Zambia's Climate Adaptation Landscape Assessment

Contents

1.0 Introduction

1.1 Background

Zambia is a natural resource dependent country with a population of 21.3 million as of 2025 and land area of 752,612km^2.[1] The country's average GDP stands at US$ 26.3 billion, while GDP per capita averaged US$1,233.5 in 2025.[2] Meanwhile, hydropower accounts for 80% of electricity generation in the country while national electricity access stands at 53.6 percent.[3]

In recent years, the country has experienced extreme climatic changes which have had severe impact on the natural resource dependent country, ultimately affecting it's socio-economic development and livelihoods. Over the past three decades, Zambia has become vulnerable to extreme temperatures, changes in rainfall patterns, seasonal and flash floods and droughts. Among the key economic sectors heavily impacted by climate change include the agriculture, forestry, water, energy and mining.[4]

Specifically, the average temperatures have increased by 1.3^0 C since the 2000s, with rainfall patterns becoming more erratic between 700 mm and 1,400 mm annually while variability stands at 1.9mm per month.[5] Projections of future scenarios over the period 2070–2099 indicate temperature increases by 2 °C and rainfall decreases by 8–10%.

The country has also experienced El-Niño droughts notably in 2015, 2021 and 2024, with the most severe effects in the southern region. These have heavily affected the agricultural sector that is predominantly rain-fed and largely subsistence-based, causing a 30 to 40% drop in crop yields, particularly for staple crops like maize. Additionally, the droughts constrained hydroelectric capacity by 80% in the Kariba - the country's largest dam, leaving a deficit of 1,469MW[6][7] also adversely impacted the mining sector, the largest consumer of the country's electricity output, ultimately contributing to declined copper output of 12% between 2024- and 2025-year end production.[8]

In addition, Zambia's natural environment and ecosystems have come under threat because of poor environmental management practices. In 2023, Zambia's greenhouse gas (GHG) emissions reached 30 million tons of carbon-dioxide equivalent, doubling since the 1970s. This amounted to a contribution of 0.08% to global GHG emissions, ranking the country 111th

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[1] UNDP (2015). Zambia Country Analysis Summary & Zambia Statistical Office (2023) National Energy Access Survey & World Bank (2026) Zambia Profile

[2] World Bank (2026) Zambia Profile

[3] Zambia Statistical Office (2023) National Energy Access Survey

[4] National Adaptation Plan. (2023).

[5] Ibid.

[6] Parliament (2024). Ministerial Statement on Electricity Situation in the Zambia.

[7] IMF (2023) Building Resilience to Climate Shocks

[8] Ministry of Finance and National Planning (2025) Monthly Economic Indicators

worldwide.[9] Furthermore, the country has experienced water pollution in its major rivers, largely through spillages by mining companies, destroying marine life and crops in surrounding areas. In 2025, for instance, the Kafue River was massively polluted by Sino-metals Leach Company which released hazardous acid waste. These practices contribute to eco-system degradation and heighten environmental vulnerabilities, placing additional strain on public finances through increased expenditure on mitigation, adaptation and recovery efforts. In the same vein, the vulnerabilities brought about by climate change have costed Zambia over US$13.8bn in last 3 decades, equivalent to 4% of annual GDP growth. These impacts could cost the country an additional US$4.3 billion in lost GDP over the next decade if immediate actions are not taken, underscoring the critical macro need for strengthened adaptation and resilience-building policies.[10]

To address the increasing climate change risks and vulnerabilities across sectors, Zambia has developed several key policy and strategic frameworks, including the National Policy on Climate Change 2016, National Adaptation Plan (NAP) (2023-2035), National Green Growth Strategy (NGGS) (2024-2030) and the Nationally Determined Contributions (NDC) 3.0 (2025-2030). Together, these medium-to long-term frameworks provide strategic direction for enhancing the country's climate resilience, promoting low-carbon emission, and supporting sustainable development. Aligned with national development frameworks, including Vision 2030 and successive National Development Plans, these policies and strategies identify Zambia's climate vulnerabilities and outline mitigation and adaptation actions aimed at reducing vulnerability, strengthening adaptive capacity, mobilising resources and increasing resilience of systems, livelihoods and communities.

The implementation of the NAP is estimated at US$34.7 billion, while the NGGS and NDC 3.0 are estimated at US$10.4 billion and US$17.2 billion, respectively.[11] Mobilising adequate remains critical to translating these policy commitments into action. The NAP alone requires resources equivalent to about 8% of GDP (based on 2024 estimates). This highlights the significant scale of investment needed to strengthen climate resilience. However, domestic environmental spending has remained well below this requirement, with budgetary allocations averaging only about 0.8% of national budget over the past decade. This is equivalent to approximately 0.2% of GDP in the 2026 estimates, reflecting a substantial funding gap that continues to constrain implementation. In addition, climate change and green economy programmes remain heavily reliant on concessional finance and development partner support, leaving the sector vulnerable to fluctuations in external funding. This vulnerability was

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[9] IMF (2023) Building Resilience to Climate Shocks

[10] UNDP. (2021). Climate Promise and IMF (2023) Building Resilience to Climate Shocks

[11] Government of the Republic of Zambia, 2024. Consolidated Resource Mobilisation Strategy and Implementation Roadmap for the Zambia National Adaptation Plan (NAP) and Water Investment Programme (ZIP) & Government of the Republic of Zambia, 2023. *NDC Implementation Framework for Zambia 2023–2030* & Government of the Republic of Zambia, 2024. *National Green Growth Strategy 2024–2030*. Lusaka: Ministry of Green Economy and Environment.

experienced between 2023 and 2025, when donor funding reduced by approximately 49%. The combination of constrained domestic fiscal space and the dwindling external finance underscore the need for Zambia to diversify its financing sources through innovative avenues[12]

1.2 Purpose of the Study

The study aimed to undertake a comprehensive whole-of-society assessment of Zambia's adaptation landscape in order to assess progress in the implementation of the National Adaptation Plan.

Objectives

Considering the above, the main aim of this study was to undertake an assessment of the progress on the National Adaptation Plan implementation in Zambia. Specifically, the study aimed to:

i. Assess the extent to which Zambia's National Adaptation Plan and broader adaptation interventions are being implemented across sectors and levels of governance.
ii. Examine coordination mechanisms, implementation bottlenecks, and institutional gaps affecting adaptation planning and delivery in Zambia.
iii. Analyse adaptation responses using a whole-of-society approach by capturing perspectives from Government, communities, civil society, private sector, and other national and subnational levels.
iv. Document and assess key adaptation interventions, including their implementation arrangements, financing mechanisms, partnerships, scale, outcomes, and challenges drawing lessons from other countries.
v. Explore how a country-led adaptation coordination platform could strengthen collaboration, investments, implementation, learning, and accountability in Zambia's adaptation landscape.

2.0 Review of the Policy, Institutional, and Regulatory Landscape

2.1 Climate Change Adaptation and Resilience in Zambia

There are several policies and frameworks available to address the impacts of climate change at the national, regional, and global levels, accelerating climate action and progress on the Sustainable Development Goals (SDGs) by mainstreaming climate risk.

2.1.1 Zambian Landscape - National Policy and Legal Frameworks

Zambia's national-level climate change response frameworks are reinforced by several regional efforts discussed in the subsequent section, supporting the integration of climate

[12] UNICEF. (2025). Zambia Climate Finance Brief

change priorities into the country's development agenda. Zambia's climate objectives are mainstreamed into national strategies such as Vision 2030 and the National Development Plans (NDP), which emphasise climate-resilient infrastructure to protect livelihoods and economic development.

The Ministry of Green Economy and Environment (MGEE) serves as the lead authority, coordinating implementation of adaptation initiatives through inter-ministerial committees and sectoral agencies, including the Zambia Environmental Management Agency (ZEMA) and the Disaster Management and Mitigation Unit (DMMU). In line with the National Adaptation Plan, this coordination mandate extends across key climate-sensitive sectors, including agriculture and food systems, water, energy, forestry, health and disaster risk management. This is in recognition that adaptation outcomes depend on coordinated response across multiple ministries and institutions.

Complementing the above highlighted institutional arrangement, is the National Designated Authority (NDA), which acts as the primary interface between the Government of Zambia and international climate financing mechanisms such as the Green Climate Fund (GCF) and the Adaptation Fund. The NDA plays a critical role in mobilising and facilitating access to climate finance for both public and private sector actors, while also strengthening coordination between national climate priorities and international and regional financing frameworks. In this regard, the NDA complements the broader policy coordination mandate of the MGEE by ensuring that climate finance initiatives are aligned with Zambia's adaptation and development objectives. Further, the Ministry of Finance and National Planning supports the mobilisation and allocation of resources for adaptation interventions, particularly through the implementation of the NAP and other climate-related financing strategies.[13]

Zambia's climate governance framework has evolved progressively over time to strengthen policy coherence and institutional coordination on climate adaptation and mitigation. The National Climate Change Response Strategy of 2010 laid the foundation for integrating climate considerations into national development planning and informed subsequent policy reforms. Building on this, the National Policy on Climate Change (NPCC) of 2016 provided strategic direction for mainstreaming climate change across sectoral and national development frameworks.

More recently, the National Green Growth Strategy (NGGS, 2024–2030) has reinforced Zambia's commitment to sustainable and climate-resilient development by promoting adaptation, disaster risk reduction, renewable energy, and energy efficiency.[14] Central to Zambia's adaptation agenda is the National Adaptation Plan (NAP, 2023), which outlines

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[13] IMF (2025). *Zambia: Building Resilience to Climate Shocks*. Selected Issues Paper No. 2025/127. Washington, DC: International Monetary Fund.

[14] Government of Zambia (2016) National Policy on Climate Change. Lusaka: Government of the Republic of Zambia.

medium- to long-term adaptation priorities and strengthens implementation pathways based on lessons from earlier climate response frameworks.

At the legislative level, the Green Economy and Climate Change Act No. 18 of 2024 establishes an overarching legal framework for domesticating international climate agreements, regulating carbon markets, and operationalising the National Climate Change Fund (NCCF). However, the effective operationalisation of some provisions of the Act, including modalities for the functioning of the NCCF and carbon market mechanisms, remains dependent on the issuance of supporting Statutory Instruments.

Sector-specific policies, such as the Reducing Emissions from Deforestation and Degradation (REDD+) 2025 strategy and the Strategic Plans for Agriculture and Energy (2022–2026), provide additional statutory support for climate adaptation across key sectors. In parallel, Zambia has established a carbon market framework that clarifies eligibility criteria for project development and sets out procedures for carbon trading, monitoring, and reporting. More recently, the Government launched the Green Finance Taxonomy, further strengthening policy and regulatory environment for mobilizing sustainable investment. These frameworks collectively support the country's climate and development objectives[15].

Despite the existence of these legal and policy instruments, Zambia's climate adaptation agenda continues to face significant implementation challenges that constrain progress. First, climate adaptation financing remains constrained by limited domestic resource mobilisation and a heavy reliance on external development partners, raising concerns regarding the long-term sustainability and scale of adaptation investments. The second implementation challenge is that institutional coordination remains fragmented, with overlapping mandates among ministries, agencies, and climate-related initiatives, often resulting in duplication of effort and implementation inefficiencies. Third, weaknesses in implementation, monitoring, and reporting systems continue to constrain the effective delivery of adaptation actions. In particular, the absence of comprehensive climate expenditure-tracking mechanisms, limited climate budget tagging practices, and capacity constraints at both national and sub-national levels make it difficult to monitor adaptation investments, assess results, and ensure accountability for the use of climate-related resources.[16]

The scale of the financing challenge is substantial, with estimated requirements totaling US$34.7 billion to implement the NAP,[17] US$17.2 billion to implement the Nationally

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[15] Ministry of Green Economy and Environment (MGEE), Zambia, Carbon Market Framework, 2026, available at: https://www.mgee.gov.zm/?page_id=2781&utm

[16] International Monetary Fund (IMF) (2025) *Zambia: Building Resilience to Climate Shocks–Climate Public Investment Management Assessment (C-PIMA)*. Washington, DC: International Monetary Fund.

[17] Ministry of Water Develop ment and Sanitation (2024) *Consolidated Resource Mobilisation Strategy and Implementation Roadmap for the Zambia National Adaptation Plan and Water Investment Programme*, MWDS, Lusaka.

Determined Contributions (NDCs) across 11 priority sectors,[18] and US$10.4 billion for the National Green Growth Strategy.[19] Mobilising financing at this scale will require enhanced coordination across Zambia's financial system, alongside broader policy and regulatory reforms to incentivise climate-related investments.

In response, Zambia's policy and financial landscape is gradually evolving through the introduction of green bonds and other sustainable financing instruments intended to support climate-resilient infrastructure, renewable energy, and adaptation projects. The Lusaka Securities Exchange (LuSE), together with financial sector regulators, has introduced reforms, including green finance guidelines, Environmental Social Governance (ESG) frameworks, and sustainable bond listing rules, to strengthen the mobilisation of sustainable investment and deepen Zambia's green capital market ecosystem.[20]

Notable developments include the Copperbelt Energy Corporation's (CEC) US$200 million Green Bond Programme in 2023,[21] which has supported renewable energy investments, particularly in solar energy generation. In addition, ZANACO has announced plans to issue a sustainability bond to finance environmentally and socially sustainable projects[22]. These initiatives, supported through coordination among the Ministry of Green Economy and Environment, the National Designated Authority, and financial sector actors, are intended to strengthen climate finance mobilisation and align domestic investment frameworks with international climate financing mechanisms and Zambia's national adaptation priorities.

2.1.2 Comparative Assessment of Climate Adaptation Governance and Financing

The adaptation implementation challenges highlighted above are not unique to Zambia; they have been encountered by other developing countries undertaking similar adaptation planning and implementation processes. Regional experience demonstrates that the successful implementation of adaptation depends not only on the existence of policy and legal frameworks, but also on the effectiveness of financing mechanisms, institutional coordination arrangements, and systems for tracking climate-related expenditures. Several African countries have introduced innovative approaches to address these implementation challenges, including dedicated climate funds, inter-sectoral coordination mechanisms, and climate budget tagging systems. Table 2.1 presents selected regional experiences and highlights

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[18] Ministry of Green Economy and Environment (2023) *Nationally Determined Contribution (NDC) Implementation Framework for Zambia (2023 - 2030)*, MGEE, Lusaka.
[19] Ministry of Green Economy and Environment (2024) *National Green Growth Strategy 2024–2030*, MGEE, Lusaka.
[20] https://www.seczambia.org.zm/market-developments/green-finance/
[21] https://www.cec.com.zm/cec-announces-registration-of-zambias-first-green-bond/
[22] https://www.zanaco.co.zm/2025/10/31/zanaco-to-issue-zambias-first-ever-sustainability-bond/

lessons relevant for strengthening the implementation and financing of Zambia's National Adaptation Plan.

Table 2.1: Regional Comparative Assessment of Climate Adaptation finance and Governance

Zambia's Implementation Challenge	Regional Comparator	Practice/ Approach	Possible Key Lessons for Zambia
Significant financing gap for NAP implementation; heavy reliance on development partner funding.	Rwanda	Operationalised the Green Fund (FONERWA), a dedicated financing mechanism that mobilises domestic and international climate finance.[23]	Operationalise the National Climate Change Fund and strengthen mechanisms for mobilising domestic and private climate finance.
	Kenya	Developed county-level climate funds to support adaptation investments at local levels.[24]	Strengthen sub-national financing mechanisms and improve access to adaptation finance at the local level.
Institutional Coordination and Climate Governance	Rwanda	FONERWA serves as a central mechanism that links climate planning, project appraisal, financing and monitoring under a coordinated institutional framework.	Develop a single national pipeline of adaptation investments jointly managed by MGEE and MoFNP, with standardized project appraisal criteria, coordinated resource mobilization and regular reporting on implementation progress.
	Ethiopia	Climate Resilient Green Economy (CRGE) Facility coordinates climate investments across sectors and government institutions.[25]	Establish stronger mechanisms for coordinating adaptation investments across sectors.
	Uganda	The Climate Finance Unit within Ministry of Finance to coordinates climate finance planning, budget integration and engagement with sector ministries.	Clearly define mandate of Zambia's Climate Finance Unit to coordinate climate finance budgeting, develop financing strategies for priority adaptation projects, consolidate climate finance information across ministries and support annual expenditure reporting.
	South Africa	The Presidential Climate Commission and Programme Management Unit provide high-level oversight, coordinate ministries	Establish a dedicated ARIP Delivery Unit or Technical Secretariate to coordinate implementation, monitor progress against

[23] Ministry of Environment of Rwanda (2023) *Rwanda Green Fund (FONERWA): Investing in Rwanda's Green Future.*
[24] International Institute for Environment and Development (IIED) (2021) *County Climate Change Funds: Lessons from Kenya*. London: IIED.
[25] CRGE Facility (2022) *Climate Resilient Green Economy Facility Overview*. Addis Ababa: Ministry of Finance.

		and monitor implementation of the Just Energy Transitions Investment Plan.[26]	agreed milestones, resolve cross-sector bottlenecks and provide regular reports to cabinet or an inter-ministerial committee.
Climate Budget Tagging and Expenditure Tracking	Uganda	Implemented Climate Change Budget Tagging to identify and monitor climate-related expenditure across ministries and agencies.[27]	Fully operationalise climate budget tagging within public financial management systems to improve transparency and accountability.
	Rwanda	Integrated climate expenditure tracking into national planning and budgeting systems.	Strengthen monitoring, reporting and verification processes.

[27] United Nations Development Programme (UNDP) (2022) *Climate Budget Tagging in Uganda: Lessons and Progress*. Kampala: UNDP.

While these selected experiences provide valuable approaches to strengthening climate adaptation governance and financing, they should not be viewed as one-size-fits-all solutions. Differences in institutional capacity, fiscal space, governance structures, and development priorities mean that adaptation mechanisms successful elsewhere may require modification to suit Zambia's specific context. Nevertheless, these experiences highlight several common success factors necessary to enhance both adaptation financing and governance.

2.1.3 International Conventions (Agreements)

At the regional level, several African frameworks provide strategic direction for climate adaptation and help align national efforts, such as Zambia's NAP, with broader continental priorities. The African Union Climate Change and Resilience Development Strategy and Action Plan serve as a comprehensive blueprint for climate resilience policy across the continent. It places a strong emphasis on adaptation, sustainable agriculture, and climate finance; also guides countries on integrating resilience into development planning while ensuring coherence with other continental objectives and international frameworks, such as the 2030 Sustainable Development Goals (SDGs) and the Paris Agreement. [28]

Another framework is the African Adaptation Initiative (AAI), an Africa-led adaptation initiative launched at COP21 in Paris. The AAI aims to strengthen collaboration on adaptation across the continent through high-level Pan-African and regional dialogues, large-scale adaptation action on the ground, and addressing the adaptation financing gaps.[29] This initiative encourages African governments to increase investments in adaptation and promote stronger institutional coordination at both national and regional levels, especially in critical sectors such as agriculture, infrastructure, and water systems.

Additionally, the Programme for Infrastructure Development in Africa (PIDA), implemented under the coordination of the African Union Development Agency–New Partnership for Africa's Development (AUDA-NEPAD), serves as a regional framework guiding the planning and implementation of strategic infrastructure projects across the continent. PIDA emphasises the development of climate-resilient energy, transport, water, and Information and Communication Technology (ICT) infrastructure, while AUDA-NEPAD plays an important role in coordinating and providing technical support to advance regional infrastructure integration and sustainable development priorities. African countries can use these frameworks to integrate climate adaptation into infrastructure investments, enabling the development of systems that can better withstand floods, droughts, and other climate-related risks.[30]

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[28] African Union (2022) African Union Climate Change and Resilient Development Strategy and Action Plan (2022–2032). Addis Ababa: African Union

[29] Africa Adaptation Initiative (2022) State of Adaptation in Africa Report 2022. Addis Ababa: Africa Adaptation Initiative. Available at: https://www.africaadaptationinitiative.org

18 African Union Development Agency (2023) Programme for Infrastructure Development in Africa (PIDA): First 10-Year Implementation Report. Midrand, South Africa: AUDA-NEPAD. Available at: https://www.au-pida.org/wp-content/uploads/2023/09/PIDA-Progress-Report_WEB.pdf

This is particularly important for Zambia, where infrastructure plays a central role in supporting climate-resilient growth. For instance, Zambia can reduce its economic losses from extreme weather events such as floods and droughts by integrating climate-smart approaches into road networks, irrigation schemes, and hydropower projects. At the sub-regional level, Zambia's NAP is informed by frameworks developed by regional economic communities such as the Southern African Development Community (SADC). For instance, the SADC Climate Change Strategy and Action Plan targets shared sectors such as water resource management, especially in transboundary systems like the Zambezi Basin, and disaster risk management.

At the global level, the Paris Agreement provides an overarching framework for climate action. It requires countries to prepare and implement National Adaptation Plans and emphasises enhancing adaptive capacity, resilience, and reducing vulnerability. The Paris Agreement was negotiated and adopted under the broader legal framework of the United Nations Framework Convention on Climate Change (UNFCCC), which provides the core international legal and institutional foundation for global climate action.[31]

The UNFCCC establishes the processes and mechanisms, in particular through the Conference of the Parties (COP) decisions, that guide countries in formulating and implementing national adaptation plans. These processes are supported by technical guidance and institutional support structures such as the Least Developed Countries Expert Group (LEG), which assists developing countries in adaptation planning and implementation.[32] The Intergovernmental Panel on Climate Change (IPCC) complements the institutional architecture by providing the scientific and technical assessments that underpin global climate policy, adaptation planning, and climate risk analysis. The IPCC's assessment reports play a central role in informing international negotiations, national climate strategies, and evidence-based adaptation responses.

These global frameworks are further complemented by the Sendai Framework for Disaster Risk Reduction, which ensures that adaptation planning also addresses climate-related hazards and disaster resilience. They are also linked to the 2030 Sustainable Development Goals, specifically SDG 13 which focuses on climate action, and indirectly SDGs 2, 6, and 7, which focus on zero hunger, clean water and sanitation, and affordable and clean energy, respectively.[33]

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[31] United Nations Framework Convention on Climate Change (UNFCCC), Introduction to Adaptation and Resilience, https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction

[32] Ibid

[33] United Nations (2015), Transforming Our World: The 2030 Agenda for Sustainable Development, available at: https://sdgs.un.org/sites/default/files/publications/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

3.0 Methodological Approach

3.1 Overall Analytical Approach

This study adopted a pragmatic mixed-methods approach to undertake a comprehensive assessment of Zambia's climate adaptation landscape, with particular focus on the implementation of the National Adaptation Plan (NAP). The assessment examined the governance, institutional coordination, stakeholder engagement, financing, investment and implementation arrangements underpinning climate adaptation to identify progress, gaps and opportunities for strengthening adaptation planning and delivery. This was achieved by comparing observed expenditure and implementation trends against the expected results derived from government priorities and policy targets. The qualitative part of the study was informed by a combination of primary data (collected through Key Informant Interviews and Focus Group Discussions), secondary data (including policy documents, budget reports, and programme outputs), and desk review methods. These data sources were triangulated and analysed thematically to identify recurring issues, validate findings and develop evidence-based conclusions and recommendations. This approach is consistent with established mixed-methods research practices, which emphasise the integration of multiple data sources to generate context-specific and evidence-driven findings (Creswell and Creswell, 2018).[34]

The quantitative component focused on assessing the scale, composition, and trends of adaptation expenditure. This included analysing expenditure levels in absolute terms, as well as their relative share of the national budget and GDP. Sectoral allocations were examined to determine how resources are distributed across key climate-sensitive sectors such as agriculture, water, energy, forestry, disaster risk management, and health. In addition, the study analysed the financing structure of adaptation, comparing contributions from government, cooperating partners, climate funds, and the private sector.

The qualitative component complemented this analysis by providing insight into the institutional and implementation dynamics underlying observed expenditure and performance patterns. Through Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), and field observations, the study captured perspectives on programme effectiveness, coordination challenges, and local-level experiences. A deductive analytical approach was applied, using predefined themes such as policy alignment, implementation efficiency, and system performance to guide interpretation. The analytical framework was structured to directly correspond with the results sections. Specifically, it enabled: Assessment of macrofiscal trends in adaptation expenditure (Section 4.1); Analysis of sectoral allocation patterns and alignment with national priorities (Section 4.2); Evaluation of the financing structure and sustainability of adaptation investments (Section 4.3); Examination of programme performance and implementation outcomes (Section 4.4); Comparison of planned targets versus achieved

[34] Creswell, J.W. and Creswell, J.D. (2018) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 5th edn. Thousand Oaks, CA: Sage Publications.

outputs (Sections 4.5 and 4.6); Assessment of efficiency in expenditure relative to outputs (Section 4.7); Development of an integrated system-level analysis (Section 4.8)

3.2 Data Collection

3.2.1 Primary and Secondary Data Sources

The study relied on a combination of secondary and primary data sources to ensure both analytical robustness and contextual depth. Secondary data formed the backbone of the quantitative analysis and included:

- National Budget Speeches and Yellow Books (2023–2026)
- Ministerial reports and programme output data
- National policy documents, including the National Adaptation Plan (NAP) and National Development Plans

These sources were used to construct datasets on adaptation expenditure, sectoral allocations, financing composition, and programme outputs. Primary data was collected to complement and validate these findings. Key Informant Interviews were conducted with stakeholders involved in planning, financing, and implementing adaptation interventions, while Focus Group Discussions were held with community members and beneficiaries. Field observations further enriched the dataset by providing direct insights into implementation realities.

3.2.2 Stakeholder Mapping and Selection Criteria

A structured stakeholder mapping process ensured that the study captured perspectives across all relevant levels of the adaptation system. At the national level, stakeholders included both state actors, such as line ministries and government institutions, and non-state actors, including civil society organisations, NGOs, private sector actors, financial institutions, and project management units. These stakeholders were selected based on their roles in technical design, financing, governance, and monitoring of adaptation interventions. At the sub-national level, the study focused on four provinces: Southern, Lusaka, Eastern, and Central. These areas were selected in consultation with national stakeholders based on their relevance to adaptation programming. Specifically, they include both regions where interventions are currently being implemented and areas where projects have already been completed, allowing for both real-time assessment and learning from past experiences. These provinces are also identified as highly climate-vulnerable regions, ensuring that the study captures areas where adaptation efforts are most critical.

3.3 Study Areas/Location

The study was conducted at both national and sub-national levels and involved a broad range of stakeholders engaged in climate adaptation and resilience interventions in Zambia. Sub-national fieldwork was undertaken in four districts across Southern, Eastern, and Central

provinces. Selection of provinces and districts was informed by consultations with national-level stakeholders and guided by two key considerations: (i) the need to assess areas where adaptation interventions are currently being implemented, and (ii) the need to capture lessons and experiences from areas where adaptation projects have already been completed. The selected provinces are also identified in the National Adaptation Plan as among the regions highly vulnerable to climate-related risks, thereby providing important insights onto ongoing implementation dynamics, adaptation challenges, and resilience-building in vulnerable areas.

3.4 Data Analysis and Reporting

The analysis was conducted in a structured manner, guided by the study objectives and analytical framework. First, a public expenditure and climate finance analysis was undertakento assess trends in adaptation financing over time, including changes in expenditure levels, sectoral allocations, and relative shares of adaptation spending within national and the economy. This directly informed the assessment of fiscal prioritisation presented in the results.

Second, sectoral analysis was conducted to examine how resources are distributed across sectors and how this distribution aligns with national development priorities. This supported the evaluation of sectoral imbalances and strategic focus areas. Third, financing analysis was undertaken to assess the composition of adaptation funding and identify potential sustainability risks associated with reliance on external financing. Fourth, a programme stocktake and performance assessment was carried out by comparing planned interventions with actual outputs across sectors. This included analysing indicators such as irrigation expansion, borehole construction, renewable energy deployment, reforestation, and early warning system coverage. Fifth, a target-versus-outturn analysis was conducted by deriving implied annual targets based on government scaling trajectories and comparing them with achieved outputs. This enabled the calculation of percentage achievement and identification of performance gaps.

Finally, an efficiency assessment was performed to evaluate the relationship between expenditure levels and output delivery across sectors. This provided insights into how effectively resources are being translated into results.

3.5 Data Integration and Interpretation

The final stage involved integrating quantitative and qualitative findings into a coherent system-level analysis. Quantitative results provided evidence of trends, gaps, and performance levels, while qualitative insights helped explain *why* these patterns occur. This integrated approach made it possible to identify not only whether adaptation investments are increasing, but also whether they are translating into meaningful and scalable outcomes. The findings were synthesised into a comprehensive assessment of Zambia's adaptation system, highlighting strengths, constraints, and areas requiring strategic improvement.

4.0 Findings

The study examines the policy and institutional environment for climate change adaptation and resilience, including governance, coordination, financing, investment patterns, and implementation experiences at both national and sub-national levels. It identifies key strengths, persistent implementation bottlenecks and opportunities strengthening the coordination, financing and delivery of adaptation and resilience Investment in Zambia.

The evidence points to a recurring gap between policy ambition and implementation. Stakeholders identified constraints related to adaptation financing, institutional and technical capacity, project preparation, monitoring and information systems, and coordination across sectors and levels of government. Although Zambia has established a broad policy and institutional framework for climate adaptation, translating this framework into coordinated, finance-ready and locally delivered interventions remains challenging. The sub-sections that follow examine the governance and implementation factors underlying this challenge, beginning with mandates and roles of key institutions.

4.1 Governance and Implementation of Adaptation and Resilience

4.1.1 Mandates and Key Stakeholders

The Ministry of Green Economy and Environment (MGEE) is the lead institution responsible for coordinating Zambia's climate-change response. Its functions include climate policy development, coordination of NAP implementation and serves as the UNFCCC focal point. This was reaffirmed by Key Informant Interviews (KIIs).

"The Ministry (MGEE) is a lead institution for climate change coordination. Our mandate encompasses the development and implementation of policies related to climate change. We are the secretariat to the United Nations Framework Convention on Climate Change. We manage affairs at the national level."

Table 4.2Pricipal Actors and Roles in Adaptation Governance identified

Institutional category	Principal actors	Main role
Lead coordinating institution	Ministry of Green Economy and Environment (MGEE)	Climate-policy leadership, coordination of NAP implementation and UNFCCC engagement
Finance and planning institution	Ministry of Finance and National Planning (MoFNP)	National planning, budgeting, resource mobilisation and coordination of climate-finance processes
Sector ministries	Agriculture; Energy; Health; Infrastructure; Tourism; Water Development and Sanitation; Local Government and Rural Development	Integration and implementation of adaptation priorities within sector policies, programmes and investments
Sub-national structures	Local authorities, District Development Coordinating Committees and Ward Development Committees	Local planning, coordination, implementation and articulation of community priorities
Cooperating and regional partners	World Bank, African Development Bank, IFC, Nordic Development Fund, European Union, COMESA and the Italian Government	Financing, technical assistance, institutional strengthening and project preparation
Domestic financial institutions	ZANACO and other participating financial institutions	Financial intermediation and mobilisation of public and private climate finance
Dedicated climate-finance mechanisms	Green Climate Fund and Adaptation Fund	Grant and concessional financing for adaptation programmes and projects

Source: Author's compilation from document review and KIIs[35]

The institutional landscape demonstrates that adaptation responsibilities extend across several ministries, financing institutions, cooperating partners and sub-national structures. While MGEE provides overall policy and coordination leadership, implementation depends largely on sector ministries and local structures. Stakeholders reported that coordination across these institutions remains uneven, particularly in relation to information sharing, project development, financing and translation of national priorities into sub-national implementation.

4.1.2 Governance and Coordination

The Green Economy and Climate Change Act No. 18 of 2024 provides the legislative basis for Zambia's climate-governance arrangements. The National Green Growth Strategy (NGGS) further sets out a multi-tiered coordination structure comprising political, strategic and technical mechanisms. However, evidence from KIIs suggests that some of these mechanisms are not yet fully operational or function below their intended capacity due to resource limitations, competing institutional priorities and procedural delays. Table 4.3 summarises their formal functions and operational status as identified through the assessment.

Table 4.3 National Climate Governance and Coordination Mechanisms

Mechanism	Formal function	Assessment findings
Council of Ministers on Climate Change	Chaired by the Vice-President and responsible for providing overall policy direction on climate change and green growth and reporting to Cabinet.	Provides high-level political oversight, although implementation of its decisions depends on effective technical coordination and adequate resources.
Steering Committee on Climate Change	Chaired by the Secretary to the Cabinet and responsible for guiding the Technical Committee and coordinating climate action across ministries.	Reported to be active, although competing institutional priorities and resource constraints affect follow-up and implementation.
Technical Committee on Climate Change	Chaired by the Permanent Secretary responsible for Green Economy and responsible for coordinating climate matters and inputs from sectors including energy, agriculture, wildlife, infrastructure and waste.	Provides broad sector representation, but irregular meetings, limited resources and procedural delays weaken continuous inter-sectoral coordination.

Source: Author's compilation based on National Green Growth Strategy (2024-2030) and Key Informant Interviews

The framework establishes a coordination chain from high-level oversight to strategic and technical engagement. Stakeholders nevertheless reported differences in how regularly and effectively the mechanisms function. In particular, irregular meetings of the Technical Committee, the principal mechanism for inter-sectoral coordination were reported to limit sustained engagement among implementing institutions.

[35] The list of institutions is not exhaustive

A government stakeholder described the intended coordination arrangement as follows:

"We have sectors like energy, agriculture, wildlife, infrastructure and waste; all represented in the Technical Committee on Climate Change. We also have the Steering Committee and the Council of Ministers. These are the platforms we use to coordinate adaptation efforts."

At the sub-national level, the assessment identified the use of existing government planning and coordination structures as a promising implementation approach. Some adaptation projects worked through Ward Development Committees, District Development Coordinating and district planning subcommittees rather than establishing parallel project structures. Respondents reported that, where used, these structures supported project appraisal, field assessments, funding recommendations and local coordination.

Stakeholders considered this approach useful for strengthening institutional ownership, aligning adaptation activities with existing planning processes and improving prospects for sustainability. However, the extent to which it is applied varies across projects and districts.

"One big project demonstrated a model anchored in existing Government structures rather than creating a parallel system." (KII, Project stakeholder)

4.1.3 Cross-sectoral Awareness and Understanding of National Climate Policies

The National Adaptation Plan 2023-2035 provides the principal national framework for medium-to long-term adaptation planning. Key informant interviews indicated that national-level stakeholders were generally familiar with the main policies and strategies governing climate adaptation. However, the depth of understanding and familiarity with specific provisions, institutional responsibilities and implementation arrangements varied across institutions and levels of government.

Table 4.4 Stakeholder Awareness of National climate-policy Instruments

Policy instrument	Relevance to adaptation	Assessment finding
National Policy on Climate Change (2016)	Provides strategic direction for mainstreaming climate change into national and sectoral planning.	Generally recognised by national stakeholders, although familiarity with specific provisions varied at sub-national level.
National Adaptation Plan (2023–2035)	Establishes Zambia's medium- to long-term adaptation priorities and implementation framework.	Widely recognised by national stakeholders as the principal adaptation framework. Detailed understanding of implementation responsibilities was less consistent at sub-national level.
National Green Growth Strategy (2024–2030)	Integrates climate resilience, disaster-risk reduction, renewable energy and environmentally sustainable growth.	Generally recognised by national stakeholders, but less consistently referenced by sub-national and community stakeholders.
Green Economy and Climate Change Act No. 18 of 2024	Provides the legislative framework for climate governance, international commitments, carbon markets and climate financing.	National stakeholders were aware of the Act, although understanding of its operational provisions and new institutional arrangements was still developing.
Nationally Determined Contribution 3.0	Sets national mitigation and adaptation commitments across 11 priority sectors, with an estimated implementation requirement of US$17.2 billion.	Recognised by national-level stakeholders, particularly institutions involved in climate policy, planning and financing.
Eighth National Development Plan	Integrates climate resilience into national development priorities, including infrastructure and livelihoods.	High awareness among government stakeholders, reflecting its central role in national and sectoral planning.

Source: Author's Compilation based on document review and Key informant Interviews

Awareness was more variable at the sub-national level. Provincial and district officials generally understood the broad direction of national climate policy, but knowledge of specific provisions and institutional responsibilities differed across institutions. Community stakeholders were more familiar with climate risks and locally implemented adaptation interventions than with national policies underpinning them. This suggests that communities often experience national policy indirectly through programmes and projects rather than through direct consultation with policy documents.

The assessment also found that climate change considerations were increasingly incorporated into sectoral planning frameworks. However, policy awareness has not automatically translated into effective implementation. Respondents continued to identify limited institutional and technical capacity, inadequate financing and weak coordination as significant constraints.

4.1.4 Monitoring, Evaluation and Learning for NAP Implementation

The assessment found that monitoring and reporting arrangements for climate adaptation remain under developed. The Integrated Monitoring, Reporting and Verification (IMRV) system is expected to support the tracking of national climate strategies and interventions, but stakeholders reported that it was not yet fully operational. Stakeholders also reported that a ministerial monitoring and evaluation framework was also under development but not yet operational.

In the absence of fully operational systems, adaptation results are tracked through fragmented institutional and project-level arrangements. Stakeholders identified gaps in data availability, accessibility and coordination, as well as the absence of a central database for climate and

adaptation projects. Addressing these gaps would strengthen the systematic monitoring of NAP implementation and improve reporting, learning and accountability.

Table 4.5 Key Monitoring, Evaluation and Learning challenges

Challenge	Assessment finding
IMRV system not fully operational	Stakeholders reported that development of the IMRV system began around 2018, but the system remained incomplete and was not yet fully operational.
Ministerial M&E framework still under development	Stakeholders reported that a ministerial-level monitoring and evaluation framework was under development, but its implementation and operationalisation remained incomplete.
Absence of a central project database	There was no dedicated national database consolidating information on climate and adaptation projects, limiting visibility of activities, financing and results.
Fragmented data management	Data availability, accessibility, management and coordination varied across institutions, constraining consistent reporting and aggregation of results.
Limited tracking beyond project completion	Monitoring arrangements did not consistently track whether adaptation results and benefits were sustained after project financing ended.

Source: Author' Compilation based on key Informant Interviews (KIIs) with stakeholders

4.1.5 Adaptation Resource Mobilization

Implementation Zambia's NAP is estimated to require about US$34.7 billion over the 2023-2035 period. Stakeholder consultations indicated that existing financing needs significantly exceed currently available resources. This highlights the need to strengthen and diversify long-term financing for adaptation.

Zambia's approach to climate financing is embedded within the broader green growth and climate governance framework. The National Green Growth Strategy identifies resource mobilisation as an important enabling condition, with responsibilities shared among MGEE, MoFNP and sector ministries and other institutions. The establishment of a Climate Finance Unit within the MoFNP represents an additional institutional mechanism for coordinating the mobilization, allocation and tracking of climate finance in collaboration with MGEE and other stakeholders[36].

Despite these developments, key informants indicated that resource mobilization remained largely project-driven. Funding was generally secured through individual government or development partner initiatives rather than through a consolidated national pipeline of prioritized and finance-ready adaptation investments. Limited project-preparation capacity was also identified as constraint on Zambia's ability to access international climate finance and attract other sources of investment.

[36] Global Green Growth Institute (GGGI) (2026) Zambia Launches its Climate Finance Unit at the Lusaka Climate Finance Week.Global Green Growth Institute (GGGI) (2026) Zambia Launches its Climate Finance Unit at the Lusaka Climate Finance Week. 30 March. Available at: https://gggi.org/zambia-launches-its-climate-finance-unit-at-the-lusaka-climate-finance-week/ (Accessed: 25 July 2026).

The assessment identified ongoing efforts to diversify financing instruments. Existing and proposed programmes included grants, and concessional loans and blended-finance arrangements. In addition, stakeholders also identified carbon-market mechanisms as potential source of additional public revenue. However, the extent to which carbon revenues could support adaptation would depend on the design of the relevant programmes, revenue-allocation arrangements and applicable government policy.

"In the pilot programme for climate resilience, there were two financing instruments: a grant and a loan. But for the project being designed, it is 100% grant. We have incorporated an emissions reduction programme. The idea is to generate carbon credits and, through those credits, raise revenue for the Government to support adaptation interventions." (KII stakeholder)

Stakeholder further proposed integrating climate change considerations into national and local development-financing frameworks. One proposal approach was to incorporate climate-rationale requirements into Constituency Development Fund (CDF) project guidelines. This could support integration of adaptation into local planning and public investment, although the proposal had not been implemented at the time of the assessment.

Overall, the findings point to the importance of strengthening project preparation, consolidating priority investments into a visible pipeline and linking suitable projects to the Public Investment Programme and appropriate sources of public, concessional international and private finance.

Stakeholders also identified resource mobilization challenges summarized in 4.6 below.

Table 4.6 Resource mobilization challenges

Challenge	Assessment finding
Limited project preparation capacity	Stakeholders identified constraints in developing competitive, technically sound and finance-ready adaptation proposals for submission to national and international financing mechanisms.
Project based resource mobilisation	Adaptation finance was commonly mobilised through individual projects and development-partner initiatives rather than through a consolidated national pipeline of prioritised investments.
Reliance on external financing	A significant share of adaptation programmes depended on development partners and international climate funds, while domestic financing remained insufficient relative to estimated needs.
Limited visibility of domestic contributions	Stakeholders reported that some government contributions to externally financed projects were provided in kind. However, information on these contributions was not consistently consolidated or tracked.
Conditional international commitments	Implementation of a significant proportion of Zambia's NDC commitments depends on access to international financial, technological and capacity-building support.

Source: Author's Compilation based on key Informant Interviews and relevant national documents

4.1.6 Alignment of NAP and NDC 3.0 Priorities Linkages

The NAP identifies drought, floods, rising temperatures, and strong winds among the principal climate hazards requiring urgent adaptation responses. Stakeholder reported that sector-specific adaptation planning was progressing, including the review of the Health National Adaptation Plan and proposals to develop a Water National Adaptation Plan.

Stakeholders emphasized the need to align sector adaptation plans with the NAP and the NDC implementation arrangements. The NDC stocktake and greenhouse-gas inventory informed the preparation of NDC3.0 by assessing progress and identifying areas requiring greater ambition. The official NDC describes the stocktake as one of practices that supported the revision process.

NDC 3.0 broadens Zambia's climate commitments to ten (10) sectors. It adopts a broader economy-wide approach by expanding coverage to four new areas; tourism, industrial processes and product use, green infrastructure and water security. The NDC 3.0 also adopts the UAE framework for Global Climate Resilience and includes cross-cutting indicators covering institutional capacity, fiscal policy and financial sector arrangements[37]. These additions strengthen the connection between national adaptation priorities, sector planning, financing and performance monitoring.

Alongside its adaptation commitments, NDC3.0 maintains an unconditional emissions-reduction target of 25%, equivalent to 20,000Gg CO_{2e}, relative to the business-as-usual trajectory by 2030. With substantial international support, the target increases to 47%, equivalent to 38,000 Gg CO_{2e}.

NDC 3.0 strengthens the connection between national climate commitments and adaptation implementation through expanded sectoral coverage, adaptation indicators, monitoring arrangements and differentiated financing approaches. Table 4.7 summarises the principal linkages between NDC3.0, the NAP and implementation of Zambia's adaptation priorities.

[37] Government of the Republic of Zambia (2025) *Nationally determined contribution 3.0*. Available at: UNFCCC (Accessed: 20 September 2026).

Table 4.7 NAP and NDC 3.0 linkages

NDC 3.0 feature	Linkage to adaptation implementation
NDC stocktake	Provided evidence on implementation progress and informed the revision and enhancement of NDC 3.0.
Expanded sectoral coverage	Extends climate action to 10 sectors, including additional attention to water security, tourism, green infrastructure, and industrial processes and product use.
Adaptation indicators	Adopts indicators from the UAE Framework for Global Climate Resilience and introduces complementary indicators for cross-cutting institutional and financial conditions.
Alignment with the NAP	References the NAP and other national strategies as frameworks informing Zambia's NDC commitments and implementation arrangements.
Monitoring arrangements	Includes an updated MRV framework covering mitigation, adaptation and implementation support, including finance, technology transfer and capacity building.
Means of implementation	Distinguishes actions supported through domestic resources from commitments requiring international finance and other forms of support.

Source: Authors' Compilation based on Zambia's NDC3.0 and key informant interviews

The expanded coverage and adaptation indicators in NDC3.0 strengthen alignment with the NAP and create opportunities for mainstreaming adaptation across sectors. Effective implementation will, however, depend on coordinated planning, adequate financing and functional monitoring arrangements.

4.1.7 Coordination gaps

Stakeholder consultations revealed several coordination gaps affecting climate adaptation planning and implementation. While formal coordination structures exist, some mechanisms, particularly the Technical Committee on Climate Change, were reported to meet irregularly, limiting sustained engagement among implementing institutions.

Policy coherence across sectors remains a challenge. Stakeholders noted that policies promoting natural regeneration and sustainable forest management, can conflict with measures supporting mechanised agricultural expansion and land clearing. Such inconsistencies create tensions between conservation and production objectives.

Vertical coordination between national and sib-national institutions was also reported to be uneven. Local authorities face increasing responsibilities, including the administration of CDF-supported activities, while their financial and technical capacity remains constrained. Integration of the NAP priorities into district Integrated Development Plans (IDPs) remains incomplete and varies across districts. In some cases, climate-related priorities have been incorporated through sector programmes or development partner-supported initiatives rather than systematic mainstreaming.

Coordination is further constrained by fragmented information on climate projects across ministries and level of government. This limits visibility of ongoing interventions, increases risk of duplication and makes it difficult to identify implementation and financing gaps. The Climate Finance Unit could contribute to improved coordination of climate investments, although its

effectiveness will depend on clear institutional linkages, information-sharing arrangements and operational capacity.

Overall, findings indicate that strengthening existing coordination mechanisms, policy coherence, vertical integration and information sharing will be important for improving effectiveness of adaptation investments and interventions.

4.2 Adaptation and Resilience by Sector and Programme

4.2.1 Priority sectors for Adaptation and Resilience under the NAP

Based on NAP framework, stakeholder consultations and review of ongoing adaptation programmes, the assessment identified the principal sectors in which adaptation and resilience interventions are concentrated. climate-sensitive sectors. These sector priorities reflect existing national policy commitments and vulnerabilities associated with droughts, floods, water stress, ecosystem degradation, and climate-related health risks.

Table 4.9 summarises the priority sectors, their main climate vulnerabilities and ongoing or proposed interventions. The table reflects priorities established under the NAP and confirmed through stakeholder consultations. It does not constitute a comparative ranking of sectors or individual investments.

Table 4.9 Priority Sectors and Adaptation Interventions under the NAP Framework

Sector	Climate Vulnerability	Key Adaptation Interventions
Agriculture	Drought, erratic rainfall, floods	Climate-smart agriculture, irrigation, drought-tolerant crops, and livelihood diversification
Water	Water scarcity, drought and flooding	Climate resilient water supply, solar-powered boreholes, rain water harvesting and integrated water resource management
Energy	Heavy dependence on hydropower and vulnerability to rainfall variability	Solar mini-grids, renewable energy diversification, energy efficiency
Health	Climate-related health risks (malaria, heat stress, waterborne diseases)	Review and implementation of the Health National Adaptation Plan and strengthened responses to climate-sensitive health risks
Forestry and Ecosystems	Deforestation, Wild fires and ecosystem degradation	Community forest management, natural regeneration, ecosystem restoration REDD+ interventions
Disaster Risk Management	Droughts, floods, and strong winds	Early warning systems, automated weather stations, preparedness and emergency-response measures.

Source: Authors' compilation based on the National Adaptation Plan, key informant interviews and review of adaptation programmes.

The findings suggest that Zambia's adaptation efforts are being implemented through sector-specific interventions. Agriculture, water and energy were frequently highlighted because of

their exposure to climate variability, their importance to the economy and their strong interdependencies with other productive sectors.

Prolonged drought affects rain-fed agricultural production, food security and rural livelihoods. Likewise, reduced water availability constrains hydropower generation, as experienced during the 2023/2024 drought, resulting in electricity shortages that affected mining, manufacturing and other productive activities[38]. Water stress further affects domestic water supply, irrigation, ecosystem services and industrial production. These interdependencies demonstrate the importance of coordinated adaptation planning across sectors rather than isolated sector responses.

4.2.2 Selected Adaptation and Resilience Projects from Key Sectors

Stakeholder consultations identified a range of ongoing, pipeline and emerging adaptation and climate resilience programmes and investments across key sectors. These initiatives include donor-supported projects, bilateral and regional cooperation programmes, as well as government-led investments that seek to strengthen climate resilience through improved climate systems, ecosystem restoration, climate-smart agriculture, renewable energy, disaster preparedness and climate finance. Collectively, they demonstrate that Zambia's adaptation landscape comprises a combination of geographically targeted interventions in climate-vulnerable districts and broader national and regional initiatives that support long-term resilience.

Many of the district-level inventions are concentrated in Eastern, Southern, Western, Lusaka and Muchinga Provinces and are largely financed through international climate funds and development partners. The Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions (SCRALA) project was frequently cited by stakeholders as a good practice, particularly for its implementation across 16 districts through investments in automated weather stations, rain gauges and localized weather advisory services. Respondents noted that these interventions have generated valuable lessons in climate information services, ecosystem restoration and community resilience. However, their geographic coverage remains limited relative to national adaptation needs.

Government-led investments, including Presidential 1000MW Solar Initiative, together with emerging bilateral and regional climate finance partnerships, reflect a growing shift towards integrating climate resilience into national development priorities.

Overall, stakeholders emphasized that scaling successful adaptation interventions will require increased domestic financing, improved institutional coordination and systematic integration

[38] Ministry of Finance and National Planning (2024) Annual Economic Report 2024. Lusaka: Government of the Republic of Zambia. Available at: https://www.mofnp.gov.zm (Accessed: 23 July 2026).

of adaptation priorities into sector programmes. Table 4.10 summarises selected projects highlighted during the assessment.

Table 4.10 Selected Adaptation and Resilience Projects Identified Through the Landscape Assessment

Project	Lead Implementing Agency	Funding Partner	Geographic Coverage	Implementation Period / Financing	Project Focus and Relevance to NAP
Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I & II (SCRALA)	Ministry of Agriculture; Zambia Meteorological Department; UNDP	Green Climate Fund (GCF)	Eastern: Mambwe, Nyimba; Lusaka: Chongwe, Luangwa, Chirundu, Rufunsa; Muchinga: Chama, Mafinga; Southern: Kazungula, Siavonga, Gwembe, Namwala; Western: Shangombo, Senanga, Sesheke, Mulobezi	2020-2027 (Ongoing); Grant	Strengthens the resilience of rain-fed agriculture through climate information services (localized weather forecasts in local languages), climate-smart agriculture and early warning systems (Automated weather stations, manual rain gauges), demonstrating successful integration of community-based adaptation.
Pilot Programme for Climate Resilience (PPCR)	Ministry of Finance and National Planning	Climate Investment Funds (CIF); World Bank; African Development Bank	National, including Western Province and selected resilience investment sites	Completed; Grants and Concessional Loans	Strengthened institutional and infrastructure resilience through blended climate finance, demonstrating the effectiveness of concessional financing for large-scale adaptation investments.
Ecosystem-Based Adaptation (EbA) Projects	Ministry of Green Economy and Environment and implementing partners	GEF, UNDP and other cooperating partners	Selected climate-vulnerable landscapes (project-specific)	Multi-year (Ongoing); Grant	Through community forest management groups, promotes ecosystem restoration and nature-based solutions to reduce climate risks while strengthening community livelihoods and ecosystem resilience.
Zambia-Italy Climate Cooperation Programme	Ministry of Green Economy and Environment	Government of Italy	National	Pipeline; Grant	Supports bilateral cooperation on climate change, mitigation and adaptation, sustainable forest management, carbon markets, circular economy and institutional capacity building. The cooperation framework provides an emerging pipeline of investments aligned with NAP implementation priorities.
Emissions Reduction Programme (ERP)	Forestry Department	Forest Carbon Partnership Facility (FCPF)	Muchinga Province	Ongoing (2024-2030); Results-based Carbon Finance	Uses forest conservation and sustainable land management to generate carbon finance while contributing to climate resilience and sustainable livelihoods.
EU and COMESA Climate Adaptation Initiatives	Ministry of Green Economy and Environment	European Union; COMESA	National and Regional	Pipeline/Ongoing; Grant	Supports regional cooperation, institutional capacity and adaptation planning while strengthening project preparation and implementation.

Presidential 1,000 MW Solar Initiative	Ministry of Energy, ZESCO	Government of the Republic of Zambia; Private Sector (Independent Power Producers)	National	2025–2030 (Ongoing); Public and Private Investment	Accelerates diversification of Zambia's energy mix through utility-scale solar generation to reduce climate risks associated with hydropower dependence. Supports the NAP's energy sector priorities by strengthening energy security, climate resilience and low-carbon development.

Source: Authors' compilation from KIIs, stakeholder consultations and document review.

4.2.3 Success Stories and NAP Implementation

Stakeholder consultations identified several adaptation interventions that were reported to have strengthened community resilience across the assessment areas. These examples demonstrate the potential contribution of climate-smart agriculture, ecosystem restoration, water security and livelihood diversification to NAP implementation. As the findings are primarily based on stakeholder accounts, they should be interpreted as reported successes and promising practices rather than independently evaluated impacts.

Climate-Smart Agriculture and Improved Household Resilience (Eastern, Central, Lusaka and Southern Provinces): Communities in Eastern Province reported improved crop yields, harvest reliability and household incomes following the adoption of climate-smart agricultural practices. Similar experiences were reported in Kalomo, Choma, Namwala, Gwembe, Mumbwa and Rufunsa, where projects such as SCRiKA), Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions (SCRALA) and the Sustainable Intensification of Smallholder Farming Systems (SIFAS) promoted conservation agriculture, crop rotation, cover cropping and drought-tolerant crops such as sorghum, millet and legumes. Respondents associated these interventions to improved soil health, higher agricultural productivity and increased resilience to drought and climate vulnerability.

Community Forest Management and Ecosystem Restoration (Mumbwa District, Central Province): Community Forest Management initiatives in Mumbwa District were highlighted as successful examples of ecosystem restoration and sustainable natural resource management. The programme demonstrated strong community participation and effective local management, with respondents indicating that the model could readily be replicated in other districts, although this would require consideration of local institutional, ecological and financing conditions.

Water Security through Irrigation and Solar-Powered Infrastructure (Southern and Central Provinces): Stakeholders identified several investments intended to improve water availability for households, livestock and crop production. Respondents reported that, following the 2023/2024 drought, dams in Choma District were rehabilitated and additional water infrastructure was developed in Kalomo and Namwala. The Kavula Mwanda Irrigation Scheme in Namwala was cited as providing water for livestock and crop production during the drought.

In Iteshi-Tezhi District, the SCRIKA project supported communities through the provision of solar-powered irrigation systems, while the Kaindi Community Centre in Mumbwa District improved household food security through the construction of a mechanised borehole. At community level, a beekeeoing initiative in Kalonda Ward, Southern Province, generated sufficient income to finance a solar-powered borehole, demonstrating how livelihood diversification can create self-sustaining adaptation investments.

Livelihood Diversification and Community Empowerment (Lusaka and Southern Provinces): Stakeholders consistently identified livelihood diversification as one of the most successful adaptation strategies. In Rufunsa District, the SCRALA project supported conservation farming, tree planting, and livestock pass-on programmes, while communities and beekeeping initiatives. Projects in Choma District supported beekeeping, mushroom production and tree nurseries, while SIFAS in Kalomo provided extension support to participating farmers. –

In Gwembe District, the World Food Programme's Smallholder Support Project promoted conservation agriculture and improved post-harvest management through hermetic storage bags and plastic silos. In Choma District, a seed-bank initiative implemented by the Zambia Agriculture Research Institute supported the conservation of local maize and cowpea varieties. Respondents reported that these interventions contributed to diversified livelihoods, improved food security and reduced dependence on rain-fed crop production.

Overall, the findings suggest that effective adaptation extends beyond physical infrastructure to include community institutions, agriculture practices, livelihoods diversification and ecosystem management. Although many interventions remain geographically limited and dependent external financing, they provide practical models for the implementation of the NAP. Decisions to scale or replicate them should be informed by evidence on their effectiveness, costs, sustainability and suitability for different local contexts.