dynamics.

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Appendix A: List of Acronyms/Abbreviations

BEDS: Bangladesh Environment and Development Society

CBA: Community-Based Adaptation

CBF: Climate Bridge Fund

CCA: Climate Change Adaptation

CCP: Climate Change Programme (BRAC)

CREA: Community-based Resilience, Women's Empowerment and Action (LEDARS)

DLP: District Level Platform

FGD: Focus Group Discussion

GCA: Global Center on Adaptation

ICCCAD: International Centre for Climate Change and Development

ICRA: Scaling-Up Inclusive Climate Resilience Through Locally Led Adaptation (YouthNet Global)

IDI: In-Depth Interview

IIED: International Institute for Environment and Development

IPCC: Intergovernmental Panel on Climate Change

KII: Key Informant Interview

LAPA: Local Adaptation Plan of Action

LEDARS: Local Environment Development and Agricultural Research Society

LLA: Locally Led Adaptation

LoGIC: Local Government Initiative on Climate Change (UNDP)

M&E: Monitoring and Evaluation

NAP: National Adaptation Plan

NGO: Non-Governmental Organization

NPLLA: National Platform on Locally-Led Adaptation

PSF: Pond Sand Filter

RO: Reverse Osmosis

SLSCCVP: Strengthening Livelihood Security of Climate Change Vulnerable People (LEDARS)

UDMC: Union Disaster Management Committee

UNO: Upazila Nirbahi Officer

ULAB: University of Liberal Arts Bangladesh

WASH: Water, Sanitation, and Hygiene

WRI: World Resources Institute

Appendix B: Codebook for Thematic Analysis

This table provides a comprehensive overview of the coding framework used in the thematic analysis, systematically organizing themes, their definitions, and the relevant codes identified for each research component.

Research Component	Theme	Definition	Relevant Codes
1. NGO Practice	LLA Framework Integration	This theme examines how Locally Led Adaptation (LLA) principles are integrated into organizational practices, particularly by NGOs, and whether these principles are formalized in policies. It includes an assessment of whether LLA principles are recognized at the national policy level, and how they are operationalized in practice.	LLA as a framework; LLA vs. CBA; spectrum of principles; evolving concept; lack of formal policy; informal integration; government endorsement
	NGO Operational Role in LLA	This theme addresses the role of NGOs in Locally Led Adaptation, focusing on how they assist or lead in the implementation of LLA strategies. It also looks at how NGOs interact with local governments and communities, especially considering challenges like duplication of efforts and the lack of coordination.	Facilitator; enabler; supportive role; not primary implementer; output vs. outcome; project-based approach; sustainability concerns; duplication of efforts; coordination issues
	Local Decision-Making Mechanisms	This theme describes the established processes and structures through which communities are involved in the planning and decision-making processes of adaptation projects.	Bottom-up planning; community consultations; local committees; participatory design; co-creation; local innovations; self-help groups; local ownership
	Community Participation and Local Practices	This theme captures the direct involvement of community members in adaptation activities and the indigenous or locally-developed practices they employ.	Direct involvement; indigenous practices; adaptive strategies; salt-tolerant crops; sack gardening; rainwater harvesting; youth clubs for cohesion
	Water Access and Management	This theme focuses on community-level practices related to securing and managing water resources in the face of climate impacts.	Water crisis; saline intrusion; rainwater harvesting; Pond Sand Filters (PSF); Reverse Osmosis (RO) water; collective action for water

	Collective Action and Local Governance	This theme explores how communities organize themselves and interact with local governance structures to address adaptation needs.	Community groups; committees; liaison with local authorities; advocacy for infrastructure; engagement with Union Parishad; gender-inclusive shelters
2. Challenges	Centralized Finance & Policy Misalignment	This theme discusses barriers at the policy level, including the lack of formal policies, government regulations that hinder the implementation of LLA principles, and misalignments between national and local policies. It also addresses financial barriers such as centralized funding mechanisms, rigid donor requirements, and challenges in accessing funds.	Lack of formal policy support; rigid government regulations; centralized financial mechanisms; unpredictable funding; donor vs. government rules conflict
	Capacity Gaps (Local Government and Communities)	This theme highlights the capacity of local governments and communities to implement LLA strategies, as well as the awareness gaps regarding climate change adaptation. It includes the challenges in building local capacity and the lack of understanding at the grassroots level.	Limited LLA awareness; skills deficit in government & community; "relief mentality"; lack of technical knowledge; low risk perception
	Duplication and Weak Coordination	This theme investigates the coordination challenges faced by NGOs and local stakeholders in implementing LLA principles. It also looks at how duplication of efforts among different actors leads to inefficiencies and missed opportunities for collaboration.	Overlapping NGO projects; lack of unified platform; resource inefficiency; fragmented efforts; lack of collaboration
	Representation Gaps (Women, Youth, Marginalized)	This theme highlights the challenges in ensuring equitable representation and valuing the voices of all community members, particularly women, youth, and other marginalized groups, in LLA decision-making processes.	Youth voices undervalued; elite capture; women's limited influence; patriarchal norms; traditional power structures; socio-cultural barriers
	Environmental/Infrastructure Vulnerabilities	This theme describes the specific climate impacts and existing infrastructure weaknesses that pose significant challenges to communities and adaptation efforts.	Salinity intrusion; water scarcity; cyclones; flooding; river erosion; poorly maintained embankments; health issues (uterine, BP); declining crop yields
3. Strategies	Advocacy for Policy Reform	This theme describes the strategy of engaging in advocacy efforts to influence policy and secure a more enabling environment for LLA.	National lobbying; international lobbying; policy dialogue; advocacy for flexible funding; promoting LLA endorsement

	Institutionalizing LLA within Organizations	This theme focuses on the strategic efforts by organizations to formally embed LLA principles into their organizational structures, policies, and long-term strategic planning.	Embedding LLA principles; organizational structures; long-term strategic planning; internal policies; shifting organizational culture
	Capacity-Building for Local Leaders & Government	This theme describes the strategic investment in human capital and institutional strengthening at the local level.	Youth leadership programs; training for local government officials; skill development; climate risk knowledge transfer; mentorship
	Coordination Platforms and Resource Sharing	This theme highlights the strategy of establishing and utilizing platforms to foster collaboration and efficient resource allocation among various stakeholders.	Establishing multi-stakeholder platforms; joint planning; resource mapping; sharing best practices; peer-to-peer learning; information exchange
	Flexible/Patient Finance and Intermediated Models	This theme describes strategies aimed at securing and managing financial resources in a way that is more aligned with LLA principles, emphasizing flexibility and long-term predictability.	Use of "undefined grants"; community-managed funds; Climate Bridge Fund (CBF); intermediary roles; continuous reflection
	Tailored, Community-Driven Design	This theme highlights the strategy of creating project designs that are highly responsive to specific local contexts and driven by community input.	Co-creation of projects; bottom-up proposal development; adaptive management; "learning by doing"; iterative adjustments; direct consultation
	Gender and Inclusion Strategies	This theme focuses on the intentional strategies for integrating gender equity and social inclusion into project design and implementation.	Gender-sensitive training; youth mobilization; creating women-only groups; safe spaces; empowering marginalized voices; ensuring representation
4. Effectiveness	Increased Local Leadership	This theme measures effectiveness by the observable growth in local actors' capacity to initiate, manage, and lead adaptation efforts.	Shift from beneficiaries to leaders; active participation in planning; youth-led initiatives; women in committee roles; private sector engagement
	Sustained Ownership Beyond Projects	This theme measures effectiveness by the community's ability to maintain adaptation activities and lead initiatives independently after a project concludes, indicating a lasting institutional legacy.	Continuation of activities post-funding; reduced dependency on NGOs; long-term resilience; strong community groups; self-sufficient management of resources
	Improved Inclusivity	This theme assesses the effectiveness of strategies in enhancing the participation and representation of diverse community members, particularly women, youth, and marginalized groups.	Increased involvement of women and youth in decision-making; challenging traditional norms; creating more equitable power

			dynamics; enhanced participation and representation
	Tangible Adaptation Outputs and Services	This theme evaluates effectiveness by the concrete, measurable outputs and services delivered through LLA-aligned strategies that directly address climate vulnerabilities.	Salt-tolerant crops; diversified income sources; improved water access (PSFs); community food banks (Rice Bank); collective embankment repair; climate-resilient housing
	Reported Readiness Gains	This theme assesses the effectiveness of strategies in increasing communities' perceived and actual preparedness for future climate events.	Better understanding of climate risks; improved coping mechanisms; early warning systems; shift from reactive to proactive measures; enhanced adaptive capacity
	Improved Accountability and Transparency	This theme assesses how strategies have succeeded in making project implementation more transparent and accountable to local stakeholders.	Community audits; public hearings; participatory monitoring; downward accountability; trust building; preventing corruption