



From Policy Commitments to Climate Action

**The Adequacy of the Climate Change
and Renewable Energy Policies in Uganda**



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ACRONYMS

ACODE	Advocates Coalition on Development and Environment
AE	Accredited Entity
AfDB	African Development Bank
AFOLU	Agriculture, Forestry and Land Use
APFS	Agro-pastoral Field Schools
CAF	Cancun Adaptation Framework
CAN-U	Climate Action Network of Uganda
CCD	Climate Change Department
CCAC	Climate and Clean Air Coalition
CDM	Clean Development Mechanism
CDO	Community Development Officer
CFF	Climate Finance Facility
CFU	Climate Finance Unit
CIP	Climate Investment Platform
CO	Commercial Officer
CREEC	Centre for Research in Energy and Energy Conservation
CSO	Civil Society Organisation
DCCAP	District Climate Change Action Plan
DLG	District Local Government
DPO	District Production Officer
DEWS	Drought Early Warning System
ECP	Electricity Connection Policy
ETP	Energy Transition Plan
FRLD	Fund for Responding to Loss and Damage
GHG	Greenhouse Gas
GiZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GWh	Gigawatt hour
H-NAP	Health National Adaptation Plan
IK	Indigenous Knowledge
INDC	Intended Nationally Determined Contributions

IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Products Use
IRENA	International Renewable Energy Agency
ITK	Indigenous and Traditional Knowledge
LGMSD	Local Government Management of Service Delivery
LLG	Lower Local Government
LoCAL	Local Climate Adaptive Living Facility
LTS	Long Term Strategy
LULUCF	Land Use, Land-Use Change and Forestry
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDAs	Ministries, Department, and Agencies
MEMD	Ministry of Energy and Mineral Development
MFPED	Ministry of Finance, Planning and Economic Development
MoLG	Ministry of Local Government
MSD	Meteorology Services Department
MTEF	Medium-Term Expenditure Framework
MTIC	Ministry of Trade, Industry and Cooperatives
MW	Mega Watt
MWE	Ministry of Water and Environment
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programs of Action
NAPag	National Adaptation Plan for the agriculture sector
NARO	National Agricultural Research Organization
NCCA	National Climate Change Act
NCCAC	National Climate Change Advisory Committee
NCCP	National Climate Change Policy
NCCS	The National Climate Change Communication Strategy
NCDC	National Curriculum Development Centre
NCHE	National Council for Higher Education
NDC	Nationally Determined Contribution
NEMA	National Environmental Management Authority
NREP	National Renewable Energy Platform
PA	Protected Area

PBCRGs	Performance-Based Climate Resilience Grants
PFCC	Parliamentary Forum on Climate Change
PPA	Power Purchase Agreement
PPP	Public- Private Partnership
PREEEP	Promotion of Renewable Energy and Energy Efficiency Program
PSFU	Private Sector Foundation of Uganda
PURE	Productive Use of Renewable Energy
RAMP	Resilience and Adaptation Mainstreaming Program
RBP	Results Based Payment
REDD+	Reduction of Emissions from Deforestation and Forest Degradation
REFiT	Renewable Energy Feed-in Tariff
RETC	Renewable Energy Training Centre
RESP	Rural Electrification Strategy and Plan
SDG	Sustainable Development Goal
SLM	Sustainable Land Management
STAR	System for Transparent Allocation of Resources
TNA	Technology Needs Assessment
UDB	Uganda Development Bank
UECCC	Uganda Energy Credit Capitalization Company
UETCL	Uganda Electricity Transmission Company Limited
UgIFT	Uganda Intergovernmental Fiscal Transfer
UIRI	Uganda Industrial Research Institute
UNMA	Uganda National Meteorology Authority
WMO	World Meteorology Organization
UNCST	Uganda National Council for Science and Technology
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USEA	Ugandan Solar Energy Association
WRI	World Resources Institute
ZARDI	Zonal Agricultural Research and Demonstration Institute

EXECUTIVE SUMMARY

This study assesses whether Uganda's climate-change and renewable-energy policy frameworks are adequate in design and implementation, particularly for vulnerable populations and Local Governments. It reviews the National Climate Change Policy, 2015; National Climate Change Act, Cap 182; updated Nationally Determined Contribution (NDC) (2022); Renewable Energy Policy (2007); Energy Policy for Uganda (2023); National Development Plans; budget and performance reports; and related sector instruments. It also draws on stakeholder evidence from Karamoja, West Nile, and Central Uganda.

The assessment applies seven implementation tests: whether commitments are translated into costed interventions, specific allocations, identifiable budget codes, actual releases and expenditure, responsible institutions, measurable outputs and outcomes, and documented benefits for households, communities, and vulnerable groups.

Overall assessment

Uganda's climate and renewable-energy frameworks are substantively strong but operationally incomplete. The policy architecture covers adaptation, mitigation, renewable generation, energy access, clean cooking, climate finance, public investment, and monitoring. However, implementation remains constrained by inadequate and unpredictable finance, incomplete regulations, fragmented responsibilities, weak project preparation, limited Local Government capacity, unreliable expenditure tracking, and insufficient evidence of sustained household-level results.

The NDC 2.0 identifies 48 adaptation actions across 13 sectors and targets a 24.7% reduction in greenhouse-gas emissions below the business-as-usual trajectory by 2030. Implementation requires an estimated US\$28.1 billion. The NDC stocktake indicates a financing deficit of about US\$19.6 billion for 2020–2025, including US\$11.85 billion for adaptation and US\$8.10 billion for mitigation. Available finance therefore covered only a limited share of identified needs, with particularly large gaps in AFOLU, forestry, cities and the built environment, agriculture, and water and sanitation.

Key findings

- ***Policy ambition exceeds implementation capacity.*** The National Climate Change Act Cap 182, the NDC, development

plans, and sector policies establish clear objectives and formal mandates. Yet climate risk is not systematically integrated into project appraisal, portfolio management, enforcement, or ex-post evaluation. Conditional NDC actions also depend heavily on international finance, technology transfer, and institutional support.

- ***Climate coordination remains under-resourced.*** The Climate Change Department coordinates action across central government, 145 districts, the private sector, and international reporting processes, but staffing and technical capacity are insufficient. Only two district climate action plans had been completed by end-2025, despite the legal requirement for Local Governments to plan and report on climate action.
- ***Budget integration has improved, but expenditure accountability remains weak.*** Climate certification and output codes 000089 and 000090 provide a basis for tracking mitigation and adaptation. However, coverage remains incomplete, classification does not consistently separate recurrent from development expenditure, and externally financed or off-budget activities may be omitted. The overall climate-budget compliance score fell from 65.0% in FY 2021/22 to 44.8% in the FY 2025/26 Budget Framework Paper, demonstrating that planning compliance has not improved consistently.
- ***Programme outturns do not provide a consolidated climate-finance picture.*** In FY 2023/24, the Natural Resources, Environment, Climate Change, Land and Water programme received UGX 37.355 billion against an approved UGX 38.360 billion and spent UGX 33.150 billion. Although programme-level figures are available, the government cannot yet aggregate climate allocations, releases, expenditure, outputs, locations, and beneficiaries across votes.
- ***Adaptation activity is broad but uneven.*** Progress includes catchment and wetland restoration, irrigation, drought-resilient crop varieties, climate information, ecosystem management, and sector adaptation plans. Reported post-harvest losses fell from 37% to 18.2% between 2020 and 2025, irrigated area increased from 19,776 to 23,141 hectares, and 13 of 21 crop varieties released by NARO were classified as climate-resilient. However, national coverage, maintenance, outcome measurement, and Local Government delivery remain weak.

- **Mitigation is concentrated in AFOLU and energy.** AFOLU is expected to provide 30.4 MtCO₂e of the projected 36 MtCO₂e reduction by 2030. Tree planting, wetland restoration, REDD+, climate-smart agriculture, renewable generation, and clean-energy pilots have expanded. Nevertheless, deforestation for agriculture and charcoal continues, livestock methane remains largely unmanaged, and the 2025 NDC stocktake reported no implemented activity under industrial processes and product use. Transport mitigation also remains limited and concentrated in Kampala.
- **Renewable-energy investment has expanded faster than access.** Hydropower dominates electricity supply, accounting with small hydro for about 92.4% of electricity consumed in 2024. Uganda had an estimated 1,063 MW generation surplus, yet national grid access was about 25%, with approximately 4.1% access in West Nile and 2.2% in Karamoja. Connection costs, tariffs, limited consumer finance, low awareness, and weak product-quality assurance continue to restrict household and enterprise uptake.
- **Renewable-energy execution is mixed.** The NDP Programme on Sustainable Energy Development spent 95.3% of releases in FY 2023/24, while the Renewable Energy Technology Development output spent 72.7%. Three of 20 planned solar water heaters were installed, none of 13 wind water-pumping systems was delivered, and the net-metering regulation remained outstanding. By contrast, targets for general renewable-energy solutions, solar dryers, and transmission expansion were met or exceeded.
- **Clean cooking remains a major policy and equity gap.** Biomass continues to dominate household cooking, while adoption of improved stoves, LPG, electricity, ethanol, biogas, and briquettes remains low. Results-based subsidies for solar, clean cooking, and productive-use technologies are promising, but affordability, awareness, technical skills, standards, and sustainable biomass supply chains require sustained attention.
- **Climate justice is only partially realised.** Climate finance does not consistently follow vulnerability, participation is not reliably linked to budget and project decisions, benefits are rarely disaggregated by sex, age, disability, poverty, livelihood, refugee status, and location, and compensation and grievance systems remain weak. The Central Region received 47% of identified regional commitments, compared with 6% for the Eastern Region,

while high-vulnerability areas face severe financing and service gaps.

- **Local evidence confirms major regional disparities.** Karamoja faces recurrent drought, flash floods, water and pasture scarcity, food insecurity, conflict, and very low grid access, although LoCAL and resilience programmes provide useful entry points. West Nile combines high multidimensional poverty, substantial refugee-hosting responsibilities, low electricity access, limited climate-finance capacity, and heavy reliance on biomass. Central-region districts also reported flooding, drought, weak technical understanding, and few climate-specific projects.

Recommendations

- The MoPED, MWE and NPA should publish an annual Climate Budget and Expenditure Statement covering central and local votes, external finance, releases, expenditure, locations, outputs, and beneficiaries.
- The MoFPED should enforce application of climate budget tagging comprehensively, distinguish recurrent expenditure from investment, and link codes to NDC targets and verified results.
- The MoFPED should introduce vulnerability-based fiscal transfers and expand predictable performance-based climate-resilience grants to Local Governments.
- Strengthen the Climate Change Department, lead-agency focal functions, Local Government planning, climate information, and national MRV systems.
- The MoFPED, MWE, MEMD and MAAIF should build a pipeline of bankable projects, expand national direct-access accreditation, and prepare to access the Fund for Responding to Loss and Damage.
- MEMD should prioritise rural electrification, off-grid energy, clean cooking, productive-use technologies, consumer finance, standards, and public awareness.
- MoFPED, and Development Partners should integrate climate risk, gender, disability, displacement, and distributional effects into public-investment appraisal and ex-post evaluation.
- MoFPED, UDC and Development Partners should strengthen private-sector participation through lower-cost capital, guarantees,

blended finance, green bonds, enforceable reporting, and clear incentives.

- MWE should address high-emission and under-served areas, particularly charcoal and firewood, livestock methane, transport, industrial processes, waste, and oil and gas.
- MWE should track outcomes for vulnerable groups through disaggregated data and indicators covering affordability, income, food security, service reliability, disaster losses, participation, and access to remedy.

Conclusion

With respect to climate change and renewable energy, Uganda does not primarily face a policy deficit. It faces an implementation and accountability deficit. Converting its extensive climate and energy architecture into measurable resilience, lower emissions, affordable energy, and equitable benefits will require predictable financing, stronger national-local coordination, credible expenditure and results reporting, and sustained attention to communities with the highest exposure and lowest adaptive capacity.

1. INTRODUCTION

1.1 Climate Trends and Impacts and Renewable Energy

Climate change is one of the greatest development challenges of our time. Human-induced climate change is already affecting many weather and climate extremes such as heat-waves, heavy precipitation, droughts, and tropical cyclones, in every region across the globe.¹ The eight years between 2015 and 2022 have been described by the World Meteorological Organisation (WMO) as the warmest years on record, with temperatures being 1.13– 1.26°C above the average for the 1850– 1900 baseline period.² According to the 2024 state of climate in Africa,³ 2024 ranked as one of the warmest years on record, with unprecedented sea-surface temperatures and widespread marine heat-waves. Global annual mean near-surface temperature in 2024 was 1.55°C above the 1850–1900 pre-industrial average. According to the Intergovernmental Panel on Climate Change (IPCC),⁴ the rate of surface temperature increase has generally been more rapid in Africa than the global average.

The general increase in global surface temperature has had far-reaching consequences for seasons and agricultural productivity. Extremes of precipitation have affected infrastructure, agriculture, human health and livelihoods, and ecosystems. The impacts of climate change are neither limited to national boundaries nor do they affect only the poor. Climate action (Sustainable Development Goal, SDG - 13) is now a critical and fundamental part of the overall development process for any nation. Effective implementation of climate change policy is essential to ensure that countries are undertaking actions to help society, businesses and ecosystems deal with the impacts

1 IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, and other (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 3–32, doi:10.1017/9781009157896.001.

2 <https://wmo.int/news/media-centre/eight-warmest-years-record-witness-upsurge-climate-change-impacts>

3 <https://wmo.int/publication-series/state-of-climate-africa-2024>

4 https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Africa.pdf

of climate change, to lessen the burden, and to espouse measures for meaningful mitigation of climate change. Implementation of well-prepared policies and strategies can be limited by societal biases according to gender, ethnicity, or the unfair distribution of financial or other resources.

Global energy supply is dominated by fossil fuels, mainly oil, gas and coal. However, there has been a recent shift towards renewable energy sources in many countries. According to The Economist special report on renewable energy in China, by the end of 2024, the country had installed 887GWh of solar photovoltaic (PV) capacity. That same year, China generated 1,826 terawatt-hours of electricity from wind and solar. The need to reduce greenhouse gases has driven the development of renewable energy technologies within the global climate change arena.

Since the signing of the United Nations Framework Convention of Climate Change (UNFCCC) in 1992, the Kyoto Protocol in 1997 and the Paris agreement in 2015, countries around the world have been participating in global efforts to deal with climate change. Global commitments need to be translated into nation-wide local actions for impact. At the time of signing and ratifying of the Convention, developing countries like Uganda were not required to implement significant interventions because it was deemed that the burden of reducing greenhouse gas (GHG) emissions goes to the developed countries. After decades of negotiations and lack of reduction in global GHG emissions overall, the Paris agreement provided for all countries to voluntarily come to the table with what was considered sufficient at the national level to contribute to this global challenge. These Intended Nationally Determined Contributions (INDCs) that were later transformed to Nationally Determined Contributions (NDCs) are now the centre of climate action for any nation. Given the collective global response, countries require strong national responses including working on governance and comprehensive policy and institutional frameworks to deal with climate change.

In 2015, the government of Uganda formulated its first policy on climate change, the National Climate Change Policy (NCCP 2015). This policy aimed at ensuring that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development and a green economy. Prior to this policy, several other interventions were implemented. An example is the National Adaptation Programs of Action (NAPA) in 2007. Developing the policy on climate change helped Uganda set the foundation towards achieving Sustainable Goal (SDG) 13 on climate

action and well as several other development goals and commitments.

The energy sector, comprising energy used for electricity generation and heating, transportation, manufacturing and construction, is responsible for about two thirds of global GHG emissions. Therefore, energy is at the forefront of global and national efforts to ensure effective climate change mitigation. Reduction in greenhouse gas (GHG) emissions requires investment and adopting alternative energy sources that are clean, sustainable, reliable, affordable and accessible. Modern renewable energy technologies such as wind, solar and hydropower provide this opportunity. In addition to these Renewable Energy (RE) technologies, sustainably managed biomass energy can also be a significant source of energy for a country like Uganda such as from use of waste-to-energy or bagasse arising from sugarcane processing. Accelerated deployment of renewable energy and energy efficiency measures form the key elements of the energy transitio.⁵ For example, over the last few years, China's wind and solar photo voltaic (PV) electricity generation has reached 17,000 Gigawatts (GW),⁶ towering over Europe's 570 and America's 380GW, helping the country meet its NDC target of ensuring that by 2030, 20% of its energy will be from renewable sources. Another potential renewable energy source for Uganda is livestock manure which can be a good source of biogas that can be used for lighting and cooking at farm and household levels.

A steady supply of energy is critical for the sustainable growth of any economy. Uganda's electricity supply has grown to more than 2000MW after the 600MW Karuma hydroelectric dam at Karuma was connected to the grid in 2024.⁷ This growth in electricity supply has also been boosted by more than a half dozen solar generation plants across the country. In spite of these investments, the country still relies on biomass energy for domestic energy needs, and many households are still in the dark. Extracting wood for energy use in homes, for baking bricks and other industrial purposes is one of the leading causes of forest cover loss and forest degradation in Uganda.

Whereas the use of fossil fuels, mainly petroleum and coal as energy sources dominates GHG emissions at the global level in Uganda; the bulk of GHG emissions come from the Agriculture, Forestry and

5 https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Nov/IRENA_A_key_climate_solution_2017.pdf?la=en&hash=A9561C1518629886361D12EFA11A051E004C5C98

6 <https://www.economist.com/special-report/2025/11/03/the-worlds-renewable-energy-superpower>

7 <https://uegcl.com/president-museveni-commissions-karuma-hydro-power-plant/>

Land use (AFOLU) sector. A good proportion of the emissions from the AFOLU sector can be traced to harvesting trees for firewood and charcoal that constitute the major source of energy for many rural and urban communities. Livestock emissions from manure and enteric fermentation also significantly contribute to AFOLU emissions in Uganda.

In recognition of this role, the government of Uganda formulated its Renewable Energy Policy (REP) in 2007, with the overall goal of increasing the use of modern renewable energy, from the then 4% to 61% of the total energy consumption by the year 2017. A target that might be hard to achieve given the substantial growth in electricity generation from the large hydroelectric power plants.

Public policies are living documents that require regular review to assess whether the objectives of formulation are being met or remain relevant. The regular reviews provide recommendations to ensure that implementation remains on track or to recommend revision to update the policies given changing national circumstances. This report provides a comprehensive review of the National Climate Change Policy (2015) and the Renewable Energy Policy (2007) for Uganda. The report also provides three regional perspectives about local government-level implementation of the climate change and renewable energy policy frameworks in northeastern, West Nile and central Uganda. The study was intended to provide critical insights into the strengths and weaknesses of these policies, identify gaps, and recommend actionable measures to enhance the country's climate resilience and energy sustainability.

By evaluating the adequacy of current policies and frameworks, the study contributes to ongoing efforts to build a more resilient and sustainable future for Uganda. This study also helps to fill the knowledge gap by: (1) identifying the strengths and weaknesses of existing institutional, legal, and policy frameworks; (2) highlighting implementation challenges at both national and local levels, including issues related to mainstreaming climate change, financing, inclusion, and marginalisation; (iii) assessing the extent to which climate justice principles are integrated into policy frameworks and providing actionable recommendations to strengthen Uganda's climate and renewable energy policies; and (iv) ensuring that policies are more inclusive, effective, and responsive to the needs of vulnerable communities. By addressing these issues, the study provides valuable insights for policymakers, practitioners, and stakeholders, ultimately contributing to more robust and equitable climate actions in Uganda.

1.3. Objectives and Scope

1.3.1 Objectives

The primary objective of this study was to assess the adequacy of Uganda's climate and renewable energy policy frameworks in responding to climate change. Given that it is 10 years since the formulation of the climate change policy and more than 15 years since the formulation of the renewable energy policy in 2007, this study presents a good opportunity to review these policy frameworks.

Specific objectives of the study included the following:

- a) Reviewing and analyzing the strengths and gaps of the Climate Change Policy (2015) and the Renewable Energy Policy (2007) with respect to current climate risks associated with national, regional and international commitments.
- b) Establishing the status of implementation of the National Climate Change Policy (2015) and the Renewable Energy Policy (2007) at the national and sub-national levels.
- c) Identifying implementation gaps and challenges of these policy frameworks, particularly in addressing the needs of vulnerable communities.
- d) Providing actionable recommendations for strengthening Uganda's climate and energy policies to enhance climate resilience and sustainability.

1.3.2 Scope

This study covered the following areas:

- a) Policy Review: Conducted a comprehensive review of the National Climate Change Policy (2015) and the Renewable Energy Policy (2007). Reference was made to other related policies to establish linkages with these other policy frameworks.
- b) Stakeholder Analysis: Identified and analysed key stakeholders involved in the formulation, implementation, and enforcement of climate and energy policies.
- c) Implementation Assessment: Synthesised the effectiveness of environmental policy implementation at national and local levels, including key achievements, gaps and existing challenges.

- d) Climate Justice Integration: Assessed how climate justice principles (e.g., equity, inclusivity, and accountability) are integrated into these policy frameworks.
- e) Case Studies: Identified and documented case studies from West Nile and Karamoja to understand the local-level implementation of climate and energy policies?
- f) Recommendations: Developed actionable recommendations for improving the adequacy of implementation and enforcement of climate and energy policies in Uganda.

1.4. Approach and Methodology

Undertaking a comprehensive review of the National Climate Change Policy (2015) and the Renewable Energy Policy (2007) for Uganda involved a thorough review of literature, including the policy documents themselves, interviews with stakeholders, and analysis of grey data and literature/information from documents and the interviews. To get to local level implementation of these policies; stakeholders from Karamoja, West Nile and Central Ugandan regions were interviewed. The documents reviewed are provided in the references list.

1.5 Structure of this Report

This report is divided into 6 sections. Section one provides an introduction background to this study including objectives and scope, and the approach and methodology taken. Section two deals with the implementation of the climate change and renewable energy policies, providing an overview of the NCCP (2015), the legal and institutional framework, summary of implementation and gaps. Section three deals with the emerging issues and gaps. Section 4 provides regional perspectives of local government level implementation of climate change and renewable energy interventions. Section 5 provides stakeholder analysis and section 6 provides conclusions and recommendations.

2. CLIMATE CHANGE AND RENEWABLE ENERGY POLICY IMPLEMENTATION

Uganda’s climate and renewable-energy framework is broad and ambitious, but implementation remains only partially adequate. Policies cover adaptation, mitigation, energy access, clean cooking, climate finance, public investment, and monitoring. Yet financing is insufficient and unpredictable, climate expenditure is difficult to trace, project preparation and enforcement remain weak, and evidence of sustained benefits is limited.

The implementation challenge is material because agriculture, water, forestry, fisheries, energy, transport, and infrastructure are climate-sensitive. Uganda must expand affordable energy access while reducing dependence on biomass, deforestation, household air pollution, emissions, and hydropower-related exposure to climate variability (MWE, 2015; World Bank, 2025).

The updated NDC identifies 48 adaptation actions across 13 sectors and targets a 24.7% reduction in greenhouse-gas emissions relative to the business-as-usual trajectory by 2030. Estimated financing needs reach US\$28.1 billion by 2030 (MWE, 2022). This assessment tests whether policy commitments translate into costed interventions, identifiable budget lines and codes, releases and expenditure, responsible institutions, measurable results, and benefits for households and vulnerable groups.

Table 1: Overall Implementation Adequacy

Assessment area	Climate Policy Framework	Renewable-energy framework
Policy coverage	The Policy Coverage is strong. The framework covers the principal climate risks, sectors, and national commitments.	The Policy coverage is strong. Policy links renewable generation, access, efficiency, clean cooking, and development.
Legal and institutional coherence	This is moderate. Formal mandates are clear, but regulations, national-local coordination, and private-sector reporting remain incomplete.	This is moderate. Institutions and programme structures are identifiable, but overlapping instruments fragment incentives and responsibilities.

Assessment area	Climate Policy Framework	Renewable-energy framework
Financing	This ranges from weak to partial. Financing needs exceed available domestic and international resources, and annual allocations are not consolidated.	The financing is partial. Projects are costed, but no consolidated investment plan covers grid, off-grid, clean cooking, and productive use.
Implementation capacity	The Capacity for implementation is partial. Technical capacity, project preparation, enforcement, and Local Government delivery are uneven.	The Capacity for implementation is partial. Delivery varies by technology, and affordability, skills, data, and standards constrain adoption.
Performance and accountability	This is partial. Certification and tagging support planning, but whole-of-government outturn and outcome reporting remain incomplete.	This is moderate. Outputs and expenditure are more traceable, but implementation and equity results are mixed.

2.1 Climate Change Policy Implementation

2.1.1 Policy Translation and Institutional Arrangements

Uganda has translated climate policy into legislation, planning instruments, institutions, and selected programmes, but not into a fully costed and enforceable implementation system. The National Climate Change Policy, National Climate Change Act, NDC, national development plans, and green-growth framework provide a credible foundation. The Act supports climate response measures, finance, measurement, reporting, and verification, and requires a framework strategy to guide planning, budgeting, and monitoring (Republic of Uganda, 2021).

Implementation depends heavily on conditional NDC actions financed through international support, technology transfer, and capacity development. This dependence increases delivery uncertainty. Climate considerations are also not systematically embedded in project appraisal, portfolio management, or ex-post review, limiting the government's ability to determine whether major investments achieved their intended climate outcomes (Navarro et al., 2024).

Institutional responsibilities are defined but unevenly operationalised. The Climate Change Department coordinates national action; MoFPED's Climate Finance Unit supports financing and budget guidance;

NPA leads planning and certification; MoLG supports subnational integration; and sector agencies implement interventions. At the district level, Natural Resources Departments coordinate climate work, but only two Local Government climate action plans were completed by the end of 2025. Limited technical capacity and funding weaken mainstreaming into sector and district plans.

2.1.2 Climate Information, Inclusion, and Accountability

Climate information is not only a technical input for weather forecasting. It is also a public resource that determines whether communities can anticipate hazards, participate in planning, access public finance, monitor projects, and hold institutions accountable. For farmers, pastoralists, women, persons with disabilities, local governments, and other vulnerable groups, timely and usable climate information can influence decisions about planting, livestock management, water use, migration, infrastructure protection, and disaster preparedness.

Uganda's climate policy framework recognises the importance of information, awareness, monitoring, and public participation. The National Climate Change Policy calls for climate information systems, public education, local communication, and participation by women and vulnerable groups (MWE, 2015). The National Climate Change Act Cap 182 requires district institutions to keep climate information records, monitor compliance, coordinate with national authorities, and prepare annual reports on implementing District Climate Change Action Plans (Republic of Uganda, 2021). Despite this policy and legal foundation, the system remains fragmented. Climate information is dispersed across institutions, often stored in inaccessible formats, and not consistently linked to local planning, budgeting, early warning, or public accountability systems (World Bank, 2025). The assessment therefore considers climate information, inclusion, and accountability as interconnected elements of climate justice.

Uganda's information system has three main functions:

- a) Risk communication, including weather forecasts, seasonal outlooks, early warnings, and disaster information.
- b) Planning and budgeting, including vulnerability assessments, climate-risk screening, climate budget tagging, and local development planning.
- c) Accountability and learning, including expenditure tracking, monitoring, reporting, verification, audits, and public oversight.

The Uganda National Meteorological Authority is responsible for improving weather forecasts, climate predictions, advisory services, and warnings about adverse weather conditions (Government of Uganda, 2012; MWE, 2015). The climate policy framework also identifies timely and reliable climate data as essential for understanding vulnerability and informing adaptation responses (MWE, 2015).

The information system is therefore central to distributive justice. If climate data is unavailable or not disaggregated, budget allocations may not reflect local hazard exposure. Districts experiencing drought, floods, landslides, water scarcity, or refugee-related pressures may receive resources based on general administrative formulas rather than evidence of climate vulnerability.

Accessibility and usability of climate information. Information remains institutionally fragmented. Uganda has considerable climate information, but it is not available through one accessible and integrated public platform. Data is spread across MDAs, Local Governments, research institutions, development partners, and project databases. The lack of clear institutional mandates for sharing information limits access by LGs, civil society organisations, communities, the media, and the private sector (World Bank, 2025). This fragmentation affects both planning and accountability. Local Governments may have access to some weather or vulnerability data, but not necessarily the information required to compare climate risks with budget allocations, project locations, implementation status, and beneficiary outcomes.

The Strategic Program for Climate Resilience proposed linking district climate information systems to a national climate knowledge management platform. It also envisaged online and offline knowledge centres to provide reliable climate information to district planners and end users such as farmers (Government of Uganda, 2017). However, the institutional assessment indicates that many district officials remain unfamiliar with climate vulnerability assessment tools and approaches for mainstreaming climate change into development plans. Limited knowledge and weak access to relevant information continue to constrain local planning (Government of Uganda, 2017).

Information is not consistently designed for vulnerable users. Access to information is not equivalent to the existence of data. Climate information must be timely, understandable, locally relevant, affordable, and communicated through channels accessible to the intended users. The Climate Change Budget Compliance Assessment Report notes that climate information should be localised for rural farmers, communicated through multiple channels, provided in local

languages, and linked to indigenous knowledge and local decision-making (ACODE & NPA, 2025).

Earlier assessments found that public awareness of climate change remained low among district agencies, civil society organisations, and farmers. Information was often delivered through formats and communication methods that were not appropriate for poor farmers and women, even though women are central to subsistence agriculture and household natural-resource management (Government of Uganda, 2017).

This creates a recognition and procedural-justice problem. People who cannot access or interpret climate information are less able to: Prepare for droughts, floods, and disease outbreaks; Participate in local climate planning; Identify whether a proposed project addresses their risks; Monitor whether a budgeted activity was implemented; Submit complaints or seek compensation and Make informed choices about farming, water, energy, and livelihoods.

Communication, inclusion, and participation

Uganda has used radio, television, climate outlook forums, participatory scenario planning, district meetings, and community engagements to disseminate climate information. In FY 2023/24, radio programmes were conducted on seasonal forecasts and severe-weather alerts, while television interviews and media engagements were used to communicate monthly updates and seasonal information (MoFPED, 2024). The Government also conducted participatory scenario planning workshops and local outreach activities. These engagements included farmers, NGOs, communicators, and district stakeholders (MoFPED, 2024).

However, the communication system has weaknesses. Engagement visits to Local Governments produced limited consumer feedback because of weak transfer mechanisms and inadequate sampling of information users (MoFPED, 2024). This suggests that communication is still largely one-directional. Information is disseminated to communities, but the system does not consistently capture whether the information was received, understood, trusted, and used in decisions. The budget analysis reinforces this concern. A gender and equity intervention intended to design new channels for disseminating weather and climate information had an allocation of UGX 0.120 billion, but no expenditure was recorded by the end of Q4, and no new dissemination channels had been designed because procurement had not been completed (MoFPED, 2024).

A more inclusive system should combine: Local-language radio, Mobile-phone messaging, Parish and village weather clinics, Community meetings, Farmer and pastoralist extension services, School and health-facility communication, Information for persons with disabilities, Indigenous and local knowledge and Feedback mechanisms that allow users to report whether forecasts were accurate and useful.

The Government has implemented Parish Weather Clinics in districts such as Pakwach, Nebbi, and Nwoya, demonstrating the potential of decentralised information services (MoFPED, 2024). These initiatives should be scaled and linked to district planning, agricultural extension, disaster preparedness, and local budget decisions.

2.1.3 Gender and Social Inclusion in Climate Information

Inclusive climate information requires data and communication systems that identify who receives information and who uses it. Uganda's updated NDC commits to strengthening gender and climate mainstreaming across MDAs and LGs, increasing women's participation in climate decision-making, and developing gender-disaggregated data (Republic of Uganda, 2022). The national climate indicator framework includes an indicator of the number of male and female farmers accessing timely weather information. The indicator is intended to be disaggregated by gender and reported quarterly by District Production Officers using MWE and UNMA data (MWE, 2018). However, the baseline and target remain recorded as "to be determined," which limits its usefulness for accountability (Government of Uganda, 2015). The indicator framework also proposes measuring the percentage of women and men making informed decisions from climate information. This is a stronger outcome indicator because it moves beyond counting information recipients to assessing whether climate information affects actual decisions (Government of Uganda, 2018). The main gaps are:

- a) Lack of reliable sex-, age-, disability-, poverty-, and location-disaggregated data.
- b) Limited measurement of whether women and marginalised groups use climate information.
- c) Weak monitoring of information access among pastoralists, refugees, persons with disabilities, and remote communities.
- d) Insufficient documentation of indigenous knowledge and local interpretation of climate signals.

- e) Limited evidence on whether information changes agricultural, water, energy, or disaster-preparedness decisions.

Gender-responsive climate information should therefore be treated as a budget and performance requirement, not only as a communication objective.

2.1.4 Climate Information in Planning and Budgeting

Climate information is intended to inform vulnerability assessments, District Climate Change Action Plans, sector plans, Budget Framework Papers, and climate budget tagging. The Strategic Program for Climate Resilience proposed district climate information centres, local vulnerability assessments, district climate indicators, and links between local and national knowledge systems. It also required LGs to develop climate-resilient action plans and performance indicators (Government of Uganda, 2017). The National Climate Finance Strategy further proposes training LGs in climate-responsive budgeting, developing climate-budget reporting formats for LGs, and integrating climate-finance performance into government and LG performance reports (MoFPED, 2025a).

Climate budget tagging has also expanded. The Programme Budgeting System, IFMIS, and Chart of Accounts are being updated to identify and track climate-related allocations and expenditure. Training has been provided to MDA and LG officials on climate budget tagging, climate-risk screening, and linking district plans to national climate commitments (MoFPED, 2025a). The main accountability problem is that information systems have developed unevenly. While national climate tagging is expanding, LG climate certification and climate-responsive performance reviews are not yet fully institutionalised. The institutional assessment notes that the review of climate responsiveness has not consistently extended to LG budgets or to Local Government Annual Performance Reviews (World Bank, 2025).

This creates a gap between Climate information collected by technical agencies, Climate risks identified in district plans, Climate activities included in budgets, Funds released to LGs, Activities implemented, and Benefits delivered to communities.

2.1.5 Monitoring, Reporting, Verification, and Accountability

Uganda has developed an integrated Monitoring, Reporting, and Verification system hosted by MWE. The system is intended to track greenhouse-gas emissions, NDC actions, climate finance flows, Sustainable Development Goal impacts, and capacity-building activities. Each lead agency has a nodal officer responsible for data

collection, verification, and reporting, including LG data (World Bank, 2025).

The system is an important accountability instrument because it can connect climate commitments to implementation evidence. However, MRV implementation across sectors remains under-resourced and is not yet fully operational in agriculture, energy, forestry, land use, transport, waste, and industrial processes (World Bank, 2025).

The accountability architecture also includes: Climate budget tagging, IFMIS and the Programme Budgeting System, Annual budget performance reports, MDA and LG performance assessments, Office of the Auditor General audits, Parliamentary oversight, Climate budget compliance assessments by civil society and research organisations, District Environment and Natural Resources Committees, Lower Local Government climate-change committees and Community monitoring and social accountability mechanisms.

The National Climate Change Act, Cap 182 assigns district structures responsibility for climate information records, compliance monitoring, coordination, and annual reporting on District Climate Change Action Plans (Republic of Uganda, 2021). The Office of the Auditor General has a mandate to conduct financial and value-for-money audits, including environmental and climate-related audits (World Bank, 2025). The LGMSD framework also uses independent verification agents and online performance reporting to assess LG performance and inform development-grant allocation (OPM, 2025).

Despite these mechanisms, climate-finance accountability remains constrained by the incomplete consolidation of climate expenditure. Earlier analysis found that incomplete climate budget tagging made it difficult for civil society organisations to trace climate resources and monitor projects effectively (ACODE, 2020).

2.1.6 Status of Climate Information, Inclusion and Accountability

This study observes that the implementation of climate information, inclusion, and accountability across MDAs and Local Governments is partial, as illustrated in the Table 2.

Table 2: Status of Climate Information, Inclusion and Accountability

Area	Observations
Climate-data production	Uganda has meteorological, vulnerability, budget, and MRV systems, but they remain fragmented.
Local access	Access is limited by inadequate district capacity, weak dissemination mechanisms, language barriers, and limited feedback.
Inclusion	Gender-responsive indicators and commitments exist, but baselines, targets, and disaggregated outcome data remain incomplete.
Planning use	Climate information is increasingly incorporated into plans and budgets, but local climate certification and performance review remain uneven.
Expenditure accountability	Climate budget tagging and IFMIS integration are improving, but the full chain from allocation to releases, expenditure, outputs, and household benefits is not yet transparent.
Public accountability	Audits, LGMSD, parliamentary oversight, CSO assessments, and community platforms exist, but information is not yet consolidated and accessible enough for effective public scrutiny.

The core finding is that Uganda has created many of the institutions required for climate-information accountability, but these systems are not yet sufficiently integrated or user-oriented. Climate information often exists without being converted into accessible local advice, budget priorities, public evidence, or corrective action.

Recommendations

1. **Create a central public climate-information repository.** The repository should integrate weather, vulnerability, project, budget, expenditure, and outcome information in accessible formats for MDAs, LGs, CSOs, journalists, researchers, and communities.
2. **Establish district climate-information centres.** These should provide localised forecasts, vulnerability maps, early warnings, budget information, and practical guidance for farmers, pastoralists, women, schools, health facilities, and local businesses.
3. **Use multiple and locally appropriate communication channels.** Climate information should be provided through local-language

radio, SMS, parish weather clinics, community meetings, extension services, and disability-accessible formats.

4. ***Complete gender- and equity-disaggregated indicators.*** Indicators on climate-information access should have clear baselines, annual targets, responsible officers, collection methods, and reporting requirements.
5. ***Link climate information to budget decisions.*** Each District Climate Change Action Plan should identify the information used to select priorities, the resulting budget lines, the implementing institution, and the expected beneficiaries.
6. ***Integrate LG climate reporting into LGMSD.*** LGMSD should assess climate-data use, public participation, grievance resolution, climate-budget execution, maintenance of climate assets, and community satisfaction.
7. ***Publish climate-finance release and expenditure data.*** Data should be available by MDA, LG, district, project, climate category, financing source, release, expenditure, and beneficiary group.
8. ***Strengthen feedback and grievance mechanisms.*** Information users should be able to report whether forecasts were received, understood, accurate, and useful, and whether climate projects addressed the risks identified by communities.
9. ***Make MRV operational across all climate-sensitive sectors.*** MWE should ensure that agriculture, energy, water, health, forestry, transport, waste, and LG data are routinely uploaded, verified, and linked to annual performance reports.
10. ***Support civil-society and community oversight.*** CSOs, farmer organisations, women's groups, pastoralist organisations, disability organisations, and local media should receive information and capacity support to monitor climate finance and project outcomes.

Climate information, inclusion, and accountability are prerequisites for climate justice. Without accessible information, vulnerable communities cannot participate effectively in planning or monitor public commitments. Without disaggregated data, government cannot determine whether women, men, youth, persons with disabilities, pastoralists, refugees, and poor households are benefiting equally. Without integrated MRV and expenditure reporting, climate budget tagging cannot provide a complete accountability chain.

Uganda's priority should therefore be to move from the production of climate information to its effective use. The relevant test is not simply

whether forecasts, vulnerability assessments, or budget codes exist. The test is whether communities receive information in usable forms, whether that information changes local plans and budgets, whether resources are released and spent, and whether affected households can see and challenge the results.

2.1.3 Adaptation Implementation

Adaptation implementation is broad but uneven. The NDC 2.0 expanded the 2015 policy priorities to include education, tourism, cities and the built environment, and manufacturing, industrial processes, and mining. Evidence is strongest for discrete projects and physical outputs, but weaker for national coverage, maintenance, outcome measurement, and Local Government capacity.

Table 3: Adaptation Implementation by Sector

Sector	Implementation evidence	Principal gap
Environment and ecosystems	Catchment and wetland restoration, collaborative forest and wildlife management, sustainable land management, and payment-for-ecosystem-services pilots have been implemented.	Wetland loss, cultivation on fragile slopes, extractive pressures, and weak local monitoring continue.
Water and sanitation	Four water management zones, catchment plans, valley tanks, micro-irrigation, water harvesting, hydrological monitoring, and flood-warning pilots are in place. By end-2024, about 2,600 of 4,000 targeted households had accessed UgliFT micro-irrigation.	Catchment plans are underfunded, irrigation coverage remains low, and baseline data are incomplete.
Agriculture	Post-harvest losses reportedly fell from 37% to 18.2% between 2020 and 2025; irrigated area increased from 19,776 to 23,141 hectares; and NARO released 21 varieties, 13 classified as climate-resilient.	National data on adoption of sustainable land management and attributable resilience outcomes remain weak.

Sector	Implementation evidence	Principal gap
Forestry	Planted forest area increased from 107,608 hectares to 338,555 hectares by end-2024, and more than 100,000 hectares of natural forest were reportedly restored by 2025.	Forest loss persists, biomass technologies have low uptake, and institutional rationalization has disrupted oversight.
Fisheries	Production reached 728,369 metric tons, and ecosystem-based aquaculture support expanded. The Fisheries and Aquaculture Act, 2023 strengthened resource governance.	The Act does not explicitly integrate climate adaptation, participation incentives, or climate-specific implementation measures.
Energy for adaptation	Generation reached about 2,047 MW in 2025; results-based subsidies support solar, clean cooking, and productive-use technologies; clean cooking is being piloted in 120 schools.	On-grid access is about 25%, energy-efficient cooking only 3.8%, and climate risks to power infrastructure are insufficiently assessed.
Transport	Paved roads increased and design guidance has begun to integrate climate risk.	Evidence of systematic climate-proofing and resilient road standards remains limited, while drainage and maintenance lag.
Industry and mining	The NDC now treats manufacturing, industrial processes, and mining as adaptation priorities.	Implementation evidence is scarce, despite major industrial parks being exposed to flooding.
Cities and built environment	Kampala adopted a climate strategy and more than 25 km of drainage was constructed in the metropolitan area.	Other urban authorities largely lack climate plans; development control in flood-prone areas remains weak.
Tourism	Climate-risk assessments are planned, and FY 2024/25 revenue sharing transferred UGX 10.2 billion to Local Governments around protected areas for 42 community projects.	The Wildlife Act does not explicitly address climate change, and park management plans inadequately mainstream climate risk.

Sector	Implementation evidence	Principal gap
Education	Climate content is integrated into secondary curricula, higher-education guidance, university programmes, research, and regional capacity-building initiatives.	Coverage and learning outcomes are not systematically tracked.
Health	A Health National Adaptation Plan for 2025–2030 requires risk assessments, district climate-health profiles, and links with disaster response.	Implementation and district financing remain at an early stage.
Disaster risk reduction and vulnerable groups	NECOC provides early warning and coordination; households exposed to landslides have been relocated from Bududa to Bulambuli.	Only two district climate action plans were completed by end-2025, and social protection for climate-vulnerable groups remains limited.

2.1.4 Mitigation Implementation

The updated NDC consolidates mitigation into agriculture, forestry and other land use (AFOLU), energy, transport, waste, and industrial processes and product use. AFOLU is expected to deliver 30.4 MtCO₂e of the projected 36 MtCO₂e reduction by 2030, making land and forest governance decisive.

Table 4: Mitigation implementation by Sector

Sector	Progress	Implementation constraint
AFOLU	Commercial woodlots, irrigation schemes, collaborative forest management, wetland restoration, REDD+, climate-smart agriculture, and carbon-market pilots have expanded. The US\$44.3 million wetlands and catchments project combine GCF, government, and UNDP financing.	Deforestation for agriculture and charcoal continues; land encroachment and illegal titles weaken public forests; methane-reduction practices in livestock remain limited; emissions reductions from many projects are not quantified.

Sector	Progress	Implementation constraint
Energy	Hydropower and solar generation expanded, and the NDC promotes lower system losses, efficient charcoal production, industrial efficiency, fuel switching, institutional clean cooking, and universal household access.	Wind remains largely undeveloped, geothermal is at prefeasibility stage, biomass dependence persists, and household adoption of cleaner technologies is slow.
Transport	Road investment, electric buses and motorcycles, a Kampala non-motorised corridor, biofuel blending, and analysis of transport mitigation options provide a basis for reform.	Vehicle inspection and emissions enforcement are weak; public transport and rail reforms remain limited; interventions are concentrated in Kampala. About 4,200 electric motorcycles in mid-2025 remained small relative to more than 200,000 petrol motorcycles.
Waste	Pilots cover wastewater biogas, composting, bio-latrines, briquettes, and waste sorting.	Implementation remains small-scale; municipal collection is often below 50%; gasification and large-scale waste-to-energy have not materialised.
Industrial processes and product use	The policy promotes cleaner cement production, efficient lime kilns, alternative fuels, and emissions regulation.	The 2025 NDC stocktake reported no implemented activity. Cement output of about 7 million tonnes annually creates a material unaddressed emissions source.

Technology planning has identified crop breeding, community irrigation, rainwater harvesting, farmer-managed natural regeneration, rooftop solar, efficient institutional stoves, and institutional biogas as priorities. Yet the proposed technology fund has not been established, and mandatory greenhouse-gas reporting is largely confined to entities participating in carbon markets.

2.1.5 Climate Finance and Public Financial Management

Climate finance is the binding implementation constraint. The NDC stocktake estimated a US\$19.6 billion financing deficit for 2020-2025, equivalent to 63.8% of required finance. The adaptation deficit was US\$11.85 billion, or 67.1%, while the mitigation deficit was US\$8.10 billion, or 74.5%. Forestry, cities and the built environment, agriculture, water and sanitation, and AFOLU recorded particularly large gaps.

Table 5: NDC Financing Requirement and Deficit, 2020-2025

Category	Finance needed (US\$ million)	Finance received (US\$ million)	Deficit	Deficit share
Adaptation	17,668.93	5,816.64	11,852.29	67.1%
Mitigation	10,323.09	2,222.01	8,101.08	74.5%
Coordination	106.70	484.70	378.00*	n.a.
Total	28,098.72	8,523.35	19,575.37	69.7%

***Denotes Surplus**

International access remains constrained. GCF reporting identified 19 projects with US\$220.1 million linked to Uganda, but only two were country-specific; most were multi-country projects managed by international accredited entities. Uganda has one direct-access accredited entity, the Ministry of Water and Environment, while other national institutions are pursuing accreditation. GEF climate allocations under STAR 5-8 totalled about US\$12.14 million, and Climate Investment Fund receipts reached US\$31.82 million by December 2024, which was below several regional comparators.

The National Climate Finance Strategy 2025-2030 provides a framework for mobilising, coordinating, using, and tracking domestic, international, public, and private finance with gender and social inclusion. Uganda Development Bank also committed UGX 50 billion to a Climate Finance Facility intended to blend grants and debt for agriculture, resilient infrastructure, low-carbon industry, clean energy, ecotourism, and waste management. Its additionality, uptake, and distributional effects require monitoring.

2.1.6 Climate-responsive Budgeting and Expenditure Tracking

Climate certification and tagging have improved formal budget integration, but not expenditure accountability. Budget Framework Papers are subject to climate-responsiveness certification, and output codes 000089 and 000090 support mitigation and adaptation tracking. The national climate-alignment score rose from 46% in FY 2022/23 to 54% in FY 2023/24 and 62% in FY 2024/25 (World Bank, 2025). However, only 13 entities used the relevant codes in FY 2023/24, and major sectors did not fully report. Tagging also inadequately distinguishes recurrent from development expenditure and does not consistently include off-budget finance (Navarro et al., 2024).

Table 6: Climate Budget Compliance Trends (%)

Programme	FY20/21	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26
Sustainable Energy Development	16.7	58.2	65.7	33.3	64.6	48.3
Natural Resources, Environment, Land and Water	77.8	57.2	72.0	53.3	56.1	53.3
Sustainable Urban Development	50.0	60.8	54.3	34.1	37.3	75.0
Agro-Industrialization	45.0	64.7	71.4	52.6	32.6	37.1
Overall average	50.0	65.0	46.1	54.1	49.15	44.8

Source: ACODE and NPA (2025)

The overall compliance score fell from 65.0% in FY 2021/22 to 44.8% in the FY 2025/26 Budget Framework Paper. Sustainable Energy Development fluctuated from 16.7% in FY 2020/21 to 65.7% in FY 2022/23, before falling to 48.3% in FY 2025/26. Certification therefore measures planning alignment, not stable financing or implementation.

Programme-level outturns are traceable, but a consolidated climate-finance account is not. In FY 2023/24, the Natural Resources, Environment, Climate Change, Land and Water programme received UGX 37.355 billion against an approved UGX 38.360 billion and spent UGX 33.150 billion. This equals 97.4% release against approval and 88.7% expenditure against releases. Such figures cannot be aggregated reliably across government under current classifications (ERA,2024).

2.2 Renewable Energy Policy Implementation

2.2.1 Policy Direction, Generation, and Access

Renewable energy is more visible in budgets and performance reports than cross-cutting climate action, but access and equity outcomes remain inadequate. Programme 08 Sustainable Energy Development, Sub-programme 03 Renewable Energy Development, Department 004, and outputs for technology development, distribution expansion, and electricity connections provide identifiable classifications. Nevertheless, allocations are dispersed across generation, transmission, rural electrification, efficiency, clean cooking, project preparation, and externally financed projects.

Installed capacity increased substantially, driven by hydropower. Large hydro and small hydro supplied about 92.4% of electricity

consumed in 2024, compared with 2.6% from solar PV, 3.9% from bagasse, and 1.1% from thermal generation. Karuma added 600 MW, and total hydropower capacity reached about 1,721.7 MW in 2025. The concentration in hydropower creates system exposure to hydrological variability, while wind remains undeveloped and geothermal resources remain exploratory.

Table 7: Electricity Consumed by Source, 2024

Source	Plants	GWh	Share
Large hydro	6	4,720.0	78.0%
Small hydro	25	870.1	14.4%
Bagasse	5	234.3	3.9%
Solar PV	5	98.2	2.6%
Thermal	2	64.0	1.1%
Imports	3	41.2	0.7%
Total		6,027.8	100%

Source: ERA,2024

Generation growth has not translated into broad access. Uganda had an estimated 1,063 MW surplus, yet national grid access was about 25%, with sharp geographic disparities, including approximately 90% in Kampala, 45% in the Central Region, 4.1% in West Nile, and 2.2% in Karamoja. Connection charges and tariffs constrain uptake even where the grid is available. The Electricity Access Scale-up Project seeks more than 900,000 new connections and includes productive use and refugee-hosting communities.

2.2.2 Off-grid Energy, Clean Cooking, and Productive use

Solar markets have expanded, with five grid-connected plants providing about 60 MW and more than 200 firms supplying off-grid systems. Results-based subsidies introduced in December 2024 reduce prices for solar lanterns by 60%, two-light systems by 50%, clean-cooking solutions by 30-50%, and productive-use equipment by 60%. However, limited consumer awareness, weak purchasing power, variable product quality, scarce skilled personnel, and lender concerns continue to restrict uptake.

Clean cooking remains the largest policy gap. Biomass dominates household cooking, while adoption of efficient kilns, improved stoves, LPG, electricity, ethanol, biogas, and briquettes remains limited. The charcoal ban in Northern Uganda has been difficult to enforce and reportedly created opportunities for informal payments. Policy should

combine sustainable biomass supply, consumer finance, standards, local manufacturing, alternative fuels, efficient institutional cooking, and credible enforcement.

Other renewable-energy programmes show mixed progress. The Biofuels Act was enacted in 2020 and a national blending programme launched in 2025, but large-scale integration is nascent. Waste-to-energy activity remains at pilot stage, including wastewater biogas and municipal waste studies. Five sugar companies supply about 112 MW from bagasse. Energy-efficiency regulation advanced through the Energy Efficiency and Conservation Act (2026), while an institutional cook-stove programme in 15 schools generated 12,507 certified emission reductions between 2013 and 2024.

2.2.3 Budget Execution and Output Performance

The broad Energy and Mineral Development vote fell from UGX 1,691.899 billion in FY 2022/23 to UGX 1,211.462 billion in FY 2024/25, before rising to UGX 1,799.671 billion in FY 2025/26. Because these totals include large power and externally financed projects, they should not be interpreted as a renewable-energy trend. The closest identifiable Renewable Energy Department or technology-development line increased from UGX 0.680 billion in FY 2022/23 to UGX 2.084 billion in FY 2025/26, but excludes major investments elsewhere in the vote.

Table 8: Sustainable Energy Development outturn, FY 2023/24, UGX billions

Budget level	Approved	Revised	Released	Spent	Release/ approved	Spent/ released
Programme 08	363.388	536.041	505.323	481.413	139.1%	95.3%
Energy planning and infrastructure	261.981	414.981	398.522	387.228	152.1%	97.2%
Renewable-energy technology output	1.878	1.878	1.611	1.172	85.8%	72.7%
Distribution-related outputs	154.376	262.376	253.721	247.628	164.3%	97.6%

Source: MoFPED (2024). Approved Estimates of Revenue and Expenditure

High programme-level execution masks weaker performance in renewable-energy outputs. The renewable-energy technology output spent 72.7% of releases, compared with 95.3% for the programme. This distinction is essential when evaluating whether

large infrastructure outturns translate into household access, clean cooking, or decentralised energy services.

Table 9: Selected Renewable-Energy output Performance, FY 2023/24

Indicator	Planned	Achieved	Assessment
Solar water heaters installed	20	3	Weak
New renewable-energy solutions	15	15	Achieved
Solar dryers installed	2	10	Exceeded
Wind water-pumping systems	13	0	Not achieved
Net-metering regulation	1	0	Not achieved
Transmission kilometres added	4,500	4,518	Achieved
Transformation capacity	310%	660.5%	Exceeded

Source: MoFPED (2024). Approved Estimates of Revenue and Expenditure

Output delivery was mixed. Physical installations performed better than market-enabling regulation, but reporting also contained measures requiring verification. Under Energy for Rural Transformation, reported benefits included 378 health-facility systems, 129 systems for post-primary institutions, and 15 solar water-pumping systems. Domestic solar systems also reached vulnerable households and schools serving learners with disabilities. These data establish reach, but not affordability, sustained use, service quality, or long-term welfare effects.

2.3 Gender and Inclusion in Climate Justice and Renewable Energy Policies

Gender and social inclusion are central to climate justice because climate risks are not experienced equally. Women, men, children, youth, persons with disabilities, older persons, refugees, ethnic minorities, poor households, and people living in climate-sensitive regions often have different levels of exposure, access to resources, decision-making power, and capacity to respond to climate shocks.

Uganda’s policy framework recognises these differentiated vulnerabilities. The National Climate Change Act, 2021 requires climate strategies to consider gender, human rights, indigenous knowledge, and the specific resilience and adaptation needs of vulnerable and marginalised communities (Republic of Uganda, 2021). The National Climate Change Policy also mandates gender-sensitive climate action and recognises that women and children are particularly vulnerable

due to unequal access to land, water, energy, and other productive resources (MWE, 2015).

At the implementation level, Uganda has increasingly integrated gender and equity language into climate policies, budget guidelines, climate-finance strategies, and performance indicators. However, translating these commitments into dedicated funding, meaningful participation, disaggregated results, and structural improvements remains incomplete.

2.3.1 Recognition of Vulnerable Groups

Uganda's climate-finance framework identifies a broad range of vulnerable groups, including: poor and landless women, female-headed households, youth, children and child-headed households, persons with disabilities, older persons, orphans and other vulnerable children, ethnic minorities, rural populations and disadvantaged regions, and refugees and persons affected by HIV/AIDS (MoFPED, 2025a).

The National Climate Finance Strategy also recognises the disproportionate effects of climate change on rural women, urban poor households, disadvantaged youth, persons with disabilities, and other marginalised communities. It proposes that resilience-building should prioritise the groups most affected by climate change (MoFPED, 2025a). This represents progress in recognition justice, as it rejects the assumption that all households experience climate change in the same way. It also provides a basis for targeting climate finance by gender, poverty, disability, age, livelihood, location, and displacement status.

The main weakness is that recognition in policy is broader than in implementation. Budget documents frequently use general categories such as "women and vulnerable groups" without clearly specifying: the number of beneficiaries, the amount allocated to each group, the type of benefit provided, whether women or marginalised groups control the resources, whether the intervention reduces structural inequality, and whether benefits are sustained after project completion.

2.3.2 Gender-responsive climate finance and budgeting

The National Climate Finance Strategy proposes gender-responsive budgeting across climate-finance streams. It includes gender-disaggregated targets, gender and equity checklists, performance-based indicators, and a target that at least 30% of climate investments should benefit women-led initiatives (MoFPED, 2025a). The strategy also proposes: gender-responsive regulations; collection of sex-, age-, and disability-disaggregated data; gender-responsive climate adaptation and mitigation in public investment criteria; gender-

responsive performance-based climate resilience grants; and increased financing for women-led climate-resilience initiatives (MoFPED, 2025a).

These measures could strengthen distributive and recognition justice if they are incorporated into annual budgets, releases, expenditure reports, and Local Government performance assessments. However, there is a substantial implementation gap. Uganda's updated NDC identifies inequalities in agriculture, energy, and waste management, including limited land rights, exclusion from decision-making, and limited access to adaptation technologies, but does not provide concrete funding estimates for gender and equity actions (Republic of Uganda, 2022). This means that gender mainstreaming remains vulnerable to becoming a procedural requirement rather than a resource-allocation obligation.

2.3.3 Gender and Participation in Decision-making

Procedural justice requires women and other marginalised groups to participate meaningfully in defining climate priorities, designing projects, allocating resources, monitoring implementation, and resolving grievances. Uganda's National Climate Change Policy emphasises participation by women and vulnerable groups at national and local levels (MWE, 2015). The National Climate Change Act also assigns responsibility for promoting multi-stakeholder and public participation and requires climate strategies to consider gender and human rights (Republic of Uganda, 2021).

There is evidence of participatory climate activities, including: regional climate-outlook forums, participatory scenario planning, farmer consultations, community-based wetland planning, district-level climate training, local government consultations, and community engagements under adaptation and water projects. For example, participatory scenario-planning workshops were held in Kiboga, Sembabule, and Isingiro, with one workshop involving 80 farmers and media representatives (MoFPED, 2024). However, participation does not necessarily translate into influence. Women may attend meetings but have limited control over decisions on land, water, energy technologies, compensation, procurement, or project design. The institutional assessment also identifies limited technical knowledge of gender-climate linkages among national and sub-national actors (MoFPED, 2025a).

The evidence therefore suggests that participation is often consultative rather than transformative. Gender inclusion requires more than simply counting women at meetings. It requires evidence that women's

priorities have changed the location, design, financing, implementation, or monitoring of climate interventions.

2.3.4 Gender and Climate Information

Access to climate information is a key inclusion issue. Women farmers, pastoralists, people with disabilities, and poor rural households may have limited access to extension services, mobile phones, formal information systems, transport, and decision-making networks. Uganda's climate indicator framework includes an indicator for the number of men and women farmers accessing timely weather information. The indicator is intended to be disaggregated by gender and reported quarterly by District Production Officers (Government of Uganda, 2015).

However, the baseline and target for this indicator remain undetermined. This limits the ability to assess whether climate information systems are reaching women and men equitably. A related indicator proposes measuring the percentage of women and men who make informed decisions based on climate information. This is a stronger indicator because it assesses use and decision-making rather than simply measuring whether information was disseminated (Government of Uganda, 2015). Information dissemination also remains uneven. A gender and equity intervention intended to develop new channels for communicating weather and climate information was allocated UGX 0.120 billion, but no expenditure was recorded by the end of Q4, and no new channels had been designed because procurement had not been completed (MoFPED, 2024).

The gender justice implication is clear: information systems can reproduce inequality if they rely on communication methods that exclude women, persons with disabilities, people with low literacy, remote communities, and households with limited access to mobile phones or formal institutions.

2.3.5 Gender and Renewable Energy Access

Energy policy has significant gender implications, as women and girls often shoulder a disproportionate burden of fuelwood collection, household energy management, unpaid care work, and exposure to indoor air pollution. Uganda's Energy Policy for Uganda 2023 recognises clean cooking, renewable energy, energy efficiency, and universal access as national priorities (MEMD, 2023). The policy framework also recognises gender and social safeguards in energy-sector planning, although implementation remains uneven (MEMD, 2023). The National Climate Finance Strategy reports that women remain concentrated

in informal and small-scale biomass activities, such as briquette production, and have limited access to higher-value opportunities in solar energy and other clean-energy industries (MoFPED, 2025a). The available evidence indicates four gender-related energy challenges:

- a) Women's limited participation in technical, managerial, and ownership positions in the renewable-energy sector.
- b) Limited evidence that climate finance supports women-led energy businesses.
- c) Continued dependence on biomass and inefficient cooking technologies.
- d) Limited measurement of whether off-grid energy investments reduce women's unpaid labour and improve household welfare.

Renewable-energy policy implementation should therefore measure not only megawatts generated or connections made, but also: the number of women and men gaining access in the different regions, the affordability of connections and technologies, time saved by women and girls, Women's ownership of energy enterprises, Women's access to technical training and finance, adoption of clean cooking technologies, Productive uses of electricity by women-led businesses, and effects on health, safety, and household income.

2.3.6 Gender in Agriculture, Water, and Natural Resource Management

Women's vulnerability to climate change is particularly pronounced in agriculture, water management, and natural-resource use. Women often have less access to land, credit, extension services, climate information, improved seeds, irrigation, livestock assets, and adaptation technologies (MWE, 2015). This creates a risk that climate-smart agriculture programmes will benefit better-resourced farmers while leaving women farmers, female-headed households, youth, and smallholder farmers behind. The National Climate Finance Strategy identifies agriculture, water, and energy as sectors requiring gender-responsive climate finance. It also supports the use of gender and equity planning tools across the project cycle (MoFPED, 2025a).

In water and natural-resource management, women are often major users and managers of household water and energy resources but remain underrepresented in formal decision-making structures.

Climate interventions that construct water points, dams, irrigation schemes, wetlands, or catchment infrastructure should therefore include women in; site selection, water-user committees, operation and

maintenance, tariff and access decisions, monitoring of functionality, and conflict-resolution processes. Without this participation, climate investments may improve physical infrastructure without addressing unequal access or decision-making power.

2.3.7 Gender and Local Government Implementation

Local Governments are central to gender and inclusion because they implement many climate-sensitive services and interact directly with communities. District development plans, local budgets, agricultural extension, water services, community development, health, education, and disaster management all have gender dimensions.

Uganda's climate policy framework expects district-level climate action to be integrated across departments and supported by local climate focal points and environment committees (MWE, 2015). However, many Local Governments have limited funding, staffing, climate information, and technical capacity. The effectiveness of gender-responsive climate policy at local level depends on whether:

- a) District budgets contain identifiable gender-responsive climate activities.
- b) Local planning processes include women and marginalised groups.
- c) Gender focal persons have resources and authority.
- d) Climate committees include women, youth, PWDs, refugees, and local representatives.
- e) PBCRG and LoCAL investments use gender and equity criteria.
- f) LGMSD performance indicators assess inclusion and beneficiary outcomes.
- g) Local complaints and grievances are recorded and resolved.

The risk is that gender remains assigned to a single focal person or community-development department rather than being integrated across agriculture, water, energy, roads, health, environment, and finance.

2.3.8 Gender, climate finance, and structural inequality

A major limitation in Uganda's implementation system is that gender mainstreaming is sometimes reduced to adding women as a beneficiary category. Research on climate and gender governance in Uganda indicates that gender activities may focus on women without addressing structural inequalities in land ownership, decision-making, labour, technology access, finance, and institutional power (Acosta et

al., 2020, 2021). This distinction is important in the following ways:

- a) Gender-sensitive programming recognises that women and men may experience climate change differently.
- b) Gender-responsive programming allocates resources and designs activities to address those differences.
- c) Transformative programming changes the institutions, norms, assets, and power relations that create unequal vulnerability.

Uganda's climate-finance framework contains gender-responsive commitments, but the evidence is not yet sufficient to conclude that climate spending is consistently transformative. The most important gap is the limited availability of outcome data showing whether climate investments have changed women's asset ownership, income, decision-making power, unpaid labour, access to energy, access to land, or resilience to climate shocks.

Therefore, gender inclusion must be must go beyond broader social inclusion. The policy framework recognises youth, persons with disabilities, older persons, ethnic minorities, refugees, rural communities, disadvantaged regions, children, and people affected by HIV/AIDS as vulnerable groups (MoFPED, 2025a). However, inclusion requires more than listing groups in policy documents. It requires: Accessible consultation formats, Disability-inclusive infrastructure, Local-language communication, Refugee and host-community planning, Age- and disability-disaggregated data, Representation in local committees, Accessible grievance and compensation procedures, Social safeguards for infrastructure and energy projects. And Monitoring of benefits by social group.

Based on the above analysis of gender and inclusion in Uganda's climate justice implementation, this study observes that there is a strong in policy recognition but partial in financing, participation, implementation, and outcomes as illustrated in table 14 below.

Table 10: Gender and Inclusion in Climate Change and Renewable Energy Policy implementation

Area	Description
Policy recognition	Policy recognition is strong. Gender, vulnerable groups, human rights, indigenous knowledge, and social inclusion are recognised in the National Climate Change Act, the National Climate Change Policy, the NDC, and the National Climate Finance Strategy.
Institutional arrangements	The institutional arrangements are moderate. Gender and equity responsibilities exist, but technical capacity and coordination are uneven across MDAs and LGs.
Budget integration	Partial. Gender and equity tools and targets exist, but dedicated funding and execution data are inconsistent.
Participation	Participation is Partial. Women and vulnerable groups are included in consultations, but their influence over final decisions and budgets is not consistently demonstrated.
Renewable-energy inclusion	Ranges from Weak to partial. Policy objectives include clean cooking and modern energy access, but evidence of women's participation in energy ownership, finance, jobs, and technical roles remains limited.
Data and monitoring	Ranges from Weak to partial. Gender-disaggregated indicators exist, but several lack baselines, targets, or reliable reporting.
Structural transformation	Weak. There is limited evidence that climate investments are changing unequal access to land, finance, technology, decision-making, and productive assets.

It is noteworthy that Uganda has moved beyond recognising gender and social inclusion in climate policy. Women, youth, persons with disabilities, refugees, ethnic minorities, rural communities, and disadvantaged regions are now recognised in major climate laws, strategies, and finance frameworks. The implementation challenge is to move from recognition to measurable redistribution of resources and power. Gender-responsive climate justice requires dedicated and traceable financing, meaningful participation, disaggregated data, inclusive energy and agricultural services, accessible climate information, and accountability for whether vulnerable groups actually

benefit. The most important policy shift is therefore from asking whether women and marginalised groups are mentioned in climate policies to asking whether they: influence decisions; receive climate finance benefits; own or control productive assets; access clean, affordable energy; receive timely climate information; participate in local government committees; benefit from adaptation technologies; have access to grievance and compensation mechanisms; and experience measurable improvements in income, safety, health, time use, and resilience.

2.4 Conclusions and Priority Actions

Uganda has achieved strong policy and institutional translation, partial budget translation, limited-to-moderate expenditure traceability, and uneven household benefits. Renewable energy is easier to trace through programmes and outputs than cross-cutting climate policy, but both frameworks have a weak results chain between commitments, costing, appropriation, release, implementation, and verified outcomes.

Table 11: Priority Actions and Accountability Indicators

Priority action	Lead institutions	Accountability indicator
Publish a consolidated annual Climate Budget and Expenditure Statement covering central and local votes, external finance, and off-budget projects.	MoFPED, MWE, NPA, MoLG	Allocations, revisions, releases, expenditure, outputs, locations, sources, and beneficiaries reported together.
Make climate tagging comprehensive and distinguish recurrent expenditure from investment.	MoFPED, MWE, NPA	All relevant votes use verified adaptation and mitigation codes, with classification errors disclosed and corrected.
Integrate climate risk and justice into project appraisal and ex-post evaluation.	NPA, MoFPED, sector ministries	Major projects disclose climate risks, distributional effects, safeguards, implementation results, and lessons.
Strengthen Local Government planning, finance, and reporting.	MoLG, MoFPED, MWE, Local Governments	District climate plans, tagged budgets, outturns, and vulnerability-based allocations reported annually.

Priority action	Lead institutions	Accountability indicator
Develop bankable projects and strengthen direct access to international funds.	MWE, MoFPED, UDB, NEMA, KCCA	More nationally accredited entities and a larger share of country-specific finance managed by Ugandan institutions.
Prioritise rural access, off-grid systems, clean cooking, and productive use.	MEMD, UECCC, Local Governments	Results disaggregated by location, sex, disability, poverty, connection status, affordability, and technology.
Strengthen MRV, climate information, and sector data systems.	MWE, UBOS, sector agencies	Operational national MRV links emissions, finance, outputs, outcomes, and NDC targets.
Track sustained household and institutional benefits.	MoFPED, MWE, MEMD, Local Governments	Evaluation measures income, service reliability, energy costs, food security, disaster losses, clean-cooking adoption, and resilience.

These reforms would shift implementation from policy compliance toward accountable financing and measurable climate, energy-access, and equity outcomes.

3. EMERGING ISSUES, GAPS AND OBSERVATIONS

3.1 Climate Change

Climate change is recognized as a cross-cutting and multi-sectoral challenge. Dealing with climate change requires that all facets of the economy are working together to achieve a common goal towards building resilience to impacts of climate change and reducing GHG emissions. Moreover, climate change offers an opportunity for a country like Uganda to pursue a green and sustainable development pathway. This implies that pursuing climate change adaptation and mitigation objectives will also help the country meet its development goals.

Climate change has been at the forefront of Uganda's development agenda and has been embedded into Uganda's development goals and plans. Uganda's Vision 2040⁸ recognizes climate change as one of the factors that will affect the development agenda for socioeconomic transformation of its citizens. It sets the stage for developing policies as well as sectorial and local plans for adaptation, mitigation knowledge sharing and capacity development. Vision 2040 also recognizes the need to invest in renewable energy sources to back up hydro power plants whose generation capacity is directly linked to water levels which are at risk of drought.

The country's 5-year development plans equally recognize the threat climate changes poses. Uganda's second National Development Plan (NDP II- 2015/16 to 2019/2020)⁹ stated that climate change potentially poses one of the greatest challenges for Uganda to realize its Vision 2040. The fourth NDP 2025/2026 to 2030/2031 (NDP IV)¹⁰ recognizes that appropriate climate change response efforts can minimize operational disruptions and destruction of infrastructure due to extreme weather events, reducing development and maintenance costs. It is further acknowledged in the NDP IV, that climate action offers an opportunity for revenue by tapping innovative climate finance options such as carbon credits. In the NDP, climate change is placed under the sustainability program, and cc sub-program.

8 <https://www.npa.go.ug/wp-content/uploads/2023/03/VISION-2040.pdf>

9 <https://www.npa.go.ug/wp-content/uploads/2023/03/NDPII-Final.pdf>

10 <https://parliamentwatch.ug/wp-content/uploads/2025/01/PDF-FINAL-NDPIV-for-Parliament-Approval-13122024-1.pdf>

Climate action in Uganda is hinged on international climate change developments. Uganda signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and was party to the Kyoto Protocol and benefited from one of its mechanisms, particularly, the Clean Development Mechanism (CDM). Examples of CDM projects implemented in Uganda include the Bujagali power station on River Nile, and numerous tree planting projects across the country. The country ratified the Paris agreement after submitting its Intended Nationally Determined Contributions in 2015. These were later adopted as the Nationally Determined Contributions (NDCs) with the first update submitted in 2022. A costed NDC implementation plan was also completed in 2023. Uganda's NDC 2.0 provided a comprehensive plan on how Uganda intended to implement climate action in the 2022 to 2030 period. Efforts are underway to update this NDC as is the requirement of the Paris agreement.

Priority mitigation sectors changed in the NDC to only five to include AFOLU, Transport, Energy waste and Industrial Processes and Products use. Adaptation sectors were rearranged. Some of the NDC objectives and targets fall outside sector specific policies. For example, wetlands from 8% to 13%. Another example is the one of increasing forest cover in the country from 15% in 2010 to 24% by 2030. The initial target was 24% by 2040 from a baseline of 15% in 2010. Forest coverage was 12% in 2020 and 13% in 2025. By comparison, the human population rose from 35m in 2014 to 45.6m in 2024. The target of 24% forest cover by 2040 seems a little out of reach. Current afforestation is at about 10,000ha per year, yet forest loss is estimated to be 50,000 ha per year. Based on data from the NDC 2.0 Stocktake, only 33% of the adaptation priorities and only 25.5% of the mitigation priorities were funded over the last five years. Based on this financing shortfall, Uganda's performance has been below average (MWE, 2025).

Coordinating and Consolidating isolated actions: Over time, Uganda has initiated isolated interventions for climate change adaptation and mitigation. These include developing the NAPAs, the NAMAs, NAP-ag and H-NAP. There are many responsibilities associated with coordinating climate action in Uganda and representing the country in climate change negotiations and international meetings for the 17 staff of CCD, or even the 24 if all positions are filled. MDAs have to report to CCD, 145 district local governments must report to CCD, plus the private sector.

Human capacity gaps: There are human capacity gaps at the local government levels. Majority of staff at the district level do not have

the required level of understanding of climate change matters. This is likely to affect local level project implementation. Apart from the district NR department staff, knowledge of climate change among the other departments is relatively low. The staff need capacity building to enable them meaningfully participate and contribute to climate change discussions and activity implementation at the district level. The law requires districts to prepare climate action plans. These are expected to incorporate key sectors at the district level. This will not happen unless district staff capacity is enhanced to plan effectively.

The carbon capture and storage functions which are important for climate change regulation are threatened by the decline in forest cover. Forest management is constrained by deforestation and forest degradation driven by unsustainable agricultural practices, illegal logging, charcoal production, and weak enforcement of forestry regulations (NDP-IV).

Financing shortfalls: Inability to prepare project proposals to secure funding from internal funding sources such as GEF and GCF. Insufficient funding. Most of the funds spent at the local government levels if allocated from the national budget. Very little funds are available for the districts to initiate climate change adaptation and mitigation interventions. This could also be because the districts have not yet developed their respective climate change plans. Many of them citing lack of funds and the technical know-how to accomplish that task. Despite recognition that climate change is a potential source of revenue, in NDP-IV not much climate finance has been attracted from the private sector. The climate change mechanisms regulations in 2025, offers an opportunity for the country to benefit from carbon markets through the sale of carbon.

Climate finance unit role is coordination. Capacity enhancement for climate change project development is required in the priority adaptation and mitigation sectors.

Inadequate emphasis on agriculture and livestock: The water sector is key to resilience in agriculture though promoting irrigation and fertilizer use to improve production and productivity. In spite of having substantial ground and surface water resources, the irrigation rate in Uganda is still one of the lowest in the region and in the world. Irrigation is important in ensuring that agriculture is still productive when rain is not reliable. Recent efforts to provide subsidies for smallholders to access irrigation equipment are only a drop in the ocean. NARO has developed improved crop varieties and animal breeds are available, but the public is slow to adopt those. And many are still using traditional

varieties and breeds that are not resilient to the impacts of climate change. Weather and seasonal forecasts have improved but are not a big part of on-farm decision-making. Agricultural insurance has been piloted, but is not widely available or used

According to the National Livestock Census Uganda had 14.5 million head of cattle in 2021. The bulk of emissions from agriculture come from livestock, mainly from enteric fermentation and manure left on grazing lands and pastures. Uganda has not done a good job at harnessing the opportunity this offers for reducing the GHG emissions but also using this to drive development. Cow-dung manure is a good source biogas that can be used for cooking in pastoral communities. The biogas slurry that is a by-product of this process can be used as manure to boost agricultural productivity or for the pastures.

Undervaluation of natural resources leads to their degradation. There is very little appreciation of the ecosystems services of carbon sequestration of forests, carbon storage in wetlands. GoU through its development plans, recognizes the coordination gaps that exist within responsible agencies for climate action.

Integrated and evidence-based climate change planning: A gap remains with respect to the integration of climate change issues into planning, decision making and investments in all sectors and trans-sectoral themes through appropriate institutional arrangements and legal framework, MFPED allocated budget codes to be used across all sectors for mitigation and adaptation. Apart from the water and environment and agriculture, mainstreaming climate change in other sectors remains low.

Each ministry is required to have a climate change focal person. This person liaises with the climate change department. Additionally, each sector is required to prepare a climate change plan. No sector has prepared a comprehensive climate plan so far. A few have prepared adaptation plans. Adaptation plans to be developed need to use data from climate change projections which provide the likely level of risk they have to deal with.

Efforts are underway to bring the other sectors on board. For example, in the transport sector a study was conducted to assess mitigation potential of this sector.¹¹ However, little or no work has been done to climate proof Uganda's transport infrastructure.

11 <https://changing-transport.org/wp-content/uploads/GIZ-2022.-Assessment-of-climate-change-mitigation-potentials-of-Ugandas-transport-sector-Modelling-repor.pdf>

There are numerous awareness creation interventions, yet even today more than two thirds of district staff do not have a precise understanding of climate change issues and where their respective sector stands with regard to adaptation and mitigation interventions. Harmonization across priority sectors is needed. Fisheries and Aquaculture Act of 2023 has no mention of climate change, yet the fisheries sector is a priority adaptation sector for Uganda.

Private sector engagement and incentivisation: The growing industrial sector seems to be left out of climate action, despite being mentioned in the policy and the NDC in both adaptation and mitigation interventions. Clean production methods need to be promoted. Private sector players have leverage in mitigation sectors such as renewable energy, energy efficiency. Incentives for resilience in agriculture. There is need to involve the PSFU more in climate action,

Loss and damage: NCCP 2015 did not include loss and damage, yet this is one of the emerging areas. Economic losses and damages are those affecting resources, goods and services that are commonly traded in markets, such as damage to critical infrastructure and property or supply chain disruptions.¹² A range of funding initiatives are available to fund loss and damage as a results of climate change impacts.

Climate action for the oil and gas sector: NCCP 2015, did not include adaptation and mitigation options for the oil and gas sector. Uganda has substantial petroleum reserves whose commercial exploitation is expected to start in 2026. Oil and gas extraction is associated with production of methane. Reduction of methane emissions from oil extraction needs to be reduced to a minimum if the country is to achieve its climate mitigation obligations. Oil and gas sector players are keen to ensure low emissions from extraction transportation of refining of petroleum in Uganda, as is evidenced from their respective. For example, Total Energies commissioned a climate change risk and greenhouse gas emissions assessment, to guide on appropriate adaptation and mitigation interventions for the Tilenga project in Nyoya and Buliisa districts.

Meaningful engagement of youth in climate action at local and regional levels needs to be reinforced. The youth comprise most of the Uganda's population. Programs like the Paris Development Model could be revised to include providing funds to innovative youth for resilience and GHG emissions reduction.

12 <https://www.wri.org/insights/loss-damage-climate-change>

3.2 Renewable Energy

The renewable energy policy (2007) set ambitious targets of ensuring that by 2017, 60% of energy in Ugandan would be derived from modern renewable energy technologies. Electricity generation in Uganda has significantly increased, however the pace of accessing the power has not moved at the same pace, resulting in surplus power supply. Having a surplus of power in a country where the average grid access is about 25% implies that more work needs to be done to ensure that electricity that is generated is used by the country. High cost of electricity. The renewable Energy Policy (2007) set short- and medium-term targets with 2017 as the final year. Policy is supposed to be flexible. Details of targets and programs are better specified in plans rather than in policy documents

Firewood and charcoal: The renewable energy policy objectives relate to a reduction in the consumption of charcoal and ensuring that the supply is from regenerated forests. The charcoal value chain from production, transportation and sale is a major source of livelihood for many people particularly women.¹³ The national charcoal survey put the consumption of charcoal in Uganda at 4,961 metric tonnes per day, in 2015. Current estimates given the increase in human population and urbanization will put the figures. In addition to the charcoal consumed in the country, charcoal is also an export commodity to neighboring countries, mainly Kenya. According to Uganda's NDP IV,¹⁴ the charcoal value chain employs an estimated 200,000 people in the country.

The president of Uganda issued an executive order No. 3 of 2023, prohibiting charcoal making and trade in specific northern and northeastern sub-regions, including Karamoja, Teso, Lango, Acholi, and West Nile. With only the minister of Environment, on the recommendation of the RDC who can authorize charcoal making in the mentioned regions. Enforcement of this executive order has been a nightmare.

Given the number of livestock in the country, there is an untapped energy source from animal waste for making biogas. The 2021 national livestock census estimate 14.5 million cattle, 7.1 million pigs in Uganda.¹⁵ Manure from these animals can be a source of energy for domestic use, thereby reducing on the reliance on firewood and charcoal and

13 <https://www.mdpi.com/2071-1050/12/20/8337>

14 https://www.npa.go.ug/wp-content/uploads/2023/03/NDPIII-Finale_Compressed.pdf

15 <https://www.ubos.org/wp-content/uploads/publications/National-Livestock-Census-2021-Abridged-Version.pdf>

will result into reduction of GHG emissions from the livestock sector. A livestock NAMA¹⁶ entitled Climate-Smart Dairy Livestock Value Chains in Uganda was developed with a component on Livestock manure management and biogas production, however it did not attract funding.

Planning for electricity generation has not taken into consideration the effects of climate change on power generation. For example, what are the implications of increasing water levels in major lakes on power large power stations. More often emphasis is given to reducing water levels that negatively affect power generation. Increased water levels can have either positive or negative impacts of power generation.

Despite the progress will solar power generation and electricity from biomass at industrial scale, more work needs to be done to improve domestic solar access. More than 80% of the rural households use small solar panel of about 50Watts for one or two lights and phone charging. Efforts can be put in place to promote residential solar panels of at least 400Watts. There is need to empower district local governments with respect to renewable energy. Whereas they may not be competent to work on investment promotion, they can handle tasks and activities related to awareness creation among the communities.

The country still exhibits widespread ignorance and lack of information on use of modern energy technologies. More work is needed to promote awareness about the working of modern technologies. With respect to individual solar, there are issues with quality control of the new technologies and materials on the market (solar panels etc). Potential for solar PV can be improved after assessing performance of the existing plants and working on what challenges they face.¹⁷ Information about operation performance of existing solar PV power plants is lacking.

The renewable energy sub-programs continue to struggle to deploy and promote renewable energy solutions on a large scale due to funding constraints.¹⁸ This together with the energy efficiency program are the least funded in the sector. Improving access to financing for the private sector investors and to credit consumers to access renewable energy technologies

16 https://www.uncclearn.org/wp-content/uploads/library/nama_uganda_agriculture.pdf

17 Katongole et al 2024. <https://www.sciencedirect.com/science/article/pii/S0973082624001704>

18 <https://www.finance.go.ug/sites/default/files/reports/Sustainable%20Energy%20Development%20Programme%20Annual%20Budget%20Monitoring%20report%20FY%202023-24.pdf>

There is not much progress on the biofuels program. Bioenergy is the most used source of energy in Uganda, accounting up to 94 % of the country's total energy consumption.¹⁹ Bioenergy is dominated by charcoal and fuel wood which are the dominant energy sources in both rural and urban areas. Use of firewood relies of wasteful traditional three stone stoves. There have been efforts to promote improved cook stoves using either firewood or charcoal in various parts of the country. Rates of adoption of these remains relatively low.

The new Energy Policy for Uganda (EPU) 2023 recognizes issues that continue to affect adoption of modern renewable energy technologies in the country, including (i) inadequate data and information on available renewable energy resources, (ii) limited access to affordable credit and financing for renewable energy projects and technologies, (iii) inadequate legal, regulatory and institutional framework, (iv) limited enforcement of quality standards for renewable energy technologies and products, (v) low awareness and appreciation of renewable energy resources and technologies, potential economic opportunities and benefits and (vi) limited technical and institutional capacity to develop, promote, deploy and utilize, and manage.

The EPU 2023 general strategies for renewable energy include (i) conducting national renewable energy resource assessments, including small hydropower and wind energy resources, (ii) fostering research and development of renewable energy technologies/solutions, (iii) promoting technology transfer in developing renewable energy solutions through regional demonstration centres, exhibition centres, technical training/skills transfer centres and renewable energy-centred labs, (iv) providing incentives to promote the local production and use of renewable energy technologies/solutions, (v) establishing and/or strengthening information exchange/knowledge-sharing platforms to foster knowledge transfer, (vi) developing comprehensive legal, regulatory and institutional frameworks for effective and sustainable renewable energy development and utilization, (vii) conducting public awareness campaigns on renewable energy's environmental, social and economic benefits, (viii) developing renewable energy resource investment guidelines and strategy (ix) strengthening renewable energy sub-sector/ecosystem coordination on platforms and mechanisms, and (x) strengthening the capacity of the private sector for self-regulation under the relevant umbrella associations.

It is not clear whether the renewable energy provisions in the EPU 2023

19 <https://www.giz.de/de/downloads/giz2022-en-uganda-renewable-energy.pdf>

are a step towards replacing the REP of 2007 whose targets were set for 2017. The EPU is also not clear about the nature of incentives for renewable energy production and utilisation.

3.3 Climate and Energy Justice

Uganda has established a substantial climate policy, legal, institutional, and budgeting framework, but implementation remains inequitable. The main gaps concern the translation of commitments into costed interventions, predictable releases, Local Government financing, measurable benefits for vulnerable households, and meaningful influence over expenditure decisions.

Uganda’s updated Nationally Determined Contribution (NDC) targets a 24.7% reduction in greenhouse-gas emissions below the business-as-usual trajectory by 2030 and identifies adaptation actions across 13 sectors. Implementation is estimated to require US\$28.1 billion by 2030 (Republic of Uganda, 2022). Budget alignment improved from 46% in FY 2022/23 to 54% in FY 2023/24 and 62% in FY 2024/25. However, certification occurs early in the budget cycle and does not ensure adequate financing, execution, or results (ACODE & NPA, 2025; World Bank, 2025).

The assessment therefore distinguishes formal policy adequacy from implementation performance. It examines whether policy commitments are costed, coded, funded, released, executed, and linked to measurable outcomes. It also tests whether allocations respond to geographic and social vulnerability, whether affected groups influence decisions, and whether loss or displacement triggers effective remedy.

Table 12: Climate and Energy Justice Assessment Dimensions and findings

Dimension	Assessment and principal finding
Distributive justice	Weak to partial. Climate finance is geographically uneven and does not consistently follow vulnerability. The Central Region received 47% of identified regional commitments, compared with 6% for the Eastern Region (MoFPED, 2025b).
Procedural justice	Partial. Legal participation requirements exist, but consultation is not consistently linked to budget decisions, expenditure monitoring, or grievance resolution (Republic of Uganda, 2021; World Bank, 2025).

Dimension	Assessment and principal finding
Recognition justice	Partial. Policies identify vulnerable groups, but budget execution rarely tracks who benefits (MoFPED, 2025a; MWE, 2015).
Corrective and restorative justice	Weak to partial. Safeguards and compensation mechanisms exist, but delays, inadequate resettlement services, and contested compensation criteria persist (MEMD, 2023; Republic of Uganda, 2021).

3.3.1 Policy and Institutional Adequacy

The National Climate Change Policy, 2015 covers adaptation, mitigation, research, coordination, capacity development, and finance, supported by a costed implementation strategy (MWE, 2015). The National Climate Change Act, 2021 requires national, lead-agency, and district climate action plans and provides for participation, measurement and reporting, indigenous knowledge, gender, human rights, vulnerable communities, and loss and damage (Republic of Uganda, 2021).

Climate certification and budget tagging have strengthened planning controls. The Programme Budgeting System uses output codes 000089 for mitigation and 000090 for adaptation. Yet use across ministries, departments, agencies, and Local Governments remains limited, and neither certification nor tagging ensures financing or implementation (MoFPED, 2025a; World Bank, 2025).

This produces an accountability gap between approved plans and realised benefits. Climate expenditure remains fragmented across programmes and financing sources, limiting comparisons between allocations, releases, outturns, locations, and beneficiaries. A unified annual statement is therefore necessary to connect tagging with budget execution and results.

Table 13: Policy adequacy for climate justice

Criterion	Climate policy framework	Renewable-energy framework
Costed interventions	Partial to strong. A costed strategy exists, but later instruments do not consistently specify annual domestic spending requirements (MWE, 2015; Republic of Uganda, 2022).	Partial. Long-term targets are clear, but annual costed pathways for off-grid energy and clean cooking are not consistently visible (MEMD, 2023).

Criterion	Climate policy framework	Renewable-energy framework
Specific allocations	Partial. Spending is dispersed across programmes, projects, and external finance, without a consolidated climate budget (IMF, 2024).	Partial. Energy budgets identify major subsectors, but grid and transmission projects dominate visible allocations (MoFPED, 2022).
Budget codes	Improving. Codes 000089 and 000090 support mitigation and adaptation tracking.	Partial. Existing codes do not clearly distinguish household access, clean cooking, industrial power, and transmission.
Releases and expenditure	Weak to partial. Several adaptation projects recorded low releases or expenditure against approved allocations (MoFPED, 2024).	Partial. Delivery gaps persisted in net metering, solar water heating, and wind-water pumping (ACODE & NPA, 2025).
Institutional responsibility	Strong on paper. MWE, MoFPED, NPA, MoLG, sector agencies, and Local Governments have assigned roles (World Bank, 2025; MoFPED, 2025a).	Strong on paper. MEMD, the Rural Electrification Agency, UNBS, UBOS, and regulators have defined mandates (MEMD, 2023).
Outputs and outcomes	Partial. Indicators and an MRV system exist, but sector implementation remains under-resourced (World Bank, 2025).	Partial. Targets are measurable, but some indicators lack reliable baselines and several recent indicators were non-compliant (ACODE & NPA, 2025).
Evidence of benefits	Partial and uneven. Reporting rarely links spending to household-level outcomes.	Weak to partial. Evidence of benefits for poor households, women, persons with disabilities, and remote communities remains limited (MoFPED, 2025a).

3.3.2 Renewable-energy policy adequacy

The Energy Policy for Uganda 2023 targets universal access to at least one source of clean and modern energy by 2040. From a 2022 baseline of 57% access, comprising 19% on-grid and 38% off-grid, it seeks to raise clean-cooking use from 15% to 50%, grid access from 19% to 80%, and renewable energy's share of consumption from 92.5% to above 95% (MEMD, 2023).

The policy recognises off-grid energy and clean cooking, but the

budgets give greater visibility to grid expansion, transmission, industrial power, and large infrastructure projects, including the Karuma hydropower project and major transmission lines (MoFPED, 2025). These investments may support economic transformation but do not ensure affordable access for remote communities, pastoralists, women-headed households, or households unable to pay connection costs. Implementation also lags. In FY 2023/24, the net-metering regulation remained pending, three of 20 planned solar water heaters were installed, and none of 13 targeted wind-water pumping systems was delivered (ACODE & NPA, 2025; MoFPED, 2024).

3.3.3 LoCAL and Performance-based Climate Resilience Grants

The Local Climate Adaptive Living Facility (LoCAL) combines performance-based finance, local planning, capacity development, and community-level adaptation. Uganda began piloting the mechanism in 24 districts in 2026 (MoFPED, 2026a). It can strengthen distributive and procedural justice by:

- a) directing resources to districts and communities that can identify local drought, flood, infrastructure, ecosystem, and livelihood risks;
- b) financing visible adaptation investments, including water storage, small-scale irrigation, resilient roads and facilities, catchment restoration, early-warning systems, and livestock water infrastructure;
- c) providing a dedicated climate-resilience transfer within a Local Government system constrained by limited own-source revenue and dependence on central grants; and
- d) combining minimum allocations with performance incentives for planning, procurement, reporting, financial management, and maintenance (MoFPED, 2025; OPM, 2025).

LoCAL and the Local Government Management of Service Delivery framework also make allocation criteria and performance more reviewable. The 2024 assessment oriented technical and political leaders, disseminated indicators through budget consultative workshops, and examined facilities, Lower Local Governments, Higher Local Governments, and central oversight (OPM, 2025).

However, administrative compliance is not equivalent to procedural justice. A high score may show that plans, procurement, reporting, and maintenance requirements were met, but not that communities shaped project selection and design, under-represented groups participated,

local knowledge informed decisions, grievances were resolved, or benefits were equitably distributed. Coverage also remains limited and predictable climate-tagged transfers and subnational capacity are still weak (MoFPED, 2025b).

The financing case is material. Earlier assessments found climate allocations below 1% in some Local Government budgets, often dominated by recurrent costs (World Bank, 2025). Performance-based climate resilience grants can provide a dedicated investment channel, but scale-up should preserve minimum allocations for lower-capacity districts and pair performance incentives with technical support.

3.3.4 Assessment across four Dimensions of Climate Justice

Climate justice requires fair distribution of benefits and burdens, meaningful participation, recognition of differentiated vulnerability, and remedies for climate-related loss, displacement, and environmental harm. Uganda’s performance is assessed below.

Distributive justice is weak to partial. Identified regional commitments are concentrated in the Central Region. National projects may benefit several regions, but aggregated tagging obscures whether high-vulnerability areas, including Karamoja, Eastern Uganda, and West Nile, receive resources proportionate to drought, heat, poverty, food insecurity, remoteness, and refugee-hosting pressures (MoFPED, 2025b; World Bank, 2025).

Table 14: Distribution of identified regional climate-finance commitments

Region or category	Share
Central Region	47%
Northern Region	21%
Western Region	13%
Eastern Region	6%
Multi-region projects	13%

Source: MoFPED, 2025b.

A vulnerability-based allocation formula should therefore combine hazard exposure, poverty, adaptive capacity, gender vulnerability, refugee-hosting responsibilities, local revenue capacity, and the cost of serving remote areas.

Procedural justice is partial. The National Climate Change Act mandates public and multi-stakeholder participation, while the policy

framework recognises women and vulnerable groups (Republic of Uganda, 2021; MWE, 2015). Participatory scenario planning, regional climate outlook forums, radio engagement, farmer consultation, and district training provide useful entry points. However, participation is not consistently connected to budget choices, procurement, release schedules, monitoring, or grievance resolution (MoFPED, 2024; World Bank, 2025). Major projects should disclose priorities raised, decisions taken, and reasons for accepting or rejecting community proposals. Participation is documented in specific activities, including a scenario-planning workshop in Kiboga involving 80 farmers and media representatives (MoFPED, 2024). Such events demonstrate outreach, but not influence. Monitoring should therefore track whose proposals changed project design, allocation, siting, procurement, or implementation.

Recognition justice is partial. Policy identifies women, youth, children, persons with disabilities, older persons, ethnic minorities, refugees, rural communities, and disadvantaged regions as vulnerable (MoFPED, 2025a). Women face additional exposure through unequal access to land, water, energy, and productive assets and high dependence on agriculture and biomass energy (MWE, 2015). The National Climate Finance Strategy proposes gender-responsive budgeting, disaggregated data, and a target for at least 30% of investments to benefit women-led initiatives. Yet the NDC does not cost gender and equity actions, and expenditure reports rarely identify beneficiaries by sex, age, disability, poverty, livelihood, refugee status, and location (Republic of Uganda, 2022).

Corrective and restorative justice is weak to partial. The National Climate Change Act recognises loss and damage, while energy and environmental frameworks address degradation, biodiversity loss, cultural heritage, displacement, compensation, and resettlement (Republic of Uganda, 2021; MEMD, 2023). Uganda has supervised compensation and land acquisition for energy infrastructure, but evidence from the Albertine region points to low or delayed compensation, inadequate resettlement services, and contested criteria (MoFPED, 2024). Compensation should be paired with livelihood restoration, community benefit-sharing, independent grievance resolution, long-term monitoring, and social and ecological restoration.

Uganda's formal climate policy architecture is broadly adequate, but implementation does not yet demonstrate who receives finance, where it is spent, whether it reaches Local Governments, how vulnerable

groups influence decisions, or whether households obtain measurable benefits. The study proposes the priority reforms in Table 13 to strengthen climate justice.

Table 15: Priority reforms for climate-just financing

Recommendation	Lead institutions	Proposed indicator
Publish an annual Climate Budget and Expenditure Statement covering all central and local votes.	MoFPED, MWE, NPA, MoLG	Tagged allocations, releases, expenditure, locations, sources, and beneficiaries reported annually.
Make climate budget tagging mandatory for relevant votes.	MoFPED, MWE, NPA	All relevant central and local votes use mitigation and adaptation codes.
Introduce a vulnerability-based climate transfer formula.	MoFPED, MoLG, MWE, LGFC	Published formula covers hazard, poverty, adaptive capacity, gender, refugee burden, revenue capacity, and remoteness.
Scale LoCAL and performance-based climate resilience grants beyond the initial 24 districts.	MoFPED, MoLG, MWE, Local Governments	Annual increase in Local Governments receiving predictable climate-resilience grants.
Protect adaptation spending during budget cuts.	Cabinet, MoFPED, Parliament, MWE	Adaptation releases reported separately from mitigation and infrastructure spending.
Require climate-risk and justice screening for major public investments.	NPA, MoFPED, MWE	No major project approved without climate, gender, displacement, distributional, and environmental assessment.
Establish a rural energy justice financing window.	MEMD, REA, MoFPED, UECCC, Local Governments	Annual reporting covers off-grid solar, mini-grids, clean cooking, productive use, affordability, and beneficiaries.
Institutionalise community social audits.	MoLG, MWE, Local Governments, CSOs	Major projects publish consultation records, beneficiary information, grievances, and responses.
Strengthen compensation, livelihood restoration, and grievance systems.	MWE, NEMA, MEMD, MoLHUD	Reports track timeliness, livelihood restoration, resettlement services, ecological restoration, and unresolved grievances.

These reforms would shift climate governance from policy compliance toward demonstrable distributional fairness, participation, recognition, and remedy.

4. LOCAL GOVERNMENTS ON CLIMATE CHANGE AND RENEWABLE ENERGY POLICY IMPLEMENTATION

Effective implementation of national policies requires that these are and meet the peculiar requirement at the local level. Sectoral mandates at the national level are reflected under respective district and lower government departments. For example, the responsibility of implementing agricultural sector interventions lies with the district production and marketing department. Implementation of climate action at the district level is the responsibility of the district natural resources department which is expected to work closely with the committee of environment and natural resources. This study collected data on local perspectives of climate change and renewable energy policy implementation from Karamoja, West Nile and central regions. Individuals were interviewed from two districts in each region.

4.1 Karamoja Sub-Region

Assessing local level climate change and renewable energy policy implementation in the Karamoja region was conducted in Moroto and Nakapiripirit districts. The Karamoja region lies in the north easter part of Uganda and comprises 9 districts namely Abim, Amidat, Karenga, Kaabong, Kotido, Moroto, Nabilatuk, Napak and Nakapiripirit. The region covers an area of 27,528 square kilometers, about 12% of Uganda land area and has a total human population of 1,496, 107 people living in 313 987 households.²⁰ The region has one of the highest fertility rates and poverty levels in the country. Only 5.8% of the population have access to electricity. Hunger prevalence levels are 18.5%. 85% of the households use firewood for cooking while 12% use charcoal. Only 0.9 of the households use electricity, LPG or biogas for cooking. According to UNHPC 2024, only 2.2% (6,867) of the households in this region are connected to the national grid while 1% have a domestic electric solar system.

The main climate-related shocks in the area include erratic and unevenly distributed rainfall, which can result in drought, erratic rains

20 <https://www.ubos.org/wp-content/uploads/2025/06/Karamoja-Sub-Region-Census-2024-Profile-Report.pdf>

and floods, outbreaks of livestock disease or changing crop pest dynamics. consequences of these, is a hike in food prices, livelihood insecurity, lack of water and pasture, food insecurity; and an escalation of inter-ethnic conflict; human–wildlife conflicts. The region also faces high risk from flash floods, high velocity water immediately after a storm, causing erosion and destroying property in its path. The main climate-related shocks in the area include erratic and unevenly distributed rainfall, which can result in droughts and severe dry spells with erratic rains.

According to the interviewed stakeholders in this region, the major climate change concerns in the Karamoja region include; long dry spells, flooding, erratic rainfall, strong winds and wildfires. These have been reported to cause food insecurity, land degradation, water and pasture scarcity increased incidence of pests and disease for crops and livestock. Water scarcity has resulted in an escalation of instability as it drives conflicts between different communities. Collecting water for domestic use, is the responsibility of the women and girls. Drought conditions make this assignment hard for women and girls because they have to travel long distances to secure water.

Increase rainfall has been reported particularly in 2025 where the onset of rain was more than 2 weeks early in March and cessation of these rains stretched into November. The implication of this has been the lack of dry spell required to dry grains in the field. This resulted in loss of some of the harvest as sorghum and maize rotted in the fields due to continuous rainfall in the Nakapiripirit areas. Continuous rains also put a heavy burden on the district works department whose responsibility it is to maintain feeder roads across the district.

The districts reported promoting household tree planting, promoting water harvesting as interventions to deal with climate change. In addition, local communities have been trained in making energy-saving cook stoves, and their use has been widely promoted in the communities. Promoting micro-scale irrigation. Distribution of relief food from OPM, establishment of district, sub county and parish level disaster management committees. Initiatives led by NGOs such as Caritas Moroto Diocese are helping local communities deal with impacts of climate change. For example, Caritas is implementing a project focused on building resilience of vulnerable women and youth by fostering adoption of new technologies/climate-smart practices in crop and livestock production and productivity and strengthen the value addition and marketing systems of small-scale farmers in local communities in Napak District.

The Strengthening Drought Resilience for Small Holder Farmers and Pastoralists in the IGAD Region – DRESSEA Project implemented in Moroto (All sub counties), Napak (Ngolereit, Matany, Lopeei, Lotome, and Lokopo), and Nabilatuk (Lorengedwat). The DRESSEA project has helped to establish two weather stations, one in Rupa, Moroto district and another in Matany, Napak District. The overall objective of the regional DRESSA project is to increase the resilience of smallholder farmers and pastoralists to climate change risks mainly those related to drought, through the establishment of appropriate early warning systems and implementation of drought adaptation actions in the IGAD region.

Support has been provided to the Early Warning Information Center at the Department of Meteorological Services. It has also issued phones and solar radios to 115 farmer groups to improve their access to early warning information. More than 100 farmer groups have been trained in drought adaptation measures and provided with seeds and seedlings of drought tolerant crop varieties. The region has had several initiatives for drought early warning (DEWS) with the support of partners such as

The region has also been supported for the development of a drought Management Plan and Emergency Response Plan has been prepared for Lokere Catchment. Respondents reported construction of 4 water harvesting structures have been constructed in Moroto (Lotisan and Tapac), Napak (Lopeei and Lokopo). Soil and water conservation measures have been implemented in Moroto, Napak, and Nabilatuk to improve crop productivity. Water boreholes have been protected following the guidelines for the protection of groundwater sources.

Adaptation learning centres were established in Nadunget, Nakichumet and Namalu to closely collaborate with local government partners to provide a conducive learning environment and unique facilities for knowledge transfer, practical demonstrations, and climate adaptation technology. Services are extended from the learning centers to communities through tailored learning programs. The centers offer customized training for individuals and groups, as well as providing climate-smart production technologies. They also raise a variety of tree seedlings that are distributed out to communities. These learning centers also provide a link between rural communities with research institutions and national universities, offering opportunities for student internships.

The Moroto and Nakapiripirit district climate change plans have not yet been developed. Neither has any other district in the region developed one. Nakapiripirit mentions that developing the climate action plan

is planned for the 2025/2026 financial year, with funding from the Local Climate Adaptive Living (LoCAL) facility. The Ministry of Local Government is chairing the TAC meeting involving stakeholders (MoLG, MoFPED, MWE, NPA, OPM, NEMA) that are implementing the LoCAL mechanism/ facility in the 14 district local governments of Kasese, Nebbi, Nwoya, Zombo, Kitgum, Bulambuli, Nabilatuk, Nakapiripirit, Moroto, Kotido, Agago, Koboko, Kikuube and Kiboga districts.

The limitations to getting the plans prepared included lack of direct funds allocation for this activity or limited flow of funds from the central government. However, there was also mention of limited tools and equipment such as computers facilitate development of the plans. The district technical staff were divided on the capacity to develop a climate change plan with the majority saying they did not have the capacity and some mentioning that capacity building was needed to impart the necessary skills to develop a district climate action plan (figure 2).

In terms of adoption and use of modern renewable energy technologies, most respondents agreed that levels of awareness among the local community is very low and to those that may be aware, adoption is constrained by limited finances. Poverty levels in this region are the highest in the country. Subsidies were recommended as one of the approaches to improve access to modern renewable energy technologies. Investment in modern renewable energy technologies is constrained by poor roads and high capital investment costs. Urban communities rely on charcoal which is readily available from the communities making it.

In the current financial year, the Moroto DLG allocated UGX 781m for climate action, representing 3.7% of the total budget. These funds are from the performance-based climate resilient grant.

Fostering Sustainability and Resilience for Food Security in Karamoja Sub-Region²¹ implemented by the Ministry of Agriculture, Animal Industry and Fisheries and five districts including Nakapiripirt, Moroto, Kotido, Kaabong together with UNDP, FAO. Together with NARO and Nabuin ZARDI were vegetable demonstration plots as well as pasture seed multiplication. This project created Agropastoral field schools (APFS), an approach that provided a conducive and inclusive space for smallholder farmers to build strong institutions, enhance their problem-solving skills and adopt innovative solutions to sustainably address complex farming challenges. Project implementation by MAAIF faced challenges, with the review proposing working with local

21 <https://erc.undp.org/evaluation/documents/download/24323>

NGOs and CSOs that have expertise in dealing with the communities in the region.

Another notable project in the region was the Strengthening Adaptive Capacity of Agropastoral Communities and the Local Government to Reduce Impacts of Climate Risk on Livelihoods in Karamoja, Uganda,²² implemented by FAO from 2013 to 2017. The project was an attempt at strengthening resilience of local communities to climate risks and other shocks. It helped to diversify income sources, introduced cereal banking and post-harvest loss mitigation technologies and practices to enable farmers to bridge the cyclic hunger period or lean season. In addition, the project established water-harvesting and irrigation facilities, helping to provide the much-needed buffer to beneficiary communities during dry seasons, significantly contributing to reduction of animal morbidity and mortality. There have been efforts to develop a drought early warning system in the Karamoja region

Despite all these efforts and interventions, there is still more that needs to be done. Travelling across the region, one notices high levels of poverty. Children are rarely sent to school. There is increased degradation of the landscape as many locals resort to making charcoal to earn a living. Trees in this region are slow-growing, because of the limited growing season, once cut a tree will take decades to replace. Tree plantings that emphasizes exotics in this region is ill advised. Tree planting has to carefully select tree species such as the native *Terminalia* species that is adapted to the semi-arid conditions.

Update of technologies is low. Improved charcoal kilns procured more than four years ago have not been taken up by the communities and charcoal is still being made the traditional way. Not just in the region, but pretty much all over the country.

Despite these interventions, the situation in the region is still dire, partly because of the unimodal kind of rainfall, with an extended dry period, high levels of poverty. Efforts to deal with impacts of climate change in this region need to be an integral part of the overall development program for the region.

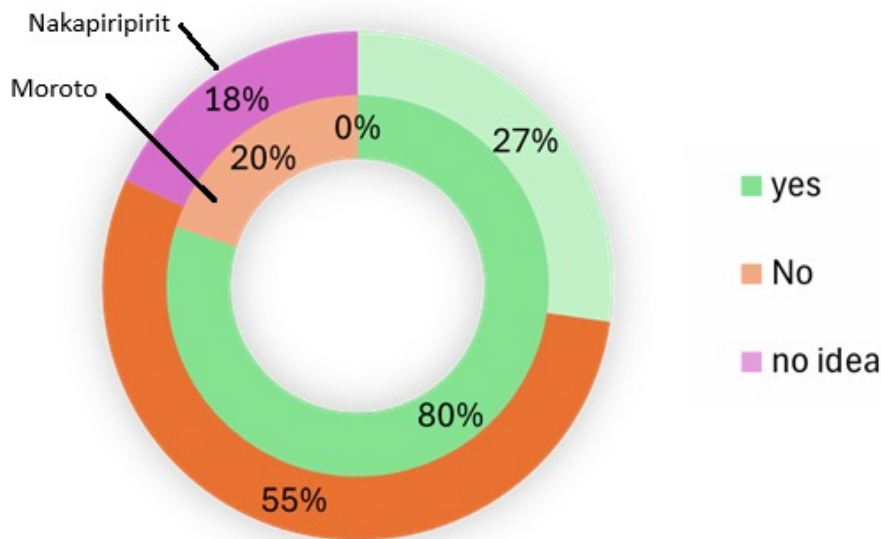
The single rain season received in the Karamoja region complicates impacts of climate change, drought is rampant. And yet when the rain starts, many areas face the risks of flash floods, that carry large amounts of water from high elevation areas. Local communities have traditionally relied on livestock rearing and only cultivating sorghum, a

22 <https://openknowledge.fao.org/server/api/core/bitstreams/0951e8f2-3773-4b2a-aec5-87fbc6dbfc5/content>

drought resilient crop.

FAO has been piloting and adapting the Farmer Field School (FFS) approach to the specific context of Karamoja to appropriately address the unique livelihood challenges in the region. The APFS provides a platform for holistically integrating multiple interventions for bridging short term activities such as skills development, provision of essential inputs, rural savings and kick-starting income diversification as precursors to medium and longer-term development

Figure 1. Self-assessment: Adequacy of resident capacity to develop climate change plan in the Karamoja region local governments



4.2 West Nile Sub-region

The west Nile region is another part of the country that experiences high poverty levels. A report by UNICEF²³ puts multidimensional poverty in West Nile at 76%. Worldwide, the poor are disproportionately affected by the impacts of climate change. West Nile is a major refugee hosting region in Uganda, holding 950,000 of Uganda's 1.5m refugees. Charcoal and firewood are the major sources of energy in the region. On-grid access to electricity is relatively low, around 10%. Assessment of climate change and renewable energy policy implementation was

23 <https://www.unicef.org/esa/media/6146/file/UNICEF-Uganda-Multi-dimensional-child-poverty-2020.pdf>

conducted in Arua and Yumbe districts.

West Nile too suffers from increased incidence of storms, hailstorms, floods, and prolonged dry spells. Weather is increasingly becoming unpredictable, resulting in poor production and productivity. Unpredicted rainfall and drought events are common. Dry spells tend to be longer than before. Deforestation and wetland degradation are mainly in Ajian sub-county, Arua District. There is a general increase in temperatures, affecting agricultural production. Consequences of these are reduced agricultural production, increased levels of hunger and poverty in the west Nile region. Scarcity of water has increased because of drying up of wetlands and seasonal streams. Women and youth are particularly impacted by drying of water sources, having to walk long distances to access clean water and fuel wood.

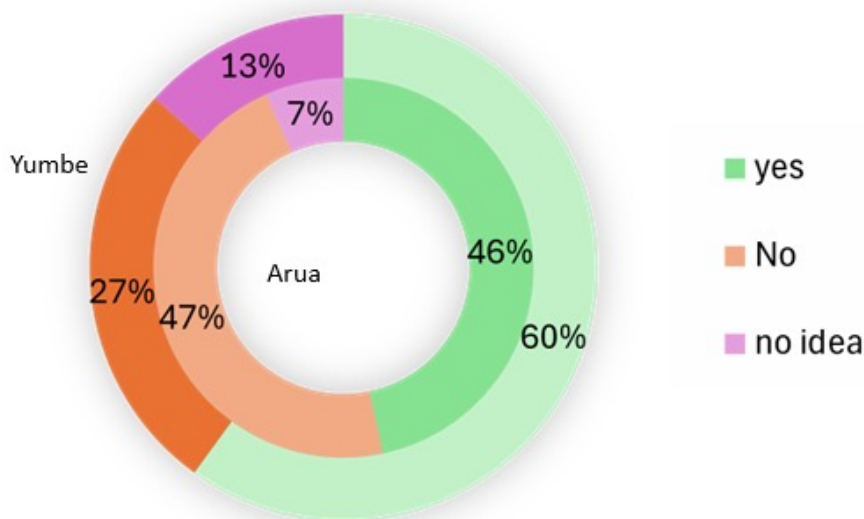
Climate change response actions by the local governments include sensitization activities and tree planting. The bulk of support to the districts has focused on these two interventions. Sensitization activities typically involve explaining to the public the effects of deforestation and charcoal making. Ministry of Health has supported community-led sanitation campaigns to address open defecation and indiscriminate waste disposal in the communities. VHTs have been trained and empowered to sensitize communities of sanitation. Production department has distributed tree seedlings for planting. District administration has also helped in providing more water sources, mainly boreholes. Central government has provided funding and tree seedlings, and provided the human resources required. District and sub county disaster management committees have been put in place. Stakeholders have been trained on climate change adaptation. Drought resilient seeds have also been issued.

The Office of the Prime Minister, through the Department of Disaster Preparedness and Management has also supported the communities in terms of disasters such as famine. Catchment management plans have been developed for the region. Other interventions include wetland restoration in Enyau catchment and Wadelai irrigation scheme in Pakwach.

There is insufficient funding for advocacy and awareness campaigns. However, funds for advocacy and awareness campaigns are limited. Disabled are less involved in these activities. There is a feeling that women and youth dislike tree planting, yet they are involved in charcoal making. Many districts technical staff were not aware of funds allocated for adaptation and mitigation. Some technical staff in Arua are not aware if the district has developed its climate change plan.

And when asked about the resources required to enable the district to prepare its climate change action plan responses are (stationery, internet). Production department closely engages with women and youth but faces challenge of poor attitude. Funding and budgetary support is needed for climate change plan development. Respondents mentioned that women and youth are not adequately engaged in these programs.

Figure 2. Self-assessment: Adequacy of resident capacity to develop climate change plans in West Nile local governments



Limitations on investment in renewable energy include high capital costs, limited financing, lack of political backing, and negative attitudes towards modern renewable energy sources. Subsidies were suggested as incentives to improve access to modern renewable energy. There is no information on the current incentives the government provides to local communities to improve access to renewable energy technologies.

No district in the region has secured climate funds. The conditions to access funds are “tough” and challenging. Neither has Arua or Yumbe been involved in carbon markets. Many technical staff are not aware of Arua DLG is involved in carbon markets. Majority mention that the district did not have adequate capacity to prepare its climate change action plan. Capacity to develop climate change planning West Nile local governments is relatively low, despite some respondents mentioning that the only challenge to developing district climate change plans was

funding or facilitation. The region also reported relatively low climate change projects compared to those of the Karamoja region.

On-grid access to electricity in West Nile region is one of the lowest in the region. In addition to the Nyagak dam, that has supplied 3.5MW of electricity to the region, government launched a 132KV power transmission line to supply electricity to the region. The 289km transmission line was funded by the Grid Extension and Reinforcement Project (GERP), with support from the World Bank. Additionally, the connection fees have been subsidized substantially to promote access to electricity in the region.

4.3 Central Region

The central region is the most populous and with the lowest poverty levels in the country (less than 30 %) of the country. The 2024 population of the central region is 12m. Local level implementation of climate change and renewable energy policies was assessed in Mpigi and Mukono districts. Mpigi and Mukono districts that lie just outside of Uganda's largest city, both to the west and east respectively.

Information about climate change and renewable policy implementation in the central region was not as forthcoming as in the other two regions. In the central region the major climate change concerns were drought, heavy rainfall incidents, increased intensity of damaging floods and overall changing rainfall patterns. Increased intensity of sunshine. Respondents reported that women have faced an increased burden due to water scarcity. Few project interventions were reported to address climate change or its impacts in the central region. Many youths lose sources of livelihood due to the impacts of climate change, for example, when those engaged in agriculture lose yields due to climate droughts or flooding. Farmers implementing traditional farming methods are highly affected by these impacts, experiencing crop failure and loss of livestock.

Climate change response interventions implemented in the central region included promoting water harvesting and being adopted by many farmers to deal with erratic rainfall. In addition, district technical staff have sensitized farmers about seasonal weather variations, climate smart agricultural techniques. Tree planting has been promoted, as a major climate change mitigation intervention. Development partners have provided training on climate smart agriculture, but also in mainstreaming climate change into district programs.

In terms of knowledge of climate change, some district technical staff exhibited low levels of understanding of climate change matters,

because they were mixing issues of land degradation to climate change. This leaves a serious capacity gap at the district level. Technical staff having inadequate understanding of climate change matters will affect overall implementation of climate change adaptation and mitigation at the district level.

These districts have reported few climate change projects. To mention is the Global Climate Change Alliance (GCCA) supported project that was implemented in six districts of the central cattle corridor including Luwero, Kiboga, Nakaseke, Nakasongola, Mubende and Ssembabule. The second phase of the project added the districts of Gomba and Kalungu for this region. The GCCA project promoted sustainable land management, constructed valley dams and established Farmer Field Schools (FFS) as avenues for knowledge exchange amongst the farmers.

5. STAKEHOLDER ANALYSIS

The adequacy of Uganda's climate change and renewable-energy policies depends on more than the content of policy documents. It also depends on whether institutions have clear mandates, adequate resources, technical capacity, coordination mechanisms, and accountability systems to translate policy commitments into implementation. This stakeholder analysis identifies actors who influence, implement, finance, regulate, monitor, benefit from, or are affected by Uganda's climate and renewable-energy policies. It examines their interests, influence, responsibilities, evidence contributions, and appropriate forms of engagement in the study.

Uganda has established a broad climate governance system involving national ministries, regulatory agencies, Local Governments, development partners, private-sector actors, civil society, academia, and communities. The National Climate Change Advisory Committee includes government departments, private-sector associations, civil society, academia, and district authorities, while the Climate Change Department provides overall coordination and capacity-building support (Republic of Uganda, 2021; World Bank, 2025).

The Energy Policy for Uganda 2023 was also developed through consultations involving Ministries, Departments and Agencies, district local governments, the private sector, development partners, academia, and civil society organisations (Ministry of Energy and Mineral Development [MEMD], 2023). This broad stakeholder architecture is a strength, but its effectiveness is constrained by overlapping responsibilities, weak coordination, uneven technical capacity, limited sub-national financing, and inadequate information sharing (Government of Uganda, 2017). The stakeholders are assessed using five criteria:

- a) **Mandate:** The formal responsibility assigned by law, policy, or institutional arrangements.
- b) **Influence:** The ability to shape policies, budgets, standards, finance, implementation, and enforcement.
- c) **Interest and exposure:** The degree to which the stakeholder is affected by climate risks, energy access, environmental change, or policy outcomes.
- d) **Evidence contribution:** The data, experience, technical knowledge, or lived experience the stakeholder can provide.

- e) Accountability role: The ability to monitor, audit, represent, challenge, or influence policy performance.

The analysis distinguishes between stakeholders who make policy decisions, implement policies, finance and regulate interventions, monitor implementation, and experience the consequences of climate and energy policies.

5.1 Stakeholder Groups

National Policy and Coordination Institutions

The principal national actors are the Policy Committee on Environment, the National Climate Change Advisory Committee, MWE and its Climate Change Department, MoFPED, NPA, MoLG, Parliament, and sector MDAs. The Policy Committee on Environment provides high-level policy coordination, while the National Climate Change Advisory Committee provides technical and multi-stakeholder advice. The Climate Change Department within MWE coordinates climate action, assesses adaptation and mitigation measures, supports national prioritisation, and provides technical assistance to districts (Republic of Uganda, 2021; World Bank, 2025).

The MoFPED has a central role in climate-finance mobilisation, budget formulation, climate budget tagging, public investment management, and the operation of the Climate Finance Unit. NPA aligns national plans, programmes, and public investments with development and climate objectives. MoLG guides Local Governments in translating national policy priorities into district plans and budgets (MoFPED, 2025a; MWE, 2015).

Sector Ministries and Technical agencies

Sector MDAs are responsible for translating national climate and energy commitments into sector plans, standards, budgets, projects, and measurable outputs.

Table 16: Sector Ministries and Technical Agencies

Stakeholder	Core interest and role	Influence	Relevance to the study	Proposed engagement
Ministry of Water and Environment and Climate Change Department	Coordinates climate policy, adaptation, mitigation, environmental safeguards, climate information, and national reporting (World Bank, 2025).	High	Assess coordination, climate standards, MRV, budget certification, and implementation gaps.	Key-informant interviews, policy review, institutional validation.
MoFPED and Climate Finance Unit	Mobilises and tracks climate finance, issues budget guidance, operates climate budget tagging, and links climate action to public finance management (MoFPED, 2025a).	High	Assess costing, budget codes, releases, expenditure, fiscal transfers, and reporting.	Budget-data review and interviews.
National Planning Authority	Aligns NDPs, programme plans, indicators, project appraisal, and budget submissions with national climate objectives.	High	Assess planning coherence, indicators, and project-selection procedures.	Review NDPs, PIAPs, BFPs, and appraisal documents.

Stakeholder	Core interest and role	Influence	Relevance to the study	Proposed engagement
Ministry of Local Government	Guides district planning, grants, Local Government performance, and decentralised climate implementation (MWE, 2015).	High	Assess fiscal decentralisation, LG capacity, PBCRGs, LGMSD, and local implementation.	Interviews, LGMSD review, and district-budget analysis.
MEMD	Leads energy policy, renewable energy, electricity access, energy efficiency, clean cooking, and energy-sector monitoring (MEMD, 2023).	High	Assess renewable-energy targets, policy implementation, regulation, affordability, and distributional outcomes.	Policy review, budget analysis, and interviews.
MAAIF	Leads climate-sensitive agriculture, irrigation, livestock, fisheries, extension, and climate-smart agriculture.	High	Assess agricultural adaptation, smallholder farmers, pastoralists, gender, and food security.	Sector-budget review and farmer consultations.
Office of the Prime Minister	Coordinates disaster preparedness, humanitarian response, refugee issues, and climate-related shocks.	High	Assess disaster-risk financing, early warning, refugee-hosting areas, and loss and damage.	Interviews and disaster-finance review.

Stakeholder	Core interest and role	Influence	Relevance to the study	Proposed engagement
MWE, NEMA, UWA,	Regulate environmental protection, forests, wetlands, biodiversity, water resources, and safeguards.	High	Assess enforcement, environmental restoration, ESIA, biodiversity, and corrective justice.	Regulatory review and project-level assessment.
UNMA	Produce weather forecasts, climate information, early warnings, and advisories.	Medium to high	Assess climate-data availability, communication, early warning, and local usability.	Interviews and user consultations.
REA, UECCC, energy regulators, and UNBS	Support rural electrification, renewable-energy finance, technology standards, energy regulation, and private investment.	High	Assess off-grid energy, clean cooking, technology quality, financing, affordability, and standards.	Regulatory review and private-sector interviews.
MoGLSD and Equal Opportunities Commission	Mainstream gender, equity, youth, disability, social inclusion, and gender-responsive budgeting.	Medium to high	Assess recognition justice, inclusion indicators, and gender-responsive finance.	Gender-budget review and focus groups.
MoH, MoES, HoLHUD, MoWT	Integrate climate risks into health, education, settlement, land-use, infrastructure, and transport planning.	High	Assess sectoral coherence and climate-resilient public investment.	Sector-policy review and programme analysis.

Local Governments and Urban Authorities

Districts, cities, municipalities, town councils, sub-counties, parishes, and villages represent the main implementation interface between national policy and communities. The National Climate Change Act requires districts to prepare District Climate Change Action Plans and provides for lower-local-government climate committees. These committees are responsible for implementing district plans, preparing local climate workplans, conducting awareness activities, mobilising community participation, and monitoring local climate risks and interventions (Republic of Uganda, 2021). Local Governments are therefore critical to in climate Change and renewable energy policy implementation due to the following:

- a) Identify local climate risks.
- b) Integrate climate priorities into District Development Plans.
- c) Prepare annual budgets and workplans.
- d) Implement conditional grants and PBCRGs.
- e) Mobilise communities.
- f) Manage water, agriculture, roads, natural resources, health, and disaster-preparedness activities.
- g) Report on climate interventions and service delivery.

However, LG capacity is uneven. The Country Climate and Development Report notes that many Local Governments lack sufficient capacity and funding to develop and align their own climate strategies with national frameworks. In FY 2023/24, only two of Uganda's 176 districts had developed District Climate Change Action Plans (World Bank, 2025).

Communities and vulnerable groups

Communities are primary stakeholders because they experience climate impacts and energy-access constraints directly. They also hold local knowledge relevant to vulnerability assessment, water management, agricultural production, livestock management, environmental conservation, and disaster preparedness.

The National Climate Change Policy promotes community-based and bottom-up adaptation, while the National Climate Change Act requires attention to vulnerable and marginalised communities, gender, human rights, and indigenous knowledge (MWE, 2015; Republic of Uganda, 2021). The policy implementation should deliberately target marginalised groups and communities such as: Smallholder farmers; Pastoralists and agro-pastoralists; Women and female-headed

households; Youth; Persons with disabilities; Older persons; Refugees and host communities, indigenous and ethnic minorities; Residents of informal settlements; Forest- and wetland-dependent communities; and Households affected by mining, oil, transmission lines, roads, hydropower, and other infrastructure projects. These groups should not be treated only as beneficiaries. They are rights holders, knowledge holders, project monitors, and participants in decisions concerning land, water, forests, energy, compensation, and public investment.

Private sector and financial institutions

The private sector is relevant to renewable-energy deployment, energy efficiency, clean cooking, infrastructure, agricultural adaptation, carbon markets, and climate finance. Private-sector actors also influence whether policy targets translate into affordable, reliable products and services. Relevant actors include: renewable-energy developers; solar-home-system and mini-grid companies; clean-cooking enterprises; commercial banks and microfinance institutions; Uganda Development Bank; Uganda Energy Credit Capitalisation Company; insurance companies; carbon-market participants; oil, gas, mining, and infrastructure companies; agricultural and water-service providers; business associations such as the Private Sector Foundation Uganda and the Uganda Manufacturers Association.

The Country Climate and Development Report identifies the private sector as an important contributor to investment in renewable energy and climate-smart technologies (World Bank, 2025). Policies should therefore ensure that private-sector participation achieves the following: expands affordable energy access; reaches remote and low-income communities; supports women-led and youth-led enterprises; complies with environmental and social safeguards; creates local employment and productive uses; provides transparent and reliable services; and produces measurable climate and development benefits.

The private sector is driven by profit-making. There are many climate change and renewable energy enterprises that can be invested in for profit in Uganda. The role of government is to help in de-risking these investments. Various de-risking instruments have been proposed, such as the Renewable Energy Feed-in Tariff (REFIT), which has attracted approximately 453 million USD in private sector investment for 17 small-scale renewable energy projects (solar, hydro, bagasse) in three years.²⁴

24 <https://www.finance.go.ug/sites/default/files/2023-02/Policy%20Brief%20on%20De-risking%20Instruments.pdf>

Financial institutions have recently come on board for climate action. In addition to serving as a source of climate finance, they are reorganising to address how climate change affects the financial sector. Banks and Financial Institutions (FI) in Uganda are increasingly recognising the urgent impact of climate-related risks on their financial and operational stability. The national development bank and commercial banks have a role to play in providing financing options for climate change mitigation or for investments in renewable energy technologies. Climate insurance, especially in the agriculture sector, has also been piloted in the country. However, uptake of agricultural insurance remains relatively low.

At the local level, many start-ups manufacture improved cooking stoves. Many private individuals are planting trees for commercial purposes on private land or land leased from the National Forestry Authority. Many of these tree planters are interested in selling carbon credits. A number of those involved in tree planting work under the umbrella body, the Uganda Tree Growers Association (UTGA).

Potential risks include commercial investment bypassing low-income communities, weak consumer protection, limited transparency in public-private partnerships, environmental impacts, and gender exclusion in higher-value renewable-energy employment.

Development partners and climate-finance institutions

Development partners provide grants, concessional loans, technical assistance, project preparation, policy support, and capacity development. They also influence the balance between adaptation, mitigation, infrastructure, renewable energy, and social resilience in Uganda's climate-finance portfolio.

Relevant partners include: multilateral development banks, bilateral development agencies, the Green Climate Fund, the Adaptation Fund, the Global Environment Facility, United Nations agencies, UNCDF and LoCAL, and international NGOs and technical agencies. National development agencies also bilaterally support climate action and renewable energy technologies in Uganda. These include USAID, UKAID, GiZ, JICA, NORAD, SIDA, CIDA, and IDRC that have supported specific interventions. Other regional bodies have also supported implementation of climate change interventions in Uganda. An example is the IGAD Climate Prediction and Assessment Center (ICPAC). ICPAC based in Nairobi, is one of the agencies of the Inter-Government Authority on Development (IGAD). ICPAC supports the work of MSD in weather and seasonal forecasting. Their contribution to climate policy implementation is significant, as Uganda's domestic climate-finance resources remain insufficient to meet national climate commitments

(MoFPED, 2025a).

The key accountability concern is whether development-partner projects align with Uganda's NDC and national plans, strengthen government and LG systems, support adaptation in high-vulnerability areas, include gender and social-inclusion safeguards, disclose commitments, disbursements, and beneficiaries, avoid creating parallel planning and reporting structures, and produce measurable household and community benefits.

Civil society, academia, research institutions, and media

Civil Society Organisations contribute to: policy advocacy, climate-finance tracking, community mobilisation, environmental monitoring, gender and social inclusion advocacy, legal accountability, public awareness, and independent assessment of budget compliance. Uganda's climate-resilience framework recognises civil society as an important partner in implementation, community engagement, monitoring, and public accountability (Government of Uganda, 2017). Civil society is particularly important because it can provide independent information on: local project performance, climate-finance flows, community grievances, compensation and resettlement, access to energy and water, environmental degradation, gender and social inclusion, and the effects of climate policies on vulnerable groups.

Academic and research institutions, including universities, NARO, and NaFORRI, contribute to climate modelling, vulnerability assessments, agricultural innovation, renewable-energy research, monitoring, and policy evaluation. In terms of renewable energy, it is mainly Makerere University colleges of Design Engineering and Technology (CEDAT) and Agricultural and Environmental Sciences (CAES). Makerere University College of Engineering, Design, Art and Technology (CEDAT) hosts the Centre for Research in Energy and Energy Conservation (CREEC). The Makerere University College of Health Sciences, School of Public Health conducts research in various aspects of climate change adaptation. The challenges academic institutions face is attracting and retaining skilled staff as well as accessing funding to support training and research in climate change.

The media, particularly local radio, is important for public awareness, early warning, and public debate. The study should assess whether media and civil-society actors have adequate access to budget, project, climate-risk, and implementation information.

5.2 Oversight and Accountability Institutions

These are the institutions that scrutinise public decisions and resource use. They include: Parliament and the Parliamentary Forum on Climate Change; Parliamentary sectoral committees; Office of the Auditor General; Inspectorate of Government; Equal Opportunities Commission; Public Procurement and Disposal of Public Assets Authority; Courts and judicial institutions; District councils; Local Government technical planning committees and Community scorecards and Baraza structures.

The Office of the Auditor General has authority to conduct financial and value-for-money audits, including audits related to environmental and climate programmes (World Bank, 2025). The LGMSD framework also uses independent verification agents and online performance reporting to assess LG performance and inform development-grant allocation (OPM, 2025).

5.3 Power and Interest Analysis

This section analyses the stakeholder and influence over policy and resources and their interest in this study.

Table 17: Power and Interest Analysis

Stakeholder category	Influence over policy and resources	Interest in the study	Priority for engagement
MWE, CCD, MoFPED, NPA and MoLG	High	High	Core decision-makers and evidence holders
MEMD, REA, UECCC, energy regulators and UNBS	High	High	Core renewable-energy stakeholders
MAAIF, OPM, NEMA, UNMA, MoLHUD, MoWT and MoH	High	High	Sector implementation and vulnerability evidence
Parliament, OAG, EOC, PPDA and courts	High	Medium to high	Oversight, audit, equity, and enforcement
Districts, cities, municipalities and LG committees	Medium to high	High	Primary implementation stakeholders
Development partners and climate funds	High	High	Finance, technical assistance, and policy influence

Stakeholder category	Influence over policy and resources	Interest in the study	Priority for engagement
Private renewable-energy and financial institutions	Medium to high	High	Investment, technology, affordability, and service delivery
CSOs, academia and research institutions	Medium	High	Independent evidence and monitoring
Farmers, pastoralists, women, youth, PWDs, refugees and host communities	Low formal influence, high exposure	Very high	Rights holders and primary affected groups
Media and community communication actors	Medium	High	Public awareness and accountability

The main power imbalance is between stakeholders with formal decision-making authority and those with the greatest exposure to climate and energy risks. Communities and vulnerable groups have the highest interest in the study but usually the least influence over policy formulation, budget allocation, project siting, and expenditure monitoring. Their participation must therefore be designed deliberately rather than assumed to occur through general public consultations.

5.4 Key Stakeholder Issues

- a) **Coordination.** Uganda's institutional mandates are broadly defined, but coordination remains a major implementation issue. The National Climate Finance Strategy identifies the need to clarify institutional mandates, terms of reference, workplans, and stakeholder responsibilities (MoFPED, 2025a).
- b) **Capacity.** Technical and financial capacity gaps affect MWE, sector MDAs, Local Governments, and community-level institutions. Weak local capacity affects the development of climate plans, bankable projects, climate budgets, procurement, reporting, and maintenance of infrastructure.
- c) **Inclusion.** Women, youth, persons with disabilities, pastoralists, refugees, ethnic minorities, and poor rural communities are recognised in policy but remain underrepresented in decision-making and beneficiary data. This limits the ability to assess whether policies are equitable and whether energy and climate investments reach those most affected.

- d) **Information and accountability.** Fragmented climate-finance, project, vulnerability, and energy-access data makes it difficult to assess policy implementation. The lack of a single accessible information system weakens parliamentary oversight, civil-society monitoring, public participation, and community accountability (World Bank, 2025).
- e) **Private-sector alignment.** Private-sector participation can accelerate renewable-energy access and climate investment, but commercial incentives may favour urban and higher-income markets. Policy adequacy must therefore be assessed against affordability, rural access, consumer protection, environmental safeguards, gender inclusion, and local economic benefits.

Uganda's climate change and renewable-energy policy system has a wide stakeholder base and a formal structure for coordination between national institutions, sector agencies, Local Governments, private actors, development partners, civil society, academia, and communities.

The primary strengths of this policy system include extensive institutional participation, well-defined national coordination bodies, formal engagement with local governments, legal recognition of communities and vulnerable groups, growing involvement of private-sector and development finance actors, and existing mechanisms for auditing, performance assessment, and parliamentary oversight. On the other hand, its weaknesses comprise fragmented institutional responsibilities, inadequate coordination between national and sub-national levels, inconsistent capacity among local governments, insufficient funding for local initiatives, inadequate inclusion of vulnerable groups in decision-making processes, incomplete data on climate finance and project performance, limited accountability for private, off-budget, and development-partner funding, and a weak linkage between policy commitments, budget allocation, and community outcomes.

The stakeholder landscape therefore reflects a central implementation challenge. Uganda has many institutions with relevant mandates, but policy adequacy depends on whether their responsibilities are coordinated, financed, monitored, and translated into measurable benefits for households and communities. The most significant governance priority is to strengthen the relationship between national policy institutions and Local Governments while increasing the influence of vulnerable communities, civil society, independent oversight bodies, and users of renewable energy and climate resilience services.

Uganda's climate and renewable-energy policy system includes a wide range of institutions with relevant technical, financial, regulatory, and implementation responsibilities. Its main strength is the existence of a formal multi-level structure linking national policy coordination, sector implementation, Local Government planning, private investment, development-partner finance, civil-society oversight, and community participation. The main weakness is the distance between formal responsibility and effective influence. National institutions control most policy and finance decisions, while LGs and communities carry much of the implementation burden. Vulnerable groups have high exposure and interest but limited formal power. Private-sector actors have important technical and financial resources, but their incentives may not always align with universal access, affordability, environmental safeguards, or social inclusion. This study observes that the adequacy of Uganda's climate change and renewable-energy policies depends on stronger coordination between national institutions and Local Governments, more meaningful participation by affected communities, clearer private-sector and development-partner accountability, and stronger representation of women, youth, pastoralists, persons with disabilities, refugees, and other marginalised groups in policy and budget decisions.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Uganda's policy framework is comprehensive, but implementation is only partially adequate. The National Climate Change Policy, National Climate Change Act, updated NDC, Energy Policy for Uganda, development plans, and sector instruments provide a credible legal and strategic foundation. The principal gaps concern implementation regulations, coordination, finance, project preparation, enforcement, and verification of outcomes.

The NDC and Energy Policy for Uganda now provide the most relevant implementation benchmarks. The NDC's adaptation and mitigation priorities have evolved beyond the original 2015 climate policy, while the Energy Policy for Uganda, 2023 incorporates renewable-energy priorities previously set out in the 2007 policy. Future assessments should use these instruments together and explicitly reconcile areas where targets, sector coverage, or time horizons differ.

Climate finance is inadequate relative to stated ambition. The estimated US\$19.6 billion financing deficit for 2020–2025 constrained implementation across priority sectors. Uganda's access to international climate finance remains limited, and most GCF-linked operations involving Uganda are multi-country projects managed by international accredited entities. Domestic financing, private capital, direct-access accreditation, and project preparation must therefore expand simultaneously.

Climate-responsive budgeting is stronger at approval than at execution and results stages. Certification and tagging have improved formal alignment, but incomplete participation by votes, unstable compliance, classification problems, and fragmented outturn reporting prevent a reliable whole-of-government account of climate expenditure and results.

National and Local Government capacity remains a binding constraint. The Climate Change Department and lead agencies have extensive responsibilities but insufficient staff and systems. District Natural Resources Departments are understaffed, and most districts lack the financing, equipment, and technical skills required to prepare climate action plans or mobilise climate finance.

Adaptation and mitigation results are uneven across sectors.

Agriculture, water, ecosystems, forestry, disaster-risk management, and energy show identifiable interventions, but evidence is often limited to activities and beneficiaries rather than sustained resilience outcomes. Transport, industrial processes, waste, livestock methane, and oil and gas remain insufficiently integrated into mitigation and reporting systems.

Renewable generation has not translated into equitable access.

Hydropower-led generation has expanded substantially, but grid access remains low and geographically unequal. The gap reflects distribution constraints, connection costs, tariffs, limited finance, low awareness, and weak quality assurance. Clean cooking and productive use remain substantially under-developed.

Climate justice outcomes remain weak to partial. Allocations do not consistently follow vulnerability; consultation does not always influence decisions; benefit reporting rarely captures vulnerable groups; and remedy for loss, displacement, and environmental harm is incomplete. Regional evidence from Karamoja and West Nile shows how poverty, remoteness, refugee-hosting pressures, water stress, biomass dependence, and weak institutional capacity compound climate vulnerability.

6.2 Recommendations

6.2.1 Strengthen coordination and subnational implementation

- a) MWE should review and adequately staff the Climate Change Department, with dedicated capacity for adaptation, mitigation, climate finance, MRV, and international reporting.
- b) MoFPED, MoPS should require lead ministries and agencies to maintain designated climate functions with clear deliverables, budgets, and reporting obligations.
- c) MWE and MoFPED should provide Local Governments with standard guidance, technical assistance, equipment, and earmarked financing to prepare, implement, and report on district and urban climate action plans.
- d) MoFPED should introduce a vulnerability-based allocation formula and expand LoCAL and other predictable performance-based climate-resilience grants.

6.2.2 Improve climate budgeting, expenditure control, and accountability

- a) The MWE, MoFPED and NPA should Publish a consolidated annual Climate Budget and Expenditure Statement covering approved and revised budgets, releases, expenditure, financing sources, locations, outputs, and beneficiaries across central and local government.
- b) MoFPED should make mitigation and adaptation tagging mandatory for relevant votes, distinguish recurrent from development expenditure, and independently verify classification quality.
- c) MoFPED and NPA should link each tagged intervention to an NDC target, responsible institution, procurement milestone, physical output, outcome indicator, and beneficiary profile.
- d) MoFPED should protect priority adaptation spending during budget reductions and disclose the distribution of climate finance by region and vulnerability.

6.2.3 Expand and diversify climate finance

- a) MoFPED should establish dedicated project-preparation capacity to develop bankable proposals for the GCF, GEF, Adaptation Fund, Climate Investment Funds, and bilateral facilities.
- b) MoFPED should support additional Ugandan institutions to obtain direct-access accreditation and increase the share of climate finance managed by national institutions.
- c) MoFPED should operationalise the Uganda Development Bank Climate Finance Facility with transparent eligibility, additionality, leverage, geographic distribution, and beneficiary indicators.
- d) MoFPED should prepare a national strategy for accessing the Fund for Responding to Loss and Damage, including systems for loss assessment, community participation, fiduciary control, and rapid disbursement.
- e) MoFPED should use guarantees, concessional credit, blended finance, green bonds, and targeted subsidies to reduce the cost of capital for climate and renewable-energy investments.

6.2.4 Strengthen MRV, information, research, and learning

- a) MWE should establish an operational national greenhouse-gas inventory that consolidates public- and private-sector data and

progressively advances from Tier 1 to higher-tier methods where feasible.

- b) MWE should integrate climate finance, emissions, outputs, outcomes, and NDC targets within a national MRV architecture supported by interoperable sector information systems.
- c) MAAIF should fund applied research on climate-resilient agriculture, livestock methane, hydropower risk, urban flooding, ecosystem valuation, clean cooking, renewable-energy performance, and locally appropriate technologies.
- d) MWE and MoFPED should Institutionalise ex-post evaluation of major climate-related public investments and publish lessons for future project design.

6.2.5 Accelerate an equitable energy transition

- a) The MEMD should Clarify the relationship between the Renewable Energy Policy, 2007 and the Energy Policy for Uganda, 2023 through a consolidated, costed, and time-bound renewable-energy and energy-transition implementation framework.
- b) MEMD should prioritise grid extension and connection in under-served regions, while scaling mini-grids, solar home systems, productive-use equipment, and renewable energy for schools, health facilities, water systems, and refugee-hosting communities.
- c) MEMD should establish a rural energy-justice financing window that addresses affordability, consumer credit, maintenance, local technical capacity, and product standards.
- d) MEMD should adopt a comprehensive clean-cooking programme covering efficient stoves, electric cooking, LPG, ethanol, biogas, briquettes, institutional cooking, sustainable biomass supply, and protection of livelihoods affected by charcoal reforms.
- e) MEMD should complete priority market-enabling reforms, including net-metering and energy-efficiency regulation, and report separately on renewable-energy output execution.

6.2.6 Address under-performing and emerging sectors

- a) MWE, NPA and MoWT should establish measurable mitigation programmes for transport, industrial processes, waste, and livestock, including vehicle efficiency, mass transit, rail, electric

mobility, cleaner cement production, waste recovery, and manure-to-biogas systems.

- b) MEMD should integrate oil and gas emissions, methane control, climate risk, environmental safeguards, community benefit-sharing, and transition risks into the NDC 3.0 and national greenhouse-gas inventory.
- c) MWE should strengthen forest and wetland governance, sustainable charcoal production, restoration, land-tenure enforcement, and incentives for communities that conserve carbon sinks.
- d) MWE should require climate-risk screening and resilience standards for roads, drainage, industrial parks, urban development, tourism infrastructure, and public facilities.

6.2.7 Embed climate justice, gender equality, and participation

- a) MWE should introduce gender-specific and inclusion-sensitive NDC targets and disaggregate climate-finance reporting by sex, age, disability, poverty status, livelihood, refugee status, and location.
- b) MoFPED and development partners should require major climate and energy projects to disclose consultation issues, decisions taken, reasons for accepting or rejecting community proposals, beneficiary selection, grievances, and resolutions.
- c) MWE, MEND, MAAIF and Development Partners should strengthen compensation, livelihood restoration, resettlement services, ecological restoration, community benefit-sharing, and independent grievance mechanisms.
- d) MDAs should redesign public awareness programmes to explain the links among agriculture, energy, transport, industry, land use, household choices, emissions, and resilience, with specific roles for citizens, youth, civil society, and the private sector.
- e) MDAs should ensure that implementation should be sequenced through a costed action plan that assigns institutional responsibility, financing source, annual milestone, and measurable indicator to each recommendation. MoFPED, MWE, MEMD, NPA, MoLG, and the Local Government Finance Commission should jointly report progress through the annual budget and performance-review cycle.

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ABOUT ACODE

The Advocates Coalition for Development and Environment (ACODE) is an independent public policy research and advocacy think tank based in Uganda. ACODE's work focuses on four programme areas: Economic Governance; Environment and Natural Resources Governance; Democracy, Peace and Security; Science, Technology and Innovation. For the last eight consecutive years, ACODE has been ranked as the best think tank in Uganda and one of the top 100 think tanks in Sub-Saharan Africa and globally in the Global Think Tanks Index Report published by the University of Pennsylvania Think Tanks and Civil Societies Program (TTCSP).



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