



Strengthening Investments
in Gender-Responsive
Climate Adaptation



Costed Adaptation Plan

AUGUST 2026

MION DISTRICT



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LIST OF ACRONYMS

AAP	Annual Action Plan
AF	Adaptation Fund
BAC	Business Advisory Centre
BoQ	Bill of Quantities
CAP	Costed Adaptation Plan
CBO	Community-Based Organisation
CHPS	Community-Based Health Planning and Services
CIC	Community Implementation Committee
CRVA	Climate Risk and Vulnerability Assessment
CSA	Climate-Smart Agriculture
CWSA	Community Water and Sanitation Agency
DA	District Assembly
DACF	District Assembly Common Fund
DASC	District Adaptation Steering Committee
DCE	District Chief Executive
DDF	District Development Facility
DHD	District Health Directorate
DMTDP	District Medium-Term Development Plan
DPCU	District Planning Coordinating Unit
EHSU	Environmental Health and Sanitation Unit
EPA	Environmental Protection Agency (Ghana)
EWS	Early Warning System
GCF	Green Climate Fund
GEF	Global Environment Facility
GHS	Ghana Cedis (currency)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMet	Ghana Meteorological Agency
HHC	Health and Hygiene Committee
IEC	Information, Education and Communication
IGF	Internally Generated Fund
M&E	Monitoring and Evaluation
MASLOC	Microfinance and Small Loans Centre
MCA	Multi-Criteria Analysis
MEL	Monitoring, Evaluation, and Learning
MESTI	Ministry of Environment, Science, Technology and Innovation
MFI	Microfinance Institution
MLGDRD	Ministry of Local Government, Decentralisation and Rural Development
MLNR	Ministry of Lands and Natural Resources
MoF	Ministry of Finance
MoFA	Ministry of Food and Agriculture
MPCU	Municipal Planning and Coordinating
MSWR	Ministry of Sanitation and Water Resources
MTDP	Medium-Term Development Plan
NADMO	National Disaster Management Organisation
NAP	National Adaptation Plan
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NDPC	National Development Planning Commission
NGO	Non-Governmental Organisation
NVTI	National Vocational Training Institute
O&M	Operations and Maintenance
PPA	Public Procurement Authority (and the PPA Act 663)

PPP	Public-Private Partnership
PV	Photovoltaic
PWD	Person with Disabilities
RCC	Regional Coordinating Council
SDG	Sustainable Development Goal
SGP	Small Grants Programme (GEF)
SIGRA	Strengthening Investments in Gender-Responsive Climate Adaptation
SMS	Short Message Service
SOP	Standard Operating Procedure
TWG	Technical Working Group
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation (Unit)
WHO	World Health Organization
WRC	Water Resources Commission
WSMTs	Water and Sanitation Management Teams

EXECUTIVE SUMMARY

The Mion District Costed Adaptation Plan (CAP) sets out a prioritised, evidence-based, and implementation-ready response to the climate risks confronting the district. Building on the Mion Climate Risk and Vulnerability Assessment (CRVA) and developed under the Strengthening Investments in Gender-Responsive Climate Adaptation (SIGRA) programme, the CAP translates climate risk diagnostics into fifteen priority adaptation actions across five sectors, with indicative cost ranges, lead institutions, phasing, and financing pathways aligned to Ghana's National Adaptation Plan, the Nationally Determined Contribution, and the district's Medium-Term Development Plan. The Plan is designed as a practical working tool for the Mion District Assembly, its sector departments, development partners, and national stakeholders—moving the district from conceptual adaptation recommendations toward investment-ready action.

The Climate Challenge Facing Mion District

Mion District, located in the Northern Region within the Guinea Savannah agro-ecological zone, experiences a unimodal rainfall regime between May and October, annual rainfall of 900 to 1,200 mm, and dry-season temperatures routinely exceeding 35°C and reaching above 40°C. Sandy-loam to sandy soils, seasonal watercourses, and heavy dependence on rain-fed agriculture combine to make the district acutely vulnerable to climate variability and extreme weather events.

The CRVA identifies seven interrelated climate hazards with significant observed impacts:

- Prolonged drought and water scarcity, causing crop failure, livestock mortality, and water-collection burdens falling disproportionately on women and girls;
- Erratic and high-intensity rainfall, producing flash flooding, waterlogging, soil erosion, and contamination of water sources;
- Extreme heat and rising temperatures, with heat stress on farmers and livestock, and elevated health risks;
- Windstorms and soil erosion, damaging houses and infrastructure and stripping fertile topsoil;
- Bushfires and ecosystem degradation, driving the decline of shea and dawadawa parklands and biodiversity loss.

These hazards converge in seven climate risk hotspot communities namely; Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang where geographic exposure, infrastructure limitations, and socio-economic vulnerability combine. Climate impacts are unevenly distributed across population groups: women and female-headed households, youth, persons with disabilities (PWDs), and smallholder farming households bear a disproportionate burden owing to limited access to land, credit, skills, mobility, and climate information.

How Priorities Were Identified

The CAP was developed through a structured evidence-to-action pathway. Sector working groups translated CRVA findings into a longlist of adaptation options across five sectors—Agriculture and Food Security, Water Resources, Ecosystem and Biodiversity, Critical Infrastructure, and Health. District technical staff and stakeholders then refined the longlist to reflect institutional mandates, implementation realities, and community needs.

A Multi-Criteria Analysis (MCA) compared options against eleven equally weighted criteria—covering effectiveness, feasibility, affordability, sustainability, environmental soundness, gender responsiveness, equity, replicability, and related dimensions—yielding a maximum score of 55 per option. The highest-ranking options in each sector were shortlisted for detailed costing and implementation planning. Participatory costing workshops then generated indicative cost ranges, phasing, O&M estimates, and initial funding source mapping for each priority action.

The Fifteen Priority Adaptation Actions

The CAP consolidates fifteen priority adaptation actions across five sectors:

- **Agriculture and Food Security (3 actions):** Climate-Smart Varietal Choice and Seed Systems; Water Access for Dry-Season Stabilisation; and Post-Harvest Loss Reduction and Safe Storage.
- **Ecosystem and Biodiversity (3 actions):** Community-Led Reforestation and Nurseries; Implement and Manage Bushfire Control; Conserve and Restore Riparian Zones; and Restoration of Critically Degraded Land.
- **Water Resources (3 actions):** Establish Deep Groundwater Access and Protection; Gender-Equitable and Inclusive Water Governance; and Green Jobs in Local Water Services.
- **Critical Infrastructure (3 actions):** Build Climate-Resilient Community Facilities; Promote Local Infrastructure Job Creation; and Community-Based Early Warning Systems.
- **Health (3 actions):** Women-Led Health and Hygiene Committees; Health Education on Heat, Hygiene, and Nutrition; Inclusive Health Access for PWDs; and Mobile Health Units for Remote Communities.

Investment Envelope

The participatory costing exercise produced a consolidated investment envelope of approximately GHS 38.7 to 43.4 million over three years. The portfolio is heavily infrastructure-weighted: the Critical Infrastructure sector accounts for roughly four-fifths of total costs, driven principally by a single large programme, Climate-Resilient Community Facilities (GHS 23.5–25.0 million), which sits well beyond the district's own fiscal capacity and will require external climate finance. The remaining infrastructure and health investments, including Community-Based Early Warning Systems (approximately GHS 3.1 million) and Mobile Health Units (approximately GHS 4.6 million), are moderately sized programmes suited to blended financing from national programmes and development partners. By contrast, the Agriculture, Ecosystem, and Water Resources sectors comprise smaller, community-scale investments that can realistically commence delivery using district-controlled resources.

Sector	Estimated Cost (GHS)	Share of CAP
Agriculture and Food Security	920,000 – 1,110,000	~2.4%
Ecosystem and Biodiversity	1,090,000 – 1,190,000	~2.8%
Water Resources	210,000 – 250,000	~0.5%
Critical Infrastructure	31,503,000 – 34,803,000	~81%
Health	4,992,500 – 6,022,500	~13%
TOTAL	38,715,500 – 43,365,500	100%

Financing Strategy: Blended, Tiered, and Phased

Because the total requirement substantially exceeds what routine district revenue can deliver, the CAP adopts a deliberate blended financing strategy across four channels: district funds (DACF, DDF, IGF) for small community-scale actions; national programme alignment with MoFA, CWSA, the Forestry Commission, NADMO, and Ghana Health Service to leverage existing mandates; international climate finance (Green Climate Fund, Adaptation Fund, GEF Small Grants Programme) for the large infrastructure and service-delivery programmes; and development partner and private sector co-investment, including SIGRA, GIZ, UN agencies, World Bank programmes, solar and agro-input suppliers, microfinance institutions, and telecoms.

A three-tier prioritisation strategy is recommended:

- **Tier 1 – Immediate Implementation (District-Funded):** Low-cost, high-impact interventions deliverable through existing systems and integrable into the 2027 Annual Action Plan and Composite Budget, including soil-moisture conservation, gender-equitable water governance, bushfire control, Women-Led Health and Hygiene Committees, health education, and inclusive health access for PWDs.
- **Tier 2 – Co-Financed Actions:** Medium-scale investments requiring blended SIGRA, DACF, NGO, and Adaptation Fund support—including CSA seed systems, dry-season water access, post-harvest loss reduction, deep groundwater access, community-led reforestation, riparian restoration, and degraded land restoration.
- **Tier 3 – Externally Financed Investments:** Large-scale programmes contingent on successful resource mobilisation and bankable concept notes—Climate-Resilient Community Facilities, Community-Based Early Warning Systems, Mobile Health Units for Remote Communities, and Local Infrastructure Job Creation.

The MPCU is advised to designate 10 to 15 per cent of DACF and DDF allocations within the 2026–2029 DMTDP cycle for climate adaptation, and to work through MLGDRD, MESTI, EPA-Ghana, and the Ministry of Finance (as the GCF National Designated Authority) through its Real Sector Division to develop bankable proposals for the large capital programmes.

Implementation Approach: Phased and Hotspot-Focused

Recommended CAP delivery is recommended to follow a hotspot-based phased approach that provides flexibility as financing materialises and institutional readiness builds. Phase 1 (Year 1, 2026) should prioritise quick wins and capacity development in the hotspot communities of Zuro, Kayong, Nyentuo, and Kpumi. Phase 2 (Year 2, 2027) could then scale co-financed sector investments and launch major infrastructure procurement. Phase 3 (Year 3, 2028) could consolidate delivery, completes ecosystem restoration, and institutionalises lessons learned.

The Municipal Planning and Coordinating Unit (MPCU) should serve as the central coordination body for the implementation of the CAP. A proposed three-tier institutional architecture is recommended to govern implementation: the District Adaptation Steering Committee (DASC), chaired by the District Chief Executive, provides strategic oversight on a bi-annual basis; the MPCU Cross-Sector Review Meeting and five Sector Technical Working Groups handle operational coordination on quarterly and monthly cycles; and Community Implementation Committees, together with Community MEL Focal Persons in the seven hotspot communities, anchor community-level governance. A Development Partner and NGO Forum harmonises partner engagement, and a Community Grievance Mechanism secures accountability to residents.

Monitoring, Evaluation, and Learning

The proposed MEL framework is deliberately embedded within existing district systems—DMTDP reporting, SIGRA monitoring, EPA-Ghana climate reporting, and NDPC and MLGDRD performance review submissions—rather than operated as a parallel compliance system. Monitoring tracks the fifteen priority actions across four levels (activity, output, outcome, and portfolio). A detailed indicator matrix (Annex A) defines each indicator, its data source, responsible unit, and frequency, covering implementation, financial performance, efficiency, gender and inclusion, infrastructure performance, livelihoods, service delivery, ecosystem outcomes, early warning, capacity, and district-level outcome indicators.

Learning is structured around six learning loops: quarterly community feedback and field verification, bi-annual sector technical reviews, annual CAP reviews, a mid-term CAP evaluation at the close of Year 2, post-event learning reviews within 30 days of significant climate events, and annual district–regional–national knowledge exchange. Six adaptive management triggers—covering implementation delays, cost overruns, missed gender and inclusion targets, emerging hazards, ineffective actions, and

financing disruptions—convert monitoring evidence into concrete management responses within defined timelines and clear decision authorities.

Institutional Capacity and Safeguards

The planning workshops surfaced critical capacity gaps across MPCU, sector departments, and community institutions—spanning climate finance proposal preparation, adaptation M&E, climate-smart agriculture extension, agroforestry and nursery management, solar water system maintenance, climate-resilient construction, EWS operation, and safeguard screening. The CAP responds with a proposed structured, phased capacity-building programme addressing eight priority areas, delivered through on-the-job coaching by technical advisors, practical workshops linked to real CAP actions, standardised tools and templates, certification pathways for youth technicians through NVTI, and embedded technical support during procurement and implementation.

A safeguards, gender, and social inclusion framework operationalises equity commitments through measurable indicators: mandatory ≥60 per cent female membership on Water and Sanitation Management Teams (WSMTs); disability-accessible standards for all infrastructure; registered youth cooperatives targeted in green jobs; women’s land access verified before enrolment; and standardised safeguard screening at sub-project level.

Key Messages for Decision-Makers

- The cost of inaction exceeds the cost of action. Without deliberate investment, recurrent climate hazards will erode gains in poverty reduction, food security, and gender equity in Mion District and undermine Ghana’s commitments under the Paris Agreement, the NAP, and SDGs 1, 2, 5, and 13.
- Adaptation is a development investment, not a project. The CAP is designed for mainstreaming into the 2026–2029 DMTDP, the Annual Action Plan, and the Composite Budget—not delivered as a stand-alone or externally driven agenda.
- District resources can drive early wins while external finance is mobilised. Tier 1 and selected Tier 2 actions can commence in Year 1 through DACF, DDF, SIGRA, and national programme alignment, while MPCU positions Tier 3 programmes as bankable propositions for GCF, Adaptation Fund, and World Bank windows.
- Gender and inclusion are technical priorities, not optional add-ons. Evidence from the MCA and CRVA shows that gender-responsive designs score higher on effectiveness and sustainability—making inclusion a driver of performance, not merely of equity.
- Institutional coordination and capacity development determine delivery. The MPCU’s role as central coordinator, the DASC’s strategic oversight, and sustained investment in sector department and community capacity are as decisive to success as the financial envelope itself.
- The CAP is a living document. Actual costs, implementation evidence, and lessons from Phase 1 should inform a Year 3 costing update, future CAP cycles, and Mion’s contribution to regional and national learning on climate adaptation in northern Ghana.

Conclusion

The Mion District Costed Adaptation Plan offers a credible, locally owned, and investment-ready roadmap for building resilience in one of Ghana’s most climate-exposed districts. With the analytical foundations, costed actions, financing pathways, institutional architecture, and MEL system set out in this document, the District Assembly and its partners are positioned to convert climate risk into a catalyst for inclusive, resilient, and gender-equitable development—delivering tangible resilience outcomes for women, youth, persons with disabilities, and the hotspot communities of Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang, while positioning Mion District as a model for climate adaptation planning and implementation across northern Ghana.

1. PURPOSE, SCOPE, AND USE OF THE COSTED ADAPTATION PLAN

1.1 Background and Rationale

The Mion District is increasingly experiencing the impacts of climate variability and change, manifested through recurrent flooding, prolonged dry spells, water scarcity, environmental degradation, and climate-sensitive health risks. These hazards disproportionately affect livelihoods, infrastructure, service delivery, and the wellbeing of vulnerable groups including women, children, persons with disabilities (PWDs), smallholder farmers, and the poor.

In response to these challenges, the Mion District Climate Risk and Vulnerability Assessment (CRVA) was undertaken to systematically identify priority climate hazards, exposed sectors, vulnerable populations, and geographic hotspots (Available here: <https://sigraghana.org/resources/>). While the CRVA provided a strong evidence base for understanding climate risks, it did not on its own provide guidance on which adaptation actions should be implemented first, how much they would cost, or how they could be integrated into district planning and budgeting systems.

This Costed Adaptation Plan (CAP) was therefore developed to bridge the gap between risk assessment and practical implementation. It translates CRVA findings and stakeholder priorities into clearly defined, prioritised, and costed adaptation actions that can be realistically implemented by the District Assembly and its partners.

Specifically, the CAP seeks to:

- Move adaptation planning from *conceptual recommendations* to *investment-ready actions*;
- Support evidence-based allocation of limited district resources;
- Strengthen institutional capacity for costing, planning, and implementation of climate adaptation measures; and
- Enhance accountability, transparency, and coordination in climate-related decision-making.

The CAP represents a deliberate step towards mainstreaming climate adaptation into routine district development planning, rather than treating it as a stand-alone or externally driven agenda.

1.2 Linkages to the CRVA and District Planning Cycles

This Costed Adaptation Plan is embedded within, and aligned to, three interrelated processes: the Mion CRVA, the *Strengthening Investments in Gender-Responsive Climate Adaptation (SIGRA)* project framework, and Ghana's district planning and budgeting cycles. It is further anchored in Ghana's National Adaptation Plan (NAP), the principal national framework for coordinating climate adaptation across sectors and at multi-level governance at both national and subnational levels. By translating the NAP's strategic priorities into costed, district-level actions, this CAP ensures vertical integration between national adaptation policy and local implementation priorities and as a way of reinforcing Ghana's broader commitments under the National Climate Change Policy and its Nationally Determined Contribution (NDC).

1.2.1 Linkage to the Mion Climate Risk and Vulnerability Assessment

The CRVA provided the foundational evidence that informed this CAP. Key linkages include:

- Identification of dominant climate hazards (e.g. flooding, drought, heat stress);
- Mapping of vulnerable sectors and communities;
- Analysis of differential vulnerability across gender, age, disability, and livelihoods.

All adaptation actions prioritised and costed in this CAP are explicitly linked to risks and vulnerabilities identified in the CRVA, ensuring coherence between assessment and action.

1.2.2 Alignment with the SIGRA Project

The CAP was developed under the *SIGRA* project, which aims to support districts to move beyond climate diagnostics toward gender-responsive, costed, and implementable adaptation planning.

The CAP reflects SIGRA's core principles by:

- Applying participatory and inclusive prioritisation processes;
- Embedding gender and social inclusion as explicit criteria in decision-making;
- Building district-level capacity in costing, appraisal, and implementation planning; and
- Producing outputs that are directly usable for budgeting, proposal development, and investment mobilisation.

1.2.3 Integration with District Planning and Budgeting Cycles

The CAP is intentionally designed to support and complement existing district planning instruments, including:

- Medium-Term Development Plans (MTDPs),
- Annual Action Plans,
- Composite Budgets, and
- Sectoral investment plans.

Rather than creating parallel planning processes, the CAP provides climate-informed inputs that can be mainstreamed into these instruments.

Table 1: Alignment of the Costed Adaptation Plan with Key Planning Instruments

Planning Instrument	How the CAP Supports It
District Medium-Term Development Plan (DMTDP)	Provides prioritised, evidence-based adaptation actions aligned with district development objectives
Annual Action Plan	Supports annual selection and sequencing of adaptation investments
Composite Budget	Supplies indicative cost estimates to inform budget ceilings and allocations; supports climate-tagging of expenditures
Climate finance proposals	Provides structured action descriptions, cost breakdowns, and justifications for GCF, Adaptation Fund, GEF, and development partner submissions.
Sector plans	Helps sector departments integrate climate risks and adaptation actions into routine work plans.

1.3 Intended Users of the Costed Adaptation Plan

This document is designed as a practical working tool, not merely a policy reference. It is intended for a broad range of users involved in planning, financing, and implementing development actions in the Mion District.

Table 2: Primary Users and How They Are Expected to Use the CAP

User Group	Intended Use
District Planning Officers and DPCU	Integrate costed adaptation actions into MTDPs and Annual Action Plans ; coordinate cross-sector M&E.
Budget and Finance Officers	Inform budget preparation, costing assumptions, funding prioritisation, and climate-tagging of composite budgets
Engineers and Works Departments	Support design, costing, and supervision of climate-resilient infrastructure.
Sector Heads (Health, Agriculture, WASH, Gender, NADMO)	Guide sector-specific adaptation programming, procurement, and coordination.
Assembly Members and District Assembly Executive Committee	Support informed decision-making, political endorsement, and resource allocation.
Development partners and NGOs	Identify priority investment areas, co-financing opportunities, and partnership alignment.
SIGRA and national stakeholders (EPA-Ghana, MESTI, NDPC, MLGDRD)	Monitor implementation progress, support technical backstopping, and enable scaling.

1.4 Scope and Coverage of the Costed Adaptation Plan

The CAP focuses on priority adaptation actions identified through participatory processes across key climate-sensitive sectors, including:

- Health and Wellbeing,
- Agriculture and Food security,
- Water, Sanitation and Hygiene (WASH),
- Critical Infrastructure
- Ecosystem and Biodiversity,

For each priority action, the Plan provides:

- A clear description of the intervention;
- The climate risk addressed;
- Target locations and beneficiary groups;
- Institutional roles and partnerships;
- An indicative cost breakdown; and
- A proposed implementation timeline.

The CAP does not replace detailed engineering designs or Bills of Quantities (BoQs), but rather provides credible, decision-ready estimates that can be refined during detailed project preparation.

1.5 How the Costed Adaptation Plan Should Be Used

The CAP is intended to serve multiple interconnected functions across the adaptation planning and implementation cycle:

1. Strategic Prioritisation: Helping the District Assembly decide *what to do first, what can wait, and why*.
2. Budgeting and Resource Allocation: Providing indicative cost figures that support realistic budgeting and investment planning.

3. Capacity Building: Strengthening district staff understanding of costing, appraisal, and climate-responsive planning.
4. Coordination and Accountability: Clarifying institutional responsibilities, partnerships, and safeguards.
5. Learning and Iteration: Serving as a living document that can be updated as implementation lessons, costs, and climate risks evolve.

2. CLIMATE RISKS AND PRIORITY ADAPTATION NEEDS

2.1 Introduction

This chapter synthesizes the key findings from the Climate Change Risk and Vulnerability Assessment (CRVA) of the Mion District. The objective is to translate the detailed evidence from the CRVA into a clear and policy-relevant summary of the district's major climate risks, vulnerable sectors, affected communities, and priority adaptation needs.

Rather than reproducing the entire technical analysis of the CRVA, the chapter focuses on the most decision-relevant information needed to guide adaptation investment planning at the district level. It highlights the dominant climate hazards affecting the district, identifies sectors and locations where climate impacts are most severe, and explains the socio-economic conditions that amplify vulnerability among different population groups.

The analysis provides a foundation for subsequent chapters by clarifying why adaptation action is necessary, where interventions should be prioritized, and which groups require targeted support. The chapter therefore serves as the risk-profiling component of the district adaptation plan, informing the prioritization of adaptation options (Chapter Three) and the costing and implementation planning of adaptation actions (Chapter Four).

2.2 Summary of Key Climate Hazards and Vulnerable Sectors

Mion District, one of the 261 Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana, is situated in the Northern Region within the Guinea Savannah agro-ecological zone. The district covers an area characterized by gently undulating topography with elevations generally below 300 metres above sea level, sandy-loam to sandy soils, and a well-defined drainage system dominated by seasonal streams and rivers that feed into the White Volta basin. The district experiences a unimodal rainfall regime characterized by a single rainy season between May and October and a prolonged dry season from November to April. Annual rainfall typically ranges between 900 mm and 1,200 mm, but rainfall distribution is highly variable and increasingly unpredictable. Temperatures remain high throughout the year, frequently exceeding 35°C and reaching above 40°C during the peak dry months of February to April.

These climatic conditions, combined with sandy soils, seasonal watercourses, and a heavy dependence on rain-fed agriculture, make the district particularly vulnerable to climate variability and extreme weather events. Evidence from household surveys, stakeholder consultations, and climate modelling undertaken in the CRVA shows that Mion District faces a set of interrelated climate hazards that significantly affect livelihoods, infrastructure, and ecosystem health.

2.2.1 Key Climate Hazards Affecting Mion District

The dominant hazards affecting the district include drought, erratic rainfall, flooding, extreme heat, soil erosion, windstorms, and bushfires. These hazards interact with existing socio-economic vulnerabilities—such as poverty, gender inequalities, and infrastructure deficits—to create compound climate risks.

Table 3: Key Climate Hazards in Mion District

Climate Hazard	Description	Observed Impacts
Prolonged drought and water scarcity	Extended dry periods and declining surface water availability	Crop failure, livestock mortality, drying of rivers and dugouts, increased burden on women and girls for water collection
Erratic rainfall	Unpredictable rainfall patterns with intense storm events	Waterlogging of farms, damage to seedlings, disruption of planting calendars, and contamination of water sources
Flooding	Flash floods during high-intensity rainfall events	Damage to farms, infrastructure, and housing, particularly in Nyentuo, Dijeo, and Sang; disruption of access and service delivery
Extreme heat and rising temperatures	Increasing number of hot days and heatwaves	Heat stress among farmers and livestock, reduced labour productivity, increased health risks (heat-related illness, malnutrition)
Soil erosion	Degraded soils combined with intense rainfall and deforestation	Loss of fertile topsoil, reduced agricultural productivity, siltation of water bodies
Windstorms	Strong seasonal winds, particularly during the dry-to-wet season transition	Damage to houses, schools, CHPS compounds, market stalls; roof destruction; tree fall
Bushfires	Dry-season fires, often intensified by farming practices and land-use pressures	Destruction of vegetation, decline of shea and dawadawa parklands, biodiversity loss, livelihood threats to women

These climate hazards have already resulted in significant impacts across the district, including agricultural losses, water shortages, infrastructure damage, and health challenges. Agriculture, which is the primary economic activity in the district, is particularly sensitive to rainfall variability and drought conditions.

Climate projections for the district further suggest that temperatures are expected to rise and rainfall patterns will become increasingly variable under future climate scenarios, potentially intensifying drought conditions and increasing the likelihood of extreme rainfall events and flooding.

2.2.2 Priority Vulnerable Sectors

Climate hazards affect multiple sectors within the district, but the CRVA analysis identifies several sectors that face particularly high exposure and sensitivity to climate impacts.

These sectors are critical to the district's socio-economic development and therefore represent priority areas for adaptation investments.

Table 4: Priority Vulnerable Sectors in Mion District

Sector	Key Climate Risks	Reasons for High Vulnerability
Agriculture and food security	Drought, erratic rainfall, pest outbreaks, extreme heat	Over 90% of households depend on rain-fed agriculture, making livelihoods highly sensitive to climate variability
Water resources	Seasonal water shortages and contamination during floods	Rivers and water sources often dry up during the long dry season, while floods contaminate water supplies
Health and sanitation	Heatwaves, flooding, and poor water quality	Increased incidence of malaria, diarrhoeal diseases, and heat-related illnesses
Infrastructure and settlements	Flooding, erosion, and windstorms	Feeder roads, schools, CHPS compounds, and markets are vulnerable to climate hazards
Ecosystems and biodiversity	Bushfires, deforestation, land degradation	Declining shea and dawadawa parklands threaten livelihoods and ecological stability

Agriculture is the most climate-sensitive sector in the district because the majority of households rely on subsistence farming and livestock rearing for income and food security. Climate variability therefore directly affects household livelihoods and contributes to rising poverty levels.

Water resources are also highly vulnerable. Many rivers and dugouts dry up for several months each year, forcing households—particularly women and girls—to travel longer distances to access water

2.3 Climate Risk Hotspots and Affected Communities

Climate risks in Mion District are not uniformly distributed. The CRVA identifies several communities where climate impacts are particularly severe due to geographic exposure, infrastructure limitations, and socio-economic vulnerability.

These hotspots were identified through participatory hazard mapping, household surveys, and stakeholder consultations conducted during the CRVA process.

Table 5: Priority Climate Risk Hotspots in Mion District

Community	Dominant Climate Risks	Key Impacts
Zuro	Severe drought and water scarcity	Crop failure and livestock losses
Kpumi	Water scarcity and drought	Reduced agricultural productivity
Kayong	Drought and ecosystem degradation	Food insecurity and livelihood stress
Nyentuo	Flooding and waterlogging	Damage to farms and infrastructure
Dijeo	Flooding	Housing damage and contamination of water sources
Palari	Combined drought and health vulnerabilities	Limited water access and poor health services
Sang	Multi-hazard pressures	Flooding, sanitation challenges, and infrastructure strain

2.4 Priority Affected Groups

Climate change impacts in Mion District are unevenly distributed across population groups due to differences in socio-economic status, access to resources, and adaptive capacity.

The CRVA identifies several groups that experience heightened vulnerability to climate hazards.

Key Vulnerable Groups

Women and female-headed households

Women bear a disproportionate burden of climate impacts due to their roles in water collection, subsistence farming, and household caregiving. Limited access to land, credit, and agricultural inputs reduces their adaptive capacity.

Youth

Young people depend heavily on climate-sensitive livelihoods such as agriculture, yet many lack access to skills training and employment opportunities, increasing migration pressures.

Persons with disabilities

Mobility challenges and limited access to climate information or emergency support increase their vulnerability during extreme weather events.

Smallholder farming households

Most households depend on subsistence agriculture and earn low incomes, making them particularly sensitive to climate shocks.

2.5 Implications for District Investment Decisions

The CRVA provides unequivocal evidence that climate risks in Mion District amplify existing inequalities and threaten sustainable development. Without deliberate action, recurrent hazards will erode gains in poverty reduction, food security, and gender equity, while undermining Ghana's commitments under the Paris Agreement, the National Adaptation Plan (NAP), the National Climate Change Policy, and SDGs 1 (No Poverty), 2 (Zero Hunger), 5 (Gender Equality), and 13 (Climate Action).

Strategic investment implications for the District Assembly and development partners are:

- Sectoral prioritisation: Direct the largest share of adaptation resources to agriculture, water, and infrastructure – the sectors with highest exposure, lowest adaptive capacity, and highest multi-criteria analysis scores.
- Gender-responsive and inclusive design: All infrastructure (roads, boreholes, health facilities, storage) must incorporate universal access features, women-led management committees, and targeted subsidies for female-headed households and PWDs.
- High-impact, no-regret measures: Investments in climate-proofing critical infrastructure, reliable year-round water access, and protection/restoration of shea/dawadawa ecosystems deliver immediate co-benefits in livelihoods, health, and biodiversity while building long-term resilience.
- Mainstreaming into planning and budgeting: Integrate priority actions into annual action Plans (AAPs) from the 2027 cycle onward, as the 2026 AAP is already prepared, and budgets, targeting at least 10–15% of District Assembly Common Fund (DACF), District Development Facility (DDF), and internally generated funds for adaptation, with explicit gender and equity indicators.
- Community-driven and capacity-focused implementation: Leverage high-scoring options that emphasise local ownership, cash-for-work for youth and women, and integration of indigenous knowledge to lower costs and ensure sustainability.

- Financing and partnership strategy: Build district-level capacity to package and submit bankable projects to the Green Climate Fund (GCF), Adaptation Fund, and other climate finance windows, while fostering public–private partnerships for green entrepreneurship (detailed in Chapter 6).

By acting on these implications, Mion District can convert climate risk into a catalyst for inclusive, resilient, and gender-equitable development, positioning the district as a model for northern Ghana.

2.6 Link to Subsequent Chapters

This chapter establishes why adaptation action is urgent and necessary in Mion District.

- Chapter Three builds on this risk profile to explain how adaptation options were prioritized using participatory methods and Multi-Criteria Analysis.
- Chapter Four translates these priorities into fully costed adaptation actions that the district can implement, budget for, and mobilize resources around.

3. ADAPTATION PRIORITISATION PROCESS AND LEARNING OUTCOMES

3.1 Introduction

This chapter explains how Mion District translated the climate risks and vulnerabilities identified in the Climate Risk and Vulnerability Assessment into a structured set of adaptation priorities suitable for costing, investment planning, and integration into district development planning.

The CRVA identified major climate hazards affecting the district—including drought, flash floods, extreme heat, windstorms, and bushfires—as well as vulnerable sectors and communities where these hazards intersect with poverty, ecosystem degradation, and social inequality. The prioritisation process therefore sought to move from this diagnostic evidence to a manageable set of adaptation actions that are technically appropriate, socially inclusive, and feasible within district institutional systems.

Specifically, this chapter:

- documents how the district generated and organised a comprehensive longlist of sector-based adaptation options;
- explains the participatory prioritisation process used to compare and rank these options;
- presents the Multi-Criteria Analysis (MCA) framework applied to support transparent decision-making;
- highlights the key lessons and institutional learning that emerged during the process.

By documenting the methodology and results of the prioritisation exercise, this chapter ensures transparency and traceability for district stakeholders, SIGRA partners, and potential financing institutions. It also establishes the analytical foundation for the costed adaptation actions presented in Chapter Four.

3.2 Overview of the Prioritisation Approach

The prioritisation process for Mion District followed a structured evidence-to-action pathway. Rather than generating adaptation ideas independently of the risk analysis, the process built directly on the findings of the CRVA, which had already identified the district's major hazards, vulnerable sectors, affected population groups, and geographical hotspots.

Four main inputs informed the prioritisation process:

1. Climate risk evidence from the CRVA

The CRVA identified key hazards affecting Mion District—including drought, flooding, extreme heat, windstorms, bushfires, and environmental degradation—and mapped their impacts on sectors such as agriculture, water, infrastructure, ecosystems, and health. It also identified vulnerable communities and groups, including female-headed households, youth, elderly persons, and persons with disabilities.

2. Sector-specific adaptation option development

Based on the CRVA findings, sector working groups translated vulnerability patterns into concrete adaptation options across five sectors:

- Agriculture and Food Security
- Water Resources
- Ecosystem and Biodiversity
- Infrastructure and Assets
- Health

These sector option sets form the longlist of adaptation measures used in the prioritisation exercise.

3. Participatory review and refinement

District technical staff and stakeholders reviewed and refined the sector options to ensure that they reflected practical implementation realities, institutional mandates, and local community needs.

4. Multi-Criteria Analysis

A structured Multi-Criteria Analysis was used to compare options across technical, economic, social, and environmental criteria. This ensured that prioritisation decisions were transparent and aligned with SIGRA's gender-responsive and inclusive adaptation principles.

Table 6: Steps in the Multi-Criteria Analysis Process for Adaptation Option Prioritization

Step	Objective	Method	Output
Step 1	Translate CRVA findings into practical adaptation measures	Sector option development	Longlist of adaptation options
Step 2	Refine and organise options by sector	Sector consultation and consolidation	Five sector adaptation lists
Step 3	Compare and rank options	Multi-Criteria Analysis	Ranked priorities per sector
Step 4	Prepare actions for costing and planning	Reflection on scores and feasibility	Shortlisted priority interventions

3.3 Longlisting of Adaptation Options

3.3.1 Basis of the Longlist

The starting point for the prioritisation exercise was the CRVA, which documented climate hazards, sector vulnerabilities, community-level impacts, and existing coping strategies across Mion District.

To translate these findings into actionable planning options, sector-specific adaptation measures were developed through consultation with district technical departments and review of CRVA findings.

The resulting longlist comprised 67 discrete adaptation options, organised across five sectors.

Table 7: Distribution of Adaptation Options by Sector

Sector	Number of Options
Agriculture and Food Security	18
Water Resources	12
Ecosystem and Biodiversity	12
Infrastructure and Assets	11
Health	14
Total	67

These options collectively address the district's main climate challenges, including:

- drought-related agricultural losses;
- water scarcity and declining groundwater reliability;

- flooding and infrastructure damage;
- ecosystem degradation affecting livelihoods;
- increased disease risks and pressure on health services.

The longlist was intentionally broad to ensure that both immediate adaptation needs and longer-term resilience investments were considered.

3.4 Stakeholder Participation and Validation

The longlist of 67 adaptation options was subjected to participatory review during the first district adaptation workshop. Participants included the DPCU, sector department heads, traditional authorities from the seven hotspot communities, women's group representatives, youth representatives, representatives of persons with disabilities, Assembly Members, and civil society organisations. Gender balance across workshops was maintained at a minimum of 40 per cent female participation.

The stakeholder review served four functions: (a) validating that the options reflected real community experiences of climate risk, (b) adding options that sector working groups had missed, (c) removing options that were technically infeasible or duplicative, and (d) clarifying the institutional mandates and lead responsibilities for each option. Traditional authorities provided critical inputs on land access, by-law enforcement, and community mobilisation dimensions.

3.5 Multi-Criteria Analysis (MCA): Criteria and Scoring Framework

To rank the 67 adaptation options, a Multi-Criteria Analysis was applied during the prioritisation workshop.

MCA was chosen because adaptation decisions must consider multiple dimensions simultaneously, including effectiveness, cost, feasibility, social acceptance, and equity.

Each option was scored against 11 criteria, using a scale from 1 (very low) to 5 (very high).

Plate 1: Stakeholders engaging in the prioritisation of adaptation options



Table 8: MCA Criteria Used for Prioritisation

Criterion	Description
Effectiveness	Ability to reduce climate risks
Affordability	Relative cost and financial feasibility
Institutional feasibility	Compatibility with district mandates
Technical feasibility	Practicality of implementation
Traditional acceptance	Compatibility with local norms
Social acceptance	Community support
Flexibility	Ability to perform under climate uncertainty
Environmental efficiency	Contribution to ecosystem resilience
Gender responsiveness	Benefits to women and girls
Equity	Benefits to vulnerable groups
Replicability	Potential to scale or replicate

All criteria were equally weighted, resulting in a maximum possible score of 55 per option.

3.6 MCA Results and Ranked Adaptation Priorities

Following the scoring process, each adaptation option received a final composite score based on the eleven MCA criteria.

The MCA results revealed clear priority actions within each sector. The highest-scoring options were identified as priority interventions. These options were subsequently shortlisted for detailed costing and implementation planning in the next stage of the Climate Adaptation Planning process.

Table 9: Sector MCA Results Summary (Top 3 ranked actions per sector)

Agriculture

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Climate-Smart Varietal Choice & Seed Systems	Help farmers cultivate crop varieties that can withstand drought, heat, and rainfall variability while improving access to improved seeds for women and youth.	- Introduce early-maturing, drought- and heat-tolerant crop varieties for cereals and legumes. - Establish women- and youth-managed seed banks and demonstration plots. - Promote staggered planting and varietal mixes guided by seasonal climate advisories.	- Smallholder farming households across the district (improved seed access and crop resilience). - Women and youth as a specific target group, through women- and youth-managed seed banks and demonstration plots.	50	Department of Agriculture	Strengthens crop resilience to climate variability and improves <i>equitable</i> access to improved seed systems for smallholder farmers.
Water Access for Dry-Season and In-Season Stabilization	Improve reliable water access for smallholder farmers to support dry-season farming and stabilize crop production during rainfall variability.	- Develop small-scale irrigation systems including solar pumps and drip irrigation kits. - Promote rainwater harvesting and small reservoirs for supplementary irrigation. - Establish community water-user groups with inclusive participation of women and vulnerable groups.	- Smallholder and dry-season farmers in the pilot communities (Jimile, Sang, and DC Kura). - Women and other vulnerable groups, through guaranteed inclusive participation in community water-user groups.	49	Department of Agriculture / Works Department	Enhances agricultural productivity and resilience by ensuring reliable water supply for farming during dry spells and erratic rainfall periods.
Post-Harvest Loss Reduction & Safe Storage	Improve food security and household income by reducing post-harvest losses through improved drying, storage, and preservation technologies.	- Provide hermetic bags, metal silos, and solar dryers to reduce spoilage. - Train women and youth processors in moisture testing and aflatoxin prevention. - Design storage facilities accessible to elderly persons and persons with disabilities.	- Farming households district-wide (reduced post-harvest losses and improved food security). - Women and youth agro-processors as a specific target group for training. - Elderly persons and persons with disabilities (PWDs), through accessible storage facility design.	50	Department of Agriculture / BAC	Enhances food security and income stability by minimizing post-harvest losses and strengthening climate-resilient agricultural value chains.

Ecosystem and Biodiversity

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Community-Led Reforestation and Nurseries	Increase forest cover, stabilize degraded land, and build a local supply of climate-resilient seedlings.	- Establish and resource community tree nurseries using drought-tolerant species, managed by women and youth groups. - Organize annual tree-planting drives in degraded areas, offering short-term cash-for-work opportunities to economically vulnerable groups. - Use simple mapping tools to monitor tree survival, involving elderly community members for site selection based on traditional ecological knowledge.	- Entire community in the three pilot communities (restored ecosystems and increased tree cover). - Women and youth groups, who manage the community tree nurseries and derive livelihoods from them. - Economically vulnerable groups, through cash-for-work opportunities in planting drives. - Elderly community members, engaged for traditional ecological knowledge in site selection.	51	Forestry Commission / District Assembly (Environmental Unit)	Restores degraded ecosystems, increases tree cover, and strengthens community participation in landscape restoration while supporting women and youth livelihoods.
Conserve and Restore Riparian Zones	Protect ecological habitats around water bodies and improve the quality and flow of water resources.	- Apply bio-engineering techniques such as planting indigenous grasses and shrubs along stream banks to prevent erosion and sedimentation. - Establish Youth Water Monitoring Teams to inspect buffer zones and report illegal farming or waste disposal. - Engage traditional leaders to enforce sanctions against activities that encroach on protected riparian buffer zones.	- Entire community, particularly households and farmers depending on the protected water bodies for domestic and agricultural use. - Youth as a specific target group, through membership of the Youth Water Monitoring Teams.	47	Water Resources Commission / Forestry Commission / District Assembly	Protects water ecosystems, prevents erosion, and safeguards water resources essential for agriculture, ecosystems, and community water supply.

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Restoration of Critically Degraded Land	Reclaim and rehabilitate severely degraded land caused by erosion and unsustainable land management.	- Implement contour bunding and check dams in erosion hotspots through labour-intensive “cash-for-work” programs targeting vulnerable households. - Provide subsidized compost and soil enrichment inputs to farmers managing degraded lands. - Promote drought-tolerant soil-enriching cover crops such as legumes on fallow and degraded land.	- Economically vulnerable households, targeted through labour-intensive cash-for-work programs. - Smallholder farmers cultivating degraded or erosion-prone lands (subsidized compost and soil inputs). - Entire community, through reduced erosion risks and improved land productivity.	40	District Assembly / Forestry Commission / Department of Agriculture	Restores degraded landscapes, improves soil productivity, and reduces erosion risks while generating income opportunities for vulnerable households.

Health Sector

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Women-Led Health and Hygiene Committees (HHCs)	Empower women to lead local health promotion and WASH governance.	- Establish women-managed health and hygiene committees to oversee community sanitation and water points. - Provide training in hygiene promotion, waste management, and climate-health advocacy. - Integrate indigenous women's knowledge of herbal and water-conservation practices into local health plans.	- Women as the primary target group, empowered to lead and manage the committees and trained in hygiene promotion and climate-health advocacy. - Entire community, through improved sanitation governance and management of community water points.	50	District Health Directorate / Environmental Health Unit	Strengthens community-level health governance while empowering women to lead sanitation, hygiene promotion, and climate-health awareness.
Health Education on Heat, Hygiene, and Nutrition	Increase knowledge of preventive care in response to local climate and food insecurity risks.	Conduct radio and community campaigns on heat-stress prevention and hygiene in Dagbani.	Entire community, reached through Dagbani-language radio	52	District Health Directorate / Environmental Health Unit	Improves preventive health practices and reduces climate-related disease risks

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
		- Link nutrition education with home gardens and local foods to reduce child malnutrition during droughts. - Organize clean-up and handwashing demonstrations in schools and markets.	- and community campaigns. - Children as a specific target group, through nutrition education aimed at reducing child malnutrition during droughts. - School children, market users, and women's group networks, through demonstrations and dissemination channels.			through community awareness and behaviour change.
Mobile Health Units for Remote Communities	Deliver continuous and emergency healthcare to remote and flood-prone communities when roads are impassable or fixed facilities are damaged.	- Procure and equip solar-powered mobile health tricycles/vans with diagnostic tools, medicines, and emergency kits. - Train local women and youth as mobile health volunteers and drivers. - Establish regular outreach schedules and link with early warning systems for rapid deployment during hazards.	- Populations of remote and flood-prone communities on designated outreach routes —Zuro, Kayong, and Nyentuo as example routes — especially residents cut off during climate events. - Women, children, the elderly, and PWDs in these communities, who face the greatest barriers to reaching fixed health facilities. - Local women and youth, engaged and trained as mobile health volunteers and drivers.	48	District Health Directorate	Ensures uninterrupted health service delivery in hard-to-reach areas during climate events, reducing disease outbreaks and mortality among vulnerable groups.

Critical Infrastructure

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Build Climate-Resilient Community Facilities	Ensure critical social services remain operational during and after climate hazards while prioritizing access for vulnerable groups.	- Climate-proof and retrofit existing CHPS compounds, schools, and Assembly offices with storm-resistant roofing, elevated floors, and stronger foundations. - Install solar power and rainwater harvesting systems in public facilities to maintain power and water supply during disruptions. - Equip selected facilities as multi-hazard evacuation and shelter centers with universal accessibility features such as ramps for PWDs.	- Entire community, as users of CHPS compounds, schools, and Assembly offices and of the facilities as multi-hazard evacuation and shelter centres. Note: the costing sheet does not name the facility locations; selection should prioritize the flood-affected hotspot communities of Nyentuo, Dijeo, and Sang, where housing and infrastructure damage is concentrated. - PWDs and the elderly, through universal accessibility features such as ramps. - Female-headed households and elderly householders, targeted for household retrofitting support through dedicated micro-loan schemes	55	District Assembly (Works Department) / NADMO	Protects essential public services during climate shocks and ensures safe evacuation and shelter for vulnerable populations.
Promote Local Infrastructure Job Creation	To provide green employment for youth and other marginalized groups through sustained infrastructure maintenance and construction activities.	- Establish a certified training program for youth in climate-proof construction skills, road maintenance, and culvert installation. - Ensure local women-led cooperatives are contracted for maintaining public spaces, drainage systems, and green infrastructure	- Youth across the district as a primary target group, through certified training in climate-proof construction and maintenance skills (~40 trainees budgeted: 20 per round over 2 rounds). - Women-led cooperatives, through guaranteed	53	District Assembly (Works Department) / Department of Social Welfare / Local Government Service	Creates climate-resilient infrastructure maintenance systems while generating inclusive green jobs for youth and vulnerable groups.

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
		(e.g., community park development). Implement a "Cash-for-Work" program for infrastructure repair immediately following major flood events, prioritizing the economically vulnerable.	maintenance contracts for public spaces and green infrastructure. Economically vulnerable groups, prioritized in post-flood cash-for-work programs — most relevant in the flood-prone communities of Nyentuo, Dijeo, and Sang			
Community-Based Early Warning Systems (EWS)	Enable communities to take timely action to protect lives and assets from climate hazards such as flash floods and windstorms.	- Establish decentralized early warning systems using community radio, town criers, and SMS alerts. - Train youth and women as community EWS focal points responsible for disseminating warnings and coordinating response actions. - Develop accessible preparedness checklists to help elderly persons and PWDs secure homes and assets when warnings are issued.	- Entire community, reached through community radio, town criers, sirens, and SMS alerts, with community EWS focal persons in all seven climate-risk hotspot communities: Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang. - Youth and women, trained and engaged as community EWS focal points (60 focal persons budgeted: 20 per round over 3 rounds). - Elderly persons and PWDs, supported through accessible preparedness checklists.	55	NADMO / District Assembly / Ghana Meteorological Agency	Improves disaster preparedness and allows communities to respond quickly to extreme weather events, reducing damage to lives and infrastructure.

Water Resource

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
Establish Deep Groundwater Access & Protection	Ensure dependable, year-round access to safe domestic water while reducing water scarcity and the long walking burden on women and girls.	- Construct deep, solar-powered mechanized boreholes in drought-prone communities (e.g., Zuro, Kayong, Kpumi). - Mandate accessible designs such as ramps and appropriate pump height for persons with disabilities and elderly users. - Conduct hydrogeological assessments to identify sustainable aquifers and climate-resilient groundwater recharge zones.	- Entire population of the drought-prone hotspot communities of Zuro, Kayong, and Kpumi, through year-round access to safe water. - Women and girls in these communities, through significantly reduced water-fetching time and distance burdens. - PWDs and elderly users, through mandated accessible borehole designs (ramps, appropriate pump heights).	55	Community Water and Sanitation Agency (CWSA) / District Assembly	Addresses chronic water scarcity and improves water reliability for vulnerable communities while reducing time burdens on women and girls.
Gender-Equitable and Inclusive Water Governance	Empower women, youth, and persons with disabilities (PWDs) in local water decision-making and ensure fair water allocation during periods of scarcity.	- Establish women-led WASH committees (WSMTs) with at least 60% female membership. - Include youth and PWD representatives in planning, monitoring, and tariff-setting processes. - Adopt transparent water allocation rules that prioritize domestic use for vulnerable households during drought periods.	- Women as a primary target group, through leadership of WSMTs with at least 60% female membership. - Youth and PWDs, through guaranteed representation in planning, monitoring, and tariff-setting (~25 Water User Association members budgeted for inclusive-governance training over 4 rounds). - Vulnerable households, prioritized in water allocation rules during drought periods — particularly relevant in the water-stressed	54	District Assembly (WATSAN Unit) / Community Water and Sanitation Agency (CWSA)	Strengthens inclusive water governance, improves equitable access to water resources during scarcity, and ensures participation of women and vulnerable groups in water management decisions.

Adaptation Measure	Objective	Key Actions	Key Beneficiaries	Total Score	Lead Department	Key Justification
			hotspot communities of Zuro, Kpumi, Kayong, and Palari, where limited water access is a documented vulnerability. Entire community, through fairer and more transparent water governance and accessibility upgrades (ramps, handrails, and gender-sensitive facilities) at water points			
Green Jobs in Local Water Services	Create skilled employment and local maintenance capacity while improving the long-term sustainability of water systems.	- Collaborate with vocational institutions to certify youth (men and women) as pump mechanics, solar technicians, and plumbers. - Support youth cooperatives to provide paid maintenance and rainwater harvesting installation services. - Involve trained youth in participatory water monitoring and mapping using simple GPS tools.	- Youth (young men and women) across the district as the primary target group, through certification as pump mechanics, solar technicians, and plumbers (training budgeted over five rounds) and support to youth cooperatives on performance-based service contracts. - Communities served by boreholes and solar pump systems — including the hotspot communities of Zuro, Kayong, and Kpumi targeted for new boreholes — through sustained, locally maintained water systems and reduced dependence on external technicians.	52	Department of Works / Youth and Sports	Generates green employment opportunities for youth while building local technical capacity for borehole and solar pump maintenance, reducing dependence on external technicians and ensuring system sustainability.

3.7 Key Capacity Lessons from the Prioritisation Process

The MCA exercise surfaced practical insights to guide implementation and future planning:

- Cultural relevance drives acceptance: High average scores for traditional/social acceptance (especially for shea protection, agroforestry, community nurseries) underscored the value of aligning actions with local norms, indigenous knowledge, and traditional authority structures. This describes how these options performed on the social-acceptance criterion. It does not imply that the criterion was weighted more heavily, as all MCA criteria were weighted equally; however, culturally embedded options tended to score consistently well and this is because they were easier for respondents to relate with.
- Gender-responsive consultation strengthens the quality of the assessment: Issues such as domestic workloads for women, caregiving, and women's economic assets—that might otherwise have been under-represented in the discussion surfaced. Because gender-responsiveness was itself one of the scoring criteria, this is not evidence that gender-balanced options are inherently 'superior'; rather, the dedicated women's sessions improved the completeness and contextual relevance of the information on which all options were scored.
- Trade-offs need structured discussion: High-effectiveness options (e.g., deep solar boreholes, mechanised irrigation) often scored lower on affordability/institutional feasibility, highlighting the need for phased roll-out, cost-sharing models, and targeted climate finance proposals.
- Visual & participatory tools matter: Flipcharts, pictorial cards, and breakout formats enabled meaningful contributions from diverse literacy levels and physical abilities a model for future district-level planning.

3.8 Transition from Prioritisation to Costing and Implementation Planning

The transition from adaptation prioritisation to detailed costing and implementation planning marked a critical bridge in the development of Mion District's Climate Adaptation Plan. Following the successful completion of Workshop 1, where stakeholders applied Multi-Criteria Analysis to rank priority adaptation measures grounded in the findings of the Climate Risk and Vulnerability Assessment, a second participatory workshop was convened on 4th March 2026. This workshop shifted the focus from selection and ranking to the practical operationalisation of the highest-priority actions into investment-ready interventions.

While Workshop 1 established a robust, evidence-based hierarchy of adaptation options through transparent MCA scoring, Workshop 2 was deliberately designed to translate these priorities into actionable, costed, and institutionally anchored packages. Working in sector-based groups comprising technical officers from relevant district departments and decentralised agencies, participants engaged in a series of structured exercises aimed at enhancing the technical robustness and implementability of each selected action.

First, the prioritised actions identified in Workshop 1 were revisited and systematically decomposed into specific, costable components. This included preparatory activities, capital investments (such as infrastructure and equipment), operational requirements, capacity-building elements, and provisions for monitoring and evaluation. Such granular breakdown helped reduce ambiguity and ensured that costing reflected the full lifecycle of each intervention.

Second, participants undertook detailed activity-based costing exercises, drawing on district-level knowledge, recent project experiences, and simplified costing templates. These exercises produced realistic three-year indicative cost estimates that incorporated capital outlays, operations and maintenance (O&M) requirements, soft costs (training, sensitisation, and community mobilisation), and contingency provisions. A rapid economic appraisal was also conducted to assess the value-for-money of each action, paying particular attention to their potential to reduce climate-related losses, deliver

benefits to vulnerable groups (especially women, youth, and persons with disabilities), and align with institutional mandates and district planning realities. These exercises were guided by the district climate-adaptation costing manual developed under SIGRA, which provides the standardised costing templates, unit-cost assumptions, and step-by-step procedures used here and intended for reuse by the district in future planning cycle

Third, an explicit assessment of long-term operations and maintenance needs was integrated into the process. Groups identified responsible institutions, estimated recurring costs, and highlighted potential risks associated with maintenance capacity, community ownership, and sustained financing. This forward-looking step was essential for promoting the sustainability of both “hard” infrastructure measures and “soft” institutional and behavioural interventions.

Plate 2: Participants engaging in costing exercise



Finally, participants mapped each priority action against potential financing sources including the District Assembly Common Fund (DACF), Internally Generated Funds (IGF), SIGRA grants, national sector programmes, development partners, and other climate finance windows and proposed a realistic phasing strategy (short-, medium-, and long-term) to facilitate integration into the District's Medium-Term Development Plan (MTDP) and annual action plans.

Taken together, Workshop 2 successfully transformed the MCA-ranked priorities into a coherent, costed, and finance-aligned Climate Adaptation Plan. The outputs generated detailed activity breakdowns, three-year cost estimates, O&M assessments, economic appraisals, and financing and phasing strategies provide the foundational material for the sector-specific costed adaptation actions presented in Chapter Four, as well as the broader implementation, financing, and monitoring frameworks elaborated in subsequent chapters.

Beyond the production of technical outputs, the two workshops yielded important human and institutional gains. By engaging district staff and local stakeholders directly in prioritisation, costing, and planning exercises, the process fostered practical skills in risk-to-action reasoning, participatory decision-making, gender-responsive planning, and cross-sectoral coordination. These capacity gains represent a meaningful step toward embedding climate adaptation as a core dimension of district development planning, rather than a peripheral or externally driven agenda. In this sense, the workshops not only advanced the development of the CAP but also strengthened the collective agency and readiness of Mion District's institutions and personnel to confront the challenges of a changing climate.

4. COSTED PRIORITY ADAPTATION ACTIONS

4.1 Introduction

This chapter presents the priority climate adaptation actions for Mion District that were identified, prioritised, and costed through the participatory planning process supported under the SIGRA initiative. The actions presented here represent the final stage of a structured analytical process that began with the Climate Risk and Vulnerability Assessment followed by adaptation option longlisting, Multi-Criteria Analysis prioritisation, and participatory costing exercises conducted during the district adaptation workshop. In total, the prioritised actions carry an indicative cost of approximately GHS 116.4 to 121.1 million over three years. By sector, this comprises Critical Infrastructure (GHS 76.4–79.7 million, ~66 per cent), Health (GHS 37.8–38.8 million, ~33 per cent), Ecosystem and Biodiversity (GHS 1.1–1.2 million, ~1 per cent), Agriculture and Food Security (GHS 0.9–1.1 million, ~1 per cent), and Water Resources (GHS 0.2–0.25 million, ~0.2 per cent).

The objective of this chapter is to translate the district's priority adaptation needs into clear, implementable, and investment-ready actions that can guide district planning, budgeting, and resource mobilisation. Rather than repeating the detailed vulnerability analysis presented in the CRVA, the chapter focuses on how the district can respond to the identified climate risks through targeted investments and institutional actions.

Each adaptation action presented in this chapter is defined in terms of:

- the climate risk or vulnerability it addresses,
- the target locations and beneficiary groups,
- the lead and supporting institutions responsible for implementation,
- the implementation modality (infrastructure investments, institutional strengthening, or hybrid interventions), and
- an indicative cost range covering capital investments, training and capacity development, operations and maintenance, monitoring, and contingency provisions.

The cost estimates presented in this chapter are indicative planning figures, developed to support district-level prioritisation and investment planning rather than detailed project budgeting. More precise costing, including engineering designs and Bills of Quantities, will be undertaken during subsequent stages of project preparation and implementation planning.

Importantly, the costing process itself contributed to strengthening the technical capacity of district staff. Through the workshop process, district officers gained practical experience in adaptation prioritisation, cost estimation, gender-responsive planning, and cross-sector coordination, helping to build institutional readiness for implementation.

4.2 Costing Methodology and Assumptions

The costing of adaptation actions in Mion District followed a participatory and bottom-up approach designed to support district-level planning and decision-making. Rather than producing fixed project budgets, the costing exercise focused on generating realistic indicative cost ranges based on district knowledge and recent implementation experience.

Cost estimates were developed collaboratively during the district adaptation planning workshop, drawing on:

- experience from recent development projects implemented in the district,
- unit cost references from district infrastructure and agricultural programmes,

- inputs from technical departments such as Agriculture, Works, Environmental Health, and Planning, and
- simplified costing templates designed to capture key cost components.

The methodology emphasised practicality, transparency, and alignment with potential financing opportunities available to the district. This approach is set out in detail in the climate-adaptation costing manual developed under SIGRA, which districts can apply to update these estimates and cost new actions in subsequent planning cycles.

The costing process was guided by four key principles:

1. Bottom-up estimation using district-level knowledge and past project experience.
2. Indicative cost ranges, rather than fixed budgets, to allow flexibility during implementation.
3. Consistency across sectors, using comparable cost components and assumptions.
4. Alignment with likely financing sources, including the District Assembly Common Fund (DACF), development partner programmes, NGOs, and climate finance mechanisms.

Table 10: Costing Assumptions Across Sectors

Item	Assumption
Cost Type	Capital investments plus soft costs (training, mobilisation, community sensitisation)
Time Horizon	3 years (short–medium term implementation window)
Currency	Ghana Cedis (GHS)
Inflation	Not factored (indicative planning figures only)
Unit Costs	Derived from recent district and NGO project experience
Co-financing	Assumed for larger infrastructure investments

4.3 Overview of Sectoral Costed Adaptation Actions

The prioritised adaptation actions for Mion District reflect the key climate risks identified in the CRVA, including drought, erratic rainfall, flash floods, extreme heat, ecosystem degradation, and climate-sensitive health risks.

Across sectors, the selected actions aim to:

- strengthen climate-resilient livelihoods and food production systems,
- improve water availability and management during drought periods,
- protect and restore critical ecosystems such as shea and dawadawa parklands,
- enhance the resilience of public infrastructure and service delivery, and
- reduce health risks associated with climate variability.

The following sections present the sector-specific costed adaptation actions, based on the results of the MCA prioritisation process described in Chapter Three.

4.3.1 Agriculture and Food Security Sector

Agriculture remains the primary livelihood source for the majority of households in Mion District. The sector is highly exposed to prolonged dry spells, erratic rainfall patterns, declining soil fertility, and pest outbreaks, all of which contribute to declining crop yields and income instability.

The prioritised adaptation actions therefore focus on strengthening climate-resilient farming systems, improving soil health, supporting women-led value addition activities, and ensuring that existing irrigation investments remain functional and sustainable.

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
1st (tied) (50)	Climate-Smart Varietal Choice & Seed Systems	Enable farmers to grow crops that can survive drought, heat, and changing rains; make improved seeds easy for women and youth to access	• Services & training (GHS 81,920): 12 one-acre demonstration plots (maize, rice, soybean, groundnut — 4 per community), 9 training sessions (varietal selection, seed multiplication, seed storage/record-keeping — 3 per community), 12 field days, and extension support across Jimile, Sang, and DC Kura. • Capital investment (GHS 354,300): Procurement and distribution of 390 bags of certified seed (30 maize, 60 soybean, 150 groundnut, 150 rice) including transport, and community seed storage. • Personnel & supervision (GHS 19,200): District Agriculture Officer field visits (6), inspection and certification of seed multiplication fields (6), varietal performance reports (1 per community), and advisory services.	• Smallholder farming households in Jimile, Sang, and DC Kura (~150 participating farmers budgeted). • Women and youth: seed banks and demonstration plots are women- and youth-managed by design.	% of farmers adopting at least 2 drought/heat-tolerant varieties; average yield increase across demo plots; number of participating farmers disaggregated by sex and age; number of women- and youth-managed seed banks operational. People-based indicators to be reported sex-disaggregated.	Lead: Dept. of Agriculture (MoFA) Partners: Traditional leaders, women's groups, Social Welfare Timeframe: Short–Medium	455,420
1st (tied) (50)	Post-Harvest Loss Reduction & Safe Storage	Enhance food security and incomes by minimising post-harvest losses	• Services & training (GHS 18,000): 9 farmer-group training sessions (grain drying, moisture-meter use, rodent control — 3 per community)	• Farming households in Jimile, Sang, and DC Kura. • Women and youth agro-processors: targeted	% reduction in post-harvest losses; number of hermetic bags and elevated storage facilities in	Lead: Dept. of Agriculture (MoFA) Partners: Social Welfare	183,000

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
		through improved drying, storage, and preservation technologies	and 150 printed post-harvest handling manuals. • Capital investment (GHS 157,500): 3 elevated, ventilated community storage facilities (one per community) and 300 hermetic storage bags (100 per community). • Personnel & supervision (GHS 7,500): District Agriculture Officer inspections of storage standards (6) and verification/reporting of post-harvest loss reduction (1 report per community).	training in moisture testing and aflatoxin prevention. • Elderly and PWDs: accessible storage design.	use; number of women and youth processors trained (sex-disaggregated). People-based indicators to be reported sex-disaggregated.	Timeframe: Short–Medium	
3rd (49)	Water Access for Dry-Season and In-Season Stabilization	Ensure year-round crop and livestock production by improving small-scale irrigation, water storage, and equitable water governance for all social groups	• Services & training (GHS 24,600): Installation and commissioning of 6 solar irrigation pumps (2 per community), 3 community meetings on water-use rules, 3 farmer trainings on efficient irrigation (50 farmers each; ~150 farmers), and 150 printed manuals. • Capital investment (GHS 358,500): 3 community irrigation dugouts, 3 small reservoirs, 9 water storage tanks (5,000 L; 3 per community), and 6 solar pump sets in Jimile, Sang, and DC Kura. • Personnel & supervision (GHS 38,400): Quarterly extension monitoring of irrigation systems, technical supervision and preventive maintenance of pumps and water structures, and quarterly monitoring reports.	• Smallholder and dry-season farmers in Jimile, Sang, and DC Kura (~150 farmers trained). • Women and vulnerable groups: guaranteed inclusive participation in community water-user groups.	% of targeted households with functional micro-irrigation systems; reduction in dry-season crop failure reports; % of women in water-user group executive roles; farmers trained (sex-disaggregated). People-based indicators to be reported sex-disaggregated.	Lead: Dept. of Agriculture (MoFA) Partners: CWSA, Social Welfare Timeframe: Medium	421,500

4.3.2 Ecosystem and Biodiversity

Ecosystem and biodiversity resources, particularly the shea and dawadawa parklands, form a critical foundation for women's economic activities and overall ecological stability in Mion District. The sector faces severe threats from uncontrolled bushfires, deforestation for charcoal production, soil erosion, and degradation of riparian zones, all of which undermine natural asset protection, reduce women's incomes, and weaken the district's long-term resilience to climate extremes.

The prioritised adaptation actions therefore focus on community-led reforestation and nursery establishment, bushfire prevention and control, integration of agroforestry on farmlands, restoration of riparian zones, and rehabilitation of critically degraded lands, while ensuring inclusive participation of women, youth, and persons with disabilities.

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
1st (51)	Community-Led Reforestation and Nurseries	Increase forest cover, stabilize degraded land, and build a local supply of climate-resilient seedlings	• Services & training (GHS 78,000): Community entry and sensitization in 3 pilot communities (3 rounds each), 3-day training of Community Natural Resource Management Committees in each community, and IEC materials in local languages. • Capital investment (GHS 200,100): 3 community tree nurseries: poly water tanks (3), 30 watering cans, 3 shade structures, native tree seedlings, and fencing. • Personnel & supervision (GHS 51,400): Technical training facilitator (Forestry Dept.), monthly stipends for 3 community nursery supervisors and 3 seasonal planting coordinators, and casual labour for restoration works (cash-for-work).	• Whole population of 3 pilot communities (to be selected from the 7 hotspots). • Women and youth groups: manage nurseries and derive livelihoods. • Economically vulnerable: cash-for-work; elderly engaged for traditional ecological knowledge.	Number of seedlings produced and planted; survival rate after first year; number of women and youth engaged in nursery operations and paid planting work (sex-disaggregated). People-based indicators to be reported sex-disaggregated.	Lead: Forestry Commission Partners: Dept. of Agriculture, traditional leaders Timeframe: Medium–Long	329,500
2nd (47)	Conserve and Restore Riparian Zones	Protect vital ecological habitats around water bodies and	• Services & training (GHS 57,000): 9 community sensitization meetings on riparian protection, watershed management training for farmers and	• Households and farmers dependent on protected water bodies	Length of restored riparian buffers; reduction in erosion and sedimentation;	Lead: Forestry Commission Partners: CWSA, traditional leaders	131,100

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
		improve water quality and flow	local leaders (3 sessions), and 9 sustainable land-use planning meetings. • Capital investment (GHS 14,100): Demarcation of riparian buffer zones (signage and boundary marking) in 3 communities and 300 native tree and grass seedlings for riverbank restoration. • Personnel & supervision (GHS 60,000): Quarterly ecological assessment visits (12 over the implementation period) by monitoring and evaluation teams.	in 3 riverine communities. • Youth: Youth Water Monitoring Teams. • Farmers and local leaders: watershed training.	number of youth (male/female) active in Water Monitoring Teams. People-based indicators to be reported sex-disaggregated.	Timeframe: Medium–Long	
3rd (40)	Restoration of Critically Degraded Land	Actively reclaim and heal areas damaged by severe erosion and poor land management practices	• Services & training (GHS 123,000): Technical land assessment and mapping of degraded sites (3 communities, 3 rounds), community mobilisation meetings, and 9 soil-rehabilitation training sessions for farmers. • Capital investment (GHS 285,000): Contour bunding on degraded slopes and reseedling with grass and leguminous cover crops (50 units at each of 3 sites). • Personnel & supervision (GHS 276,000): Monthly monitoring and evaluation personnel allowances (36 person-months) and quarterly stakeholder field monitoring visits.	• Economically vulnerable households: labour-intensive cash-for-work. • Smallholder farmers on degraded lands: training and subsidized soil inputs. • Entire community: reduced erosion risk.	Area of degraded land restored; improvement in soil stability and vegetation cover; cash-for-work person-days delivered, by sex and vulnerability status. People-based indicators to be reported sex-disaggregated.	Lead: Dept. of Agriculture Partners: Works Department, Forestry Commission Timeframe: Medium–Long	684,000

4.3.3 Water Resource

Water resources are the lifeline of Mion District, supporting domestic needs, agriculture, livestock, and overall community health in the Guinea Savannah zone. The sector is acutely vulnerable to prolonged droughts, erratic rainfall, flash flooding, and contamination, with dry-season water bodies drying up for 5–7 months annually. This places a heavy burden on women and girls for water collection, exacerbates food insecurity, and increases health risks, particularly in drought hotspots such as Zuro, Kpumi, and Kayong.

The prioritised adaptation actions therefore focus on reliable groundwater access, inclusive and gender-equitable governance, and creation of green jobs in water services, while ensuring sustainable management and reducing the disproportionate burden on women, youth, and persons with disabilities.

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
1st (55)	Establish Deep Groundwater Access & Protection	Ensure dependable, year-round access to safe domestic water while reducing scarcity and the long walking burden on women and girls	• Services & training (GHS 37,480): Hydrogeological siting, technical installation services, water quality testing (2 rounds), and community groundwater-protection training (13 participants over 4 sessions). • Capital investment (GHS 79,000): Drilling and mechanization of deep borehole(s) with submersible pump, protective wellhead structures, and fencing (one drilling site budgeted). • Personnel & supervision (GHS 13,200): Monthly stipends for 3 trained borehole caretakers and 5 community groundwater management volunteers (12 months).	• Drought-prone hotspot communities of Zuro, Kayong, and Kpumi: year-round safe water. • Women and girls: reduced water-fetching burden. • PWDs and elderly: mandated accessible designs (ramps, pump heights).	% of households in drought hotspots with reliable water <500 m; borehole functionality rate ≥90%; average water-fetching time for women and girls; % of water points meeting accessibility (PWD-friendly) standards. People-based indicators to be reported sex-disaggregated.	Lead: Community Water and Sanitation Agency (CWSA) Partners: District Works Dept., Social Welfare Timeframe: Medium	129,680
2nd (54)	Gender-Equitable and Inclusive Water Governance	Empower women, youth, and persons with disabilities (PWDs) in local water decision-making and ensure fair water allocation during scarcity	• Services & training (GHS 27,780): Capacity building for Water User Associations on inclusive governance, gender-sensitive decision-making, conflict resolution, and leadership (~25 trainees over 4 rounds). • Capital investment (GHS 32,000): Accessible water infrastructure	• Women: WSMT leadership with ≥60% female membership (primary target group). • Youth and PWDs: guaranteed representation in	% of WSMTs with ≥60% women membership; % of vulnerable households reporting equitable access during drought; number of youth and	Lead: District Assembly (WATSAN Unit) Partners: CWSA, Social Welfare Timeframe: Short-Medium	65,870

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
			upgrades — ramps, handrails, and gender-sensitive sanitation facilities — at water points. • Personnel & supervision (GHS 6,090): Community water governance facilitators supporting inclusion compliance and structured stakeholder engagement.	planning, monitoring, and tariff-setting. • Vulnerable households: priority water allocation during drought, especially in Zuro, Kpumi, Kayong, and Palari.	PWD representatives holding decision-making roles. People-based indicators to be reported sex-disaggregated.		
3rd (52)	Green Jobs in Local Water Services	Create skilled employment and local maintenance capacity while improving the long-term sustainability of water systems	• Services & training (GHS 12,926): Technical certification training for youth in borehole maintenance, pump repair, solar water systems servicing, and small-scale plumbing (5 training rounds with practice fittings). • Capital investment (GHS 2,420): Maintenance toolkits, spare-parts banks, and first-aid equipment for local water technicians. • Personnel & supervision (GHS 2,300): Certification costs and performance-based service contracts for certified local technicians.	• Youth (young men and women): certified technicians and cooperatives (primary target group). • Communities served by boreholes/solar pumps — incl. Zuro, Kayong, Kpumi: locally sustained water services.	Number of youth (men and women) certified as pump mechanics/solar technicians; % of water points maintained by local youth cooperatives; % of certified technicians who are women. People-based indicators to be reported sex-disaggregated.	Lead: Department of Works / Youth and Sports Partners: CWSA, Vocational institutions Timeframe: Medium	17,646

4.3.4 Critical Infrastructure

Critical infrastructure – including CHPS compounds, schools, Area Council offices, housing, storage facilities, and early warning systems – forms the backbone of service delivery and asset protection in Mion District. The sector is highly exposed to flash flooding, strong winds, extreme heat, and erosion, which regularly damage public buildings, roads, and storage structures, disrupt essential services, and impose high repair costs on the District Assembly and vulnerable households.

The prioritised adaptation actions therefore focus on climate-proofing key community facilities, creating local green jobs in resilient construction and maintenance, and establishing effective community-based early warning systems, while embedding gender-responsive and disability-inclusive designs throughout.

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
1st (tied) (55)	Build Climate-Resilient Community Facilities	Keep essential public services (CHPS compounds, schools, and offices) fully operational during floods, storms, and extreme heat	Services & training (GHS 1,160,000): Certified structural assessments, retrofit designs, solar and emergency-shelter installation services, and monitoring/supervision for 4 facilities. Capital investment (GHS 23,000,000): Retrofitting of 4 CHPS compounds and 3 schools/Area Council offices (7 public facilities) with reinforced roofing, elevated floors, solar PV with battery storage, rainwater harvesting, and accessibility ramps. Personnel & supervision (GHS 22,000): District Works Department engineers conducting 11 structural compliance inspections and certifying solar/water installations.	- All facility users; facilities double as multi-hazard evacuation/shelter centres. - PWDs and elderly: universal accessibility features. - Female-headed households and elderly: retrofitting micro-loans (~200 + 150 budgeted).	Number of retrofitted facilities; % functionality maintained during hazard events; % of facilities meeting accessibility standards; micro-loan recipients by sex and age. People-based indicators to be reported sex-disaggregated.	Lead: Department of Works Partners: Health Directorate, Education, NADMO Timeframe: Medium	24,182,000
1st (tied) (55)	Community-Based Early Warning Systems (EWS)	Enable timely alerts and coordinated community response to floods, strong winds, and	Services & training (GHS 127,000): Development of 5 flood and wind alert SOPs and training of 60 youth and women EWS focal persons (20 per round over 3 rounds) in warning	Entire community, with EWS focal persons in all seven hotspot communities (Zuro, Kpumi, Kayong,	% of households receiving timely alerts; reduction in asset loss and human casualties during hazard events;	Lead: National Disaster Management Organisation (NADMO)	3,127,000

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
		drought to protect lives and assets	dissemination and response coordination. • Capital investment (GHS 2,500,000): Installation of sirens, community radio equipment, SMS alert systems, and hazard display boards at 5 area-level sites. • Personnel & supervision (GHS 500,000): Appointed Community EWS Coordinators managing seasonal testing and alert activation (5 coordinators, 10 rounds).	Nyentuo, Dijeo, Palari, Sang). • Youth and women: 60 trained focal points. • Elderly and PWDs: accessible preparedness checklists.	number of women and youth focal persons active (sex-disaggregated); % of elderly/PWD households with preparedness checklists. People-based indicators to be reported sex-disaggregated.	Partners: MPCU, Department of Works Timeframe: Short–Medium	
3rd (53)	Promote Local Infrastructure Job Creation	Generate skilled youth employment and build local technical capacity for climate-resilient construction and maintenance	• Services & training (GHS 20,000): Certified training in climate-resilient construction and structured cash-for-work program management (~40 trainees: 20 per round over 2 rounds, with resource persons). • Capital investment (GHS 5,000,000): Culvert installation tools, drainage maintenance equipment, masonry toolkits, and safety gear. • Personnel & supervision (GHS 500,000): Certified site supervisors overseeing construction quality, safety compliance, and validation of completed works.	• Youth (~40 trainees budgeted): certified green construction skills. • Women-led cooperatives: guaranteed maintenance contracts. • Economically vulnerable: post-flood cash-for-work, most relevant in Nyentuo, Dijeo, Sang.	Number of youth (men and women) trained and employed in green infrastructure jobs; % of maintenance works carried out by local youth teams; trainees and cash-for-work participants by sex; value of contracts awarded to women-led cooperatives. People-based indicators to be reported sex-disaggregated.	Lead: Department of Works / Youth Department Partners: NADMO, Social Welfare Timeframe: Short–Medium	5,520,000

4.3.5 Health Sector

The health sector in Mion District is under increasing pressure from climate change, with rising cases of heat-related illnesses, waterborne diseases, malaria outbreaks, and disrupted service delivery during floods and prolonged dry spells. Women, children, the elderly, and persons with disabilities are disproportionately affected due to limited mobility and remote settlement patterns.

The prioritised adaptation actions therefore focus on empowering women through health and hygiene governance, raising community awareness on climate-sensitive health issues, ensuring inclusive access for persons with disabilities, and deploying mobile health units to reach isolated communities during extreme weather events.

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
1st (52)	Health Education on Heat, Hygiene, and Nutrition	Increase community knowledge and behaviour change on heat-stress prevention, hygiene, and climate-sensitive nutrition to reduce malnutrition and disease risks	Services & training (GHS 13,820): Dagbani-language community campaigns on heat stress, hygiene, and climate-sensitive nutrition, with school and market demonstration events. Capital investment (GHS 10,500): Portable public address systems and 20 complete handwashing demonstration facilities for schools and markets. Personnel & supervision (GHS 163,500): Community Health Promotion Officers coordinating campaign delivery and outreach scheduling (fuel and allowances).	- Entire district population via radio/community campaigns and notice boards in 5 communities per sub-district (25 communities). - Children: nutrition education against drought-period malnutrition. - School children, market users, and women's group networks.	% of households reached by campaigns; % of caregivers adopting improved hygiene and nutrition practices during dry seasons; reduction in child malnutrition reports; school children reached (by sex); number of women's groups engaged in dissemination. People-based indicators to be reported sex-disaggregated.	Lead: District Health Directorate Partners: Environmental Health Unit, Education Directorate Timeframe: Short-Medium (2026–2028)	187,820
2nd (50)	Women-Led Health and Hygiene Committees (HHCs)	Empower women to lead local health promotion, sanitation governance, and climate-health	Services & training (GHS 5,430): Training of women-led committees in hygiene promotion, sanitation governance, waste management planning, and climate-health advocacy (~30 participants plus	- Women: lead and manage the committees (primary target group). - Entire community across the 5 sub-districts: improved	Number of active women-led committees; % reduction in diarrhoeal and hygiene-related cases; % of	Lead: District Health Directorate Partners: Environmental Health Unit, Social Welfare	641,290

Priority Rank (MCA Score)	MCA Priority Adaptation Action	Objective	Actions Proposed — Included in Indicative Cost (with budgeted scope)	Main Beneficiaries (Gender Responsiveness)	Key Indicators of Success	Lead Institution, Supporting Partners & Timeframe	Indicative Cost (GHS)
		advocacy at community level	facilitators per round, 2 rounds budgeted). • Capital investment (GHS 630,000): WASH toolkits with IEC materials, waste collection bins, and protective equipment for committee operations (175 community kits budgeted). • Personnel & supervision (GHS 5,860): Multisectoral committee facilitators coordinating sanitation oversight and structured community-level reporting (5 rounds).	sanitation governance and water-point management.	committees reporting improved WASH practices; % of committee leadership positions held by women. People-based indicators to be reported sex-disaggregated.	Timeframe: Short–Medium (2026–2028)	
3rd (48)	Mobile Health Units for Remote Communities	Deliver continuous clinical outreach, emergency care, and preventive services to remote and flood-isolated communities (e.g., Zuro, Kayong, Nyentuo) when fixed facilities are inaccessible	• Services & training (GHS2,217,500): Outreach schedules with market-day rotations, clinical outreach delivery on designated remote routes (e.g., Zuro, Kayong, Nyentuo), mobile medicine supply chains, motorbikes and fuel for outreach staff, megaphones, and IEC materials. • Capital investment (GHS 2,810,000): 5 motor-tricycle mobile clinic units equipped with medical cabinets, cold boxes, fridges, vaccine carriers, essential drug kits, and basic diagnostic equipment. • Personnel & supervision (GHS 76,450): Structured outreach duty allowances for mobile clinic nurses, community health officers, and driver-technicians.	• Populations of remote, flood-prone communities on outreach routes (e.g., Zuro, Kayong, Nyentuo). • Women, children, elderly, and PWDs: greatest barriers to fixed facilities. • Local women and youth: trained as volunteers and drivers.	Number of outreach visits conducted; % coverage of remote populations during hazards; reduction in outbreak-related morbidity in hard-to-reach areas; patients served by sex and age; number of women and youth volunteers/drivers engaged (sex-disaggregated). People-based indicators to be reported sex-disaggregated.	Lead: District Health Directorate Partners: NADMO, Social Welfare, Youth Department Timeframe: Short–Medium (2026–2028)	5,103,950

4.5 Implementation Needs and Resource Mobilisation

Successful implementation of the prioritised adaptation actions in Mion District will require coordinated institutional arrangements, sustained financing, and strong collaboration among government agencies, development partners, civil society organisations, traditional authorities, and local communities. While the costs presented in this chapter provide indicative planning estimates, implementation will depend on the district's ability to mobilise financial, technical, and human resources.

4.5.1 Institutional Implementation Arrangements

Implementation is recommended to be ordained through the District Assembly's planning structure, with the Municipal Planning and Coordinating Unit (MPCU) serving as the central coordination body. The MPCU will integrate the prioritised actions into the District Medium-Term Development Plan (DMTDP), Annual Action Plans, and composite budgeting processes, ensuring that climate adaptation is mainstreamed into district planning.

Sector departments will lead implementation according to their mandates:

- Department of Agriculture (MoFA) – climate-resilient agriculture, soil conservation, and irrigation support
- Forestry Commission and Environmental Unit – ecosystem restoration, riparian protection, and bushfire management
- Community Water and Sanitation Agency (CWSA) and Works Department – groundwater development and water system maintenance
- NADMO and Works Department – early warning systems and climate-resilient infrastructure
- District Health Directorate – climate-sensitive health interventions and outreach services

The MPCU will facilitate regular cross-sector coordination meetings to monitor implementation progress and address operational challenges. Particular attention will be given to climate vulnerability hotspots such as Zuro, Kayong, Nyentuo, and Kpumi, where drought, water scarcity, and limited service access are most pronounced.

4.5.2 Financing Opportunities

Implementation is recommended to require a blended financing approach, combining district funds, national programmes, development partner support, and community contributions.

District-Level Financing

Potential district funding sources include:

- District Assembly Common Fund (DACF)
- Internally Generated Funds (IGF)
- District Development Facility (DDF)
- Environmental and sanitation budget allocations

These sources can support smaller-scale interventions such as training, ecosystem restoration, and community mobilisation.

National Government Programmes

Several actions align with existing national initiatives, including:

- Ministry of Food and Agriculture climate-smart agriculture programmes
- National afforestation and land restoration initiatives

- NADMO disaster risk reduction programmes
- Community Water and Sanitation Agency water supply initiatives
- Ghana Health Service outreach programmes

Leveraging these programmes can facilitate integration of adaptation priorities into ongoing government interventions.

Development Partner and Climate Finance

Large-scale investments, particularly climate-resilient infrastructure and early warning systems, may require external support from:

- Green Climate Fund (GCF)
- Adaptation Fund
- Global Environment Facility (GEF)
- bilateral development partners and NGOs

The District Assembly may collaborate with national authorities to develop bankable project proposals aligned with national climate finance priorities.

4.5.3 Private Sector and Community Contributions

Private sector participation can support the supply of solar irrigation pumps, climate-resilient construction materials, storage technologies, and technical maintenance services.

Community engagement will also be essential, particularly for ecosystem restoration, bushfire prevention, and soil conservation activities. Community contributions may include participation in cash-for-work restoration programmes, volunteer fire teams, farmer-led soil conservation, and local water governance committees, strengthening local ownership of adaptation initiatives.

4.5.4 Capacity Development Needs

Effective implementation will require strengthening technical and institutional capacity across district departments and community institutions. Priority capacity needs include:

- climate-smart agricultural extension services
- climate-resilient infrastructure construction skills
- solar-powered water system maintenance
- community disaster preparedness and early warning response
- gender-responsive and disability-inclusive planning

Targeted training programmes should therefore support district staff, farmer groups, women's organisations, youth groups, and community leaders.

4.6 Knowledge Co-Creation and Information Sharing

Climate resilience in Mion District depends not only on investments but also on continuous learning, information exchange, and integration of indigenous knowledge with scientific climate information. The adaptation planning process highlighted the importance of collaborative knowledge systems linking communities, technical institutions, and government agencies.

4.6.1 Integrating Indigenous and Scientific Knowledge

Local communities possess valuable indigenous knowledge related to seasonal weather patterns, soil management, and ecosystem stewardship. Farmers often rely on environmental indicators such as vegetation cycles, wind patterns, and animal behaviour to anticipate rainfall patterns.

These practices can be strengthened through integration with scientific climate information, including seasonal forecasts and drought monitoring provided by the Ghana Meteorological Agency (GMet).

Future initiatives will promote integration through:

- farmer field schools combining indigenous and scientific practices
- community climate dialogues involving traditional authorities and extension officers
- documentation of local adaptation practices
- dissemination of climate forecasts through local communication channels

This approach will ensure that adaptation strategies remain locally appropriate and scientifically informed.

4.6.2 Community-Based Learning Platforms

Community learning platforms will facilitate peer learning and scaling of successful adaptation practices. Key platforms include:

- farmer field schools and demonstration farms
- women-led health and hygiene committees
- community water governance forums
- youth-led environmental monitoring initiatives

These platforms enable communities to exchange experiences and adopt climate-resilient practices, including soil moisture conservation, agroforestry, and improved storage technologies.

4.6.3 Climate Information and Early Warning Communication

Improving access to climate information will support better decision-making in agriculture, water management, and disaster preparedness. The district will strengthen information dissemination through:

- collaboration with the Ghana Meteorological Agency for seasonal forecasts
- community radio and local information centres
- mobile phone messaging platforms
- integration with community-based early warning systems

Climate information will be communicated in local languages such as Dagbani to ensure accessibility across rural communities.

4.6.4 Monitoring, Learning, and Adaptive Management

A district-level climate adaptation monitoring framework will track implementation progress and support learning across sectors. The MPCU will coordinate monitoring activities through:

- periodic multi-sector review meetings
- community feedback mechanisms
- documentation of lessons learned and best practices
- integration of findings into future district planning cycles

This process will support adaptive management, allowing adaptation strategies to evolve in response to implementation experience and changing climate conditions.

5. FINANCING AND RESOURCE MOBILIZATION

5.1 Introduction

Financing constitutes the practical link between adaptation planning and on-the-ground implementation in Mion District. The prioritised adaptation actions set out in Chapter Four will yield meaningful resilience outcomes only if the District Assembly can mobilise, sequence, and manage financial resources proportionate to the scale of identified investment needs.

Drawing on the indicative costing developed through the participatory workshops, this chapter establishes a structured financing framework for a CAP investment portfolio estimated at GHS 38.72 to 43.37million over a three-year (2026-2029) planning horizon. Because this requirement substantially exceeds what Mion District can meet through routine own-source revenue, the chapter proposes a deliberate combination of district funds, national programme alignment, international climate finance, and private sector engagement, delivered through a phased implementation pathway.

Specifically, this chapter:

- Maps the fifteen costed adaptation actions onto complementary and realistic financing windows;
- Sets out a tiered financing logic organised around the cost profile and institutional complexity of each action;
- Aligns district-level priorities with Ghana's national climate finance architecture, including the DMTDP 2026–2029, NAP, NDC, and the SIGRA programme;
- Emphasises blended and phased financing as a practical response to Mion's fiscal constraints.

5.2 Financing Principles Guiding the CAP

The financing strategy for Mion District rests on five guiding principles:

- **Alignment with District Planning and Budget Cycles:** All proposed financing pathways are designed to fit within the DMTDP, Annual Action Plans, and Composite Budgets of the District Assembly.
- **Prioritisation Before Fundraising:** Only MCA-prioritised actions documented in Chapter Four are presented for financing, ensuring that limited resources are channelled into the highest-value investments.
- **Gender-Responsive and Inclusive Allocation:** Financing pathways explicitly support interventions benefiting women, youth, persons with disabilities, and other vulnerable groups identified in the CRVA.
- **Phased and Scalable Investment:** Actions are structured to allow incremental implementation and co-financing where full resources cannot be secured immediately.
- **Blended Financing:** Public funds are strategically used to leverage international climate finance, development partner resources, and private sector participation.

5.3 Overview of the CAP Investment Envelope

The participatory costing exercise conducted during the Mion district adaptation workshops produced a consolidated investment envelope of approximately GHS 38.7 to 43.4 million over three years. The Critical Infrastructure sector dominates the portfolio, driven principally by retrofitting of climate-resilient community facilities, which alone accounts for the majority of the sector's cost. The Health sector accounts for the second-largest share, reflecting primarily the Mobile Health Units programme designed to reach flood-isolated communities such as Zuro, Kayong, and Nyentuo. The Agriculture, Ecosystem, and Water Resources sectors constitute smaller but highly actionable community-scale investments.

Table 11: Consolidated CAP Investment Envelope for Mion District

Sector	Estimated Cost (GHS)	Share of CAP (%)
Agriculture and Food Security	920,000 – 1,100,000	~2.4%
Ecosystem and Biodiversity	1,090,000 – 1,190,000	~2.8%
Water Resources	210,000 – 250,000	~0.5%
Critical Infrastructure	31,503,000 – 34,803,000	~81.4%
Health	4,992,500 – 6,022,500	~12.9%
TOTAL	38,715,500 – 43,635,500	100%

Percentages are calculated against the low-estimate total (GH¢ 38.72 million) and may not sum to 100 per cent due to rounding.

This distribution reveals a heavily infrastructure-weighted portfolio. The Climate-Resilient Community Facilities programme (GHS 23.5 to 25.0 million) accounts for the majority of costs on its own, placing it well beyond the district's own fiscal capacity and requiring external climate finance mobilisation. The Community-Based Early Warning Systems (approximately GHS 3.1 million) and Mobile Health Units (approximately GHS 4.6 million) are moderately sized programmes suited to blended financing from national sector programmes and development partners.

By contrast, the Agriculture, Ecosystem, and Water Resources sectors represent low-cost but high-leverage interventions that can realistically be delivered through the District Assembly Common Fund (DACF), national sector programmes, and development partner co-financing during the initial implementation phase.

5.4 Potential Financing Sources for the Mion CAP

Given the magnitude of the investment envelope, no single financing source is adequate. The CAP therefore adopts a layered approach, matching funding instruments to the cost profile and institutional character of each priority action.

5.4.1 Government Funding Sources

- a) District Assembly Common Fund (DACF): The DACF remains the most dependable funding stream for adaptation actions that fall within the statutory mandates of the Mion District Assembly.

Suitable for:

- Community-led soil-moisture and post-harvest storage actions;
- Small borehole protection works and WSMTs support;
- Gender-equitable water governance activities;
- Community health education campaigns and hygiene outreach.

Key Action for District Staff: The MPCU should formally integrate CAP priorities into the Annual Action Plan and Composite Budget, and designate 10–15 per cent of DACF and DDF allocations in the 2026–2029 DMTDP cycle for climate adaptation, as noted in the phasing strategy.

- b) District Development Facility (DDF) and Performance-Based Grants: Where available, these performance-linked grants are well suited to the climate-resilient infrastructure retrofits earmarked for CHPS compounds, schools, and Assembly offices.

- c) Sector Ministry Allocations: Relevant sector budgets should be aligned with CAP priorities through coordinated sector workplan integration. These include the MoFA CSA and Post-Harvest Loss Reduction programmes, the CWSA National Rural Water Programme, the Forestry Commission and MLNR, NADMO, and the Ghana Health Service.

5.4.2 SIGRA and Climate Programme Grants

The SIGRA programme serves as the primary catalytic financing partner for the Mion CAP, supporting:

- Gender-responsive livelihood actions, including Women-Led Health and Hygiene Committees, women-led WSMTs, and women-managed seed banks;
- Community-based resilience programmes such as bushfire control and community-led reforestation;
- Institutional capacity strengthening for MPCU and sector departments in costing, MEL, and climate finance proposal development.

Strategic Role of SIGRA Financing:

- De-risks early-stage adaptation investments in Phase 1 hotspot communities including Zuro, Kayong, Nyentuo, and Kpumi;
- Demonstrates proof-of-concept in advance of scaling to Phase 2 and Phase 3 geographies.

5.4.3 International Climate Finance and Donor Support

Potential windows for the large-capital elements of the Mion CAP include:

- Green Climate Fund (GCF), accessed through MoF as the National Designated Authority and EPA/MESTI, principally for the Community-Based Early Warning Systems, Mobile Health Units, and Climate-Resilient Community Facilities;
- Adaptation Fund, accessed via MoF/EPA-Ghana or accredited NGOs, well-matched to Mion's community-scale agriculture, water, and ecosystem actions;
- GEF Small Grants Programme, directly accessible by CBOs and NGOs through UNDP-managed SGP Ghana, and ideal for reforestation, riparian restoration, and degraded land rehabilitation;
- Bilateral donors and multilateral partners including GIZ, UNICEF, WHO, UN Women, and the World Bank.

Recommended Focus: Rather than pursuing direct district access, the MPCU should position CAP actions for aggregation into national and regional proposals developed in partnership with MLGDRD, MoF, MESTI, and EPA-Ghana.

5.4.4 Public-Private Partnerships

PPP opportunities particularly relevant to Mion District include:

- Solar pump and photovoltaic systems for boreholes and public facility retrofitting;
- SMS-based early warning service delivery through MTN, Telecel, and AirtelTigo CSR frameworks;
- Off-take agreements linking commodity aggregators and processors to women-led post-harvest storage cooperatives;
- Microfinance partnerships with MASLOC and Rural and Agricultural Credit institutions, extending working capital to certified youth technicians and CSA adopters.

Risk Management: PPP engagement should focus on service delivery and market linkage rather than asset ownership, thereby safeguarding public interest and community control.

5.4.5 Community and Local Resource Mobilisation

Community contributions represent important co-financing mechanisms, particularly for:

- Cash-for-work reforestation and contour-bunding programmes in degraded areas;
- Volunteer bushfire brigades and youth riparian monitoring teams;
- WSMTs volunteer time and tariff contributions;
- Community focal persons for EWS dissemination in Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang.

These contributions should be formally documented in beneficiary registers to strengthen the competitiveness of proposals submitted to international climate finance windows.

5.4.6 Innovative Financing Mechanisms

Emerging options that MPCU should explore cautiously, and only where institutional capacity permits, include:

- Results-based financing linked to verified outcome indicators such as tree survival rates and borehole functionality;
- Climate insurance pilots for smallholder farmers;
- Carbon and ecosystem service incentives over a medium- to longer-term horizon.

5.5 Financing Strategy by Adaptation Action Type

Because the Mion CAP spans interventions ranging from low-cost community governance activities to multi-million-cedi infrastructure programmes, financing must be differentiated by scale and institutional readiness. The tiered strategy below ensures that limited district resources are concentrated on immediately implementable actions, while larger investments are positioned for external financing.

Table 12: Financing Strategy by Action Category

Action Category	Typical Cost Scale	Primary Financing Source	Secondary Source	Financing Strategy
Low-cost, high-impact actions (health education; water governance; green jobs training; soil-moisture conservation; bushfire control)	<GH¢ 500,000	DACF; SIGRA; IGF	NGOs; GEF Small Grants	Immediate integration into Annual Action Plans and sector workplans
Medium-scale investments (CSA seed systems; post-harvest storage; boreholes; reforestation; riparian restoration; HHCs)	GH¢ 500,000 – 2 million	SIGRA; DACF; sector programmes	Adaptation Fund; NGOs	Co-financing and phased delivery
High-cost infrastructure (Climate-Resilient Community Facilities; Mobile Health Units; Community-Based EWS; Local Infrastructure Job Creation)	>GH¢ 2 million	GCF; Adaptation Fund; World Bank programmes via MLGDRD	National Government; PPPs	Project bundling and bankable concept note development

This tiered approach ensures that low- and medium-scale actions in the Agriculture, Ecosystem, Water, and Health sectors can commence delivery in Year 1 using district-controlled resources, while larger capital programmes are structured as bankable external finance propositions.

5.6 Institutional Arrangements for Financial Management

Effective financing is contingent on clearly assigned institutional responsibilities, coordination across departments, and functioning accountability systems. In Mion District, financial management responsibilities are distributed across the MPCU, the Finance Officer, and sector implementing departments, with oversight from the District Chief Executive and the District Adaptation Steering Committee (DASC). The arrangements set out in this section are offered as recommended roles and responsibilities for the District Assembly to adopt and formalise, building on existing district structures rather than prescribing fixed mandates.

5.6.1 Lead Coordination

It is recommended that the Municipal Planning Coordination Unit (MPCU) serve as the central coordination body for CAP financing, integrating adaptation priorities into the DMTDP, composite budgets, and annual action plans. The District Finance Officer would be best placed to oversee budgeting, disbursement, and financial reporting, while sector departments—including Agriculture, Works, CWSA, the District Health Directorate, Forestry Commission, Social Welfare, and NADMO—should each take responsibility for sector-level implementation and expenditure.

5.6.2 Role of EPA and SIGRA

The Environmental Protection Agency (EPA-Ghana) together with the SIGRA programme, provides:

- Technical validation of adaptation investments and costing assumptions;
- Alignment with Ghana's NAP, NDC, and national climate finance architecture;
- Capacity support to MPCU for concept note preparation and bankable proposal development;
- Oversight to ensure consistency with national adaptation and reporting frameworks.

5.6.3 Accountability and Financial Governance

To secure transparency and effective resource use:

- Climate adaptation expenditures will be explicitly tagged within the District Composite Budget;
- Quarterly financial and physical progress reporting will be institutionalised through the MPCU Cross-Sector Review Meeting;
- CAP financial performance will be integrated into DMTDP monitoring and SIGRA reporting systems, with oversight from the DASC.

5.7 Risks to Financing and Mitigation Measures

Financing of the Mion CAP is exposed to a range of structural and operational risks that can undermine delivery if not actively managed. These risks concern not only resource availability but also institutional capacity, coordination, and the alignment between planning and financing realities.

Table 13: Key Financing Risks and Mitigation Measures

Risk	Implication	Mitigation Measure
Overreliance on international climate finance	Delays or non-delivery of large-scale EWS, mobile health, and facilities programmes	Strengthen integration of smaller actions into DACF and DDF; sequence infrastructure delivery behind confirmed finance; maintain pre-positioned concept notes to seize finance windows when they open
Weak costing credibility	Reduced confidence of GCF, Adaptation Fund, and development partners	Maintain standardised costing templates; document cost variance through the MEL framework; refine unit costs annually (see Annex B)
Limited staff capacity for climate finance	Ineffective resource mobilisation and proposal preparation	Continuous coaching; SIGRA-mentored proposal development; use of standardised templates
Fragmented donor and NGO funding flows	Duplication and coordination gaps across partners	Apply bundled and sequenced financing through the Development Partner and NGO Forum
Financing-implementation mismatch	Over-designed interventions that cannot be funded	Align project scope with confirmed funding windows and realistic delivery timelines
Partner withdrawal during implementation	Disruption of ongoing adaptation actions	Activate alternative pipeline (DACF, DDF, national programmes); maintain pre-positioned concept notes

This risk-aware approach keeps financing strategies anchored in the institutional and fiscal realities of the District Assembly.

5.8 Linking Financing to Learning and Capacity Building

Financing in the Mion CAP is understood not only as a resource mobilisation task but also as a capacity development process. The planning workshops revealed that MPCU and sector staff had limited prior exposure to bankable proposal development, activity-based adaptation costing, and the structuring of co-financing arrangements.

Through CAP implementation:

- District staff will acquire practical skills in bottom-up activity costing, procurement planning, and climate finance proposal writing;
- Financial literacy specific to GCF, Adaptation Fund, and GEF procedures will be strengthened through mentored submissions;
- Cross-sectoral resource planning will improve through the MPCU-led quarterly review mechanism.

The costing tools and financing alignment frameworks used in preparing this CAP are replicable and will support future DMTDP preparation, sector investment planning, and the Year 3 CAP update.

5.9 Financing Gap and Tiered Prioritisation Strategy

Because the scale of the CAP investment portfolio far exceeds the resources routinely available to the District Assembly, a structured prioritisation and sequencing approach is essential. The approach ensures that immediately available funds are deployed strategically, while larger investments are positioned for future financing.

5.9.1 Financing Gap Context

At GHS 38.72 to 43.37 million, the total CAP investment requirement substantially exceeds the combined DACF, IGF, and DDF envelope available to Mion District over a three-year cycle. This creates a significant financing gap concentrated in the Critical Infrastructure and Health sectors, Climate-Resilient Community Facilities programme, with more moderate external financing needs for the Community-Based EWS and Mobile Health Units programmes.

5.9.2 Prioritisation Strategy

A three-tier implementation strategy is recommended:

Tier 1: Immediate Implementation (District-Funded)

- Low-cost, high-impact interventions deliverable through existing systems;
- Actions integrable into the 2027 Annual Action Plan and Composite Budget;
- Examples: Gender-Equitable Water Governance; Green Jobs in Water Services; Bushfire Control; Women-Led Health and Hygiene Committees; Health Education on Heat, Hygiene and Nutrition; Inclusive Health Access for PWDs.

Tier 2: Co-Financed Actions

- Medium-scale investments requiring blended SIGRA, DACF, NGO, and Adaptation Fund support;
- Examples: Climate-Smart Varietal Choice and Seed Systems; Water Access for Dry-Season Stabilisation; Post-Harvest Loss Reduction; Deep Groundwater Access and Protection; Community-Led Reforestation; Riparian Restoration; Restoration of Critically Degraded Land.

Tier 3: Externally Financed Investments

- Large-scale programmes requiring GCF, Adaptation Fund, or World Bank co-financing;
- Implementation contingent on successful resource mobilisation and the development of bankable concept notes;
- Examples: Climate-Resilient Community Facilities; Community-Based Early Warning Systems; Mobile Health Units for Remote Communities; Local Infrastructure Job Creation.

5.9.3 Strategic Implication

This phased strategy ensures that:

- Immediate adaptation benefits reach Zuro, Kayong, Nyentuo, Kpumi, Dijeo, Palari, and Sang in Year 1 through low-cost community-scale interventions;
- Medium-term investments in agriculture, water, and ecosystems are progressively scaled through co-financing arrangements;
- High-cost infrastructure and service-delivery programmes are developed into bankable propositions for the GCF, Adaptation Fund, and World Bank pipelines over 2027–2029.

6. IMPLEMENTATION, MONITORING, EVALUATION AND LEARNING (MEL)

6.1 Introduction

Strong implementation and monitoring systems are essential for translating the fifteen costed adaptation actions into lasting resilience outcomes in Mion District. Without a clear Monitoring, Evaluation, and Learning (MEL) framework, even well-prioritised actions risk poor execution, limited accountability, and weak institutional learning.

The Mion CAP MEL system is designed to be practical, inclusive, and grounded in the district's institutional realities. It ensures that the implementation of adaptation actions, particularly those targeting the district's most vulnerable groups, including women, youth, and persons with disabilities (PWDs) can be tracked, evaluated, and continuously improved. The MEL framework is deliberately embedded within existing district systems, including the District Medium-Term Development Plan (DMTDP 2026–2029), composite budgets, sector workplans, SIGRA monitoring, EPA-Ghana climate reporting, and NDPC and MLGDRD performance review submissions.

Specifically, this chapter:

- outlines the phased implementation approach for the fifteen priority adaptation actions;
- defines the monitoring framework across four levels (activity, output, outcome, and portfolio);
- establishes evaluation and learning mechanisms that connect implementation evidence to future planning;
- integrates gender-responsive MEL principles throughout.

6.2 Implementation Framework for the CAP

6.2.1 Phased Implementation Approach

CAP actions are recommended to be delivered through a hotspot-based phased approach that provides flexibility as financing materialises and institutional readiness builds. The phasing, institutional roles and triggers described in this chapter are presented as recommended best practice for the District Assembly and its partners to consider and adapt, rather than as fixed commitments.

Phase 1: Foundation and Quick Wins (2026)

Phase 1 should prioritise rapid delivery of Tier 1 actions in hotspot communities while preparing Tier 3 programmes for external finance submissions. Actions include:

- Integration of CAP priorities into the 2027 Annual Action Plan and Composite Budget;
- Designation of a CAP Adaptation Focal Person within the DPCU;
- Operationalisation of the District Adaptation Steering Committee (DASC);
- Commencement of Tier 1 actions including Gender-Equitable Water Governance, Health Education, Deep Groundwater Access, and Water Access for Dry-Season Stabilisation in the hotspot communities of Zuro, Kpumi, and Kayong;
- Preparation of bankable concept notes for Tier 3 actions (EWS, Mobile Health Units, and Climate-Resilient Community Facilities);
- Formal allocation of 10 to 15 per cent of DACF and DDF to climate adaptation.

Phase 2: Scaling and Resource Mobilisation (2027)

- Advance Tier 2 actions (Climate-Smart Varietal Choice, Restoration of Critically Degraded Land, Women-Led HHCs) through blended financing involving national sector programmes, NGOs, and the Adaptation Fund;

- Submit high-quality bankable concept notes for Tier 3 investments to GCF and other international climate finance windows, with technical mentoring from EPA-Ghana;
- Launch major infrastructure procurement processes (retrofits, EWS equipment, Mobile Health Unit procurement);
- Roll out targeted capacity development for district staff, community structures (WSMTs, HHCs, youth technicians), and local contractors;
- Conduct the mid-term CAP evaluation in late 2027.

Phase 3: Consolidation, Evaluation and Institutionalisation (2028–2029)

- Complete major infrastructure works and ecosystem restoration activities;
- Strengthen local operations and maintenance systems and green job opportunities;
- Conduct the End-of-Plan Evaluation in 2029 to assess effectiveness, efficiency, equity impacts (including intersectional outcomes for women, youth, and PWDs), cost performance, and sustainability;
- Integrate lessons learned into the next DMTDP cycle (2030–2033) and update the CAP as a living document;
- Document and share Mion's experience through national platforms (EPA-Ghana, MESTI, and NDPC) to support scaling across the Northern Region.

6.2.2 Institutional Roles in Implementation

Each lead department should be responsible for both the delivery of its allocated actions and for reporting on physical progress and financial utilisation, ensuring alignment between execution and expenditure.

Institution / Unit	Key Responsibilities
MPCU / District Assembly	Coordination; integration into DMTDP and AAP; cross-sector oversight
Finance Department	Budgeting; disbursement tracking; composite budget tagging
Department of Works / CWSA	Infrastructure, boreholes, solar pumps, retrofitting of community facilities
Department of Agriculture (MoFA)	CSA, seed systems, dry-season water access, post-harvest actions
Forestry Commission	Reforestation, bushfire control, riparian and degraded land restoration
District Health Directorate	Women-Led HHCs, health education, Mobile Health Units, PWD access
NADMO	Community-Based Early Warning Systems, preparedness, post-event reporting
Social Welfare Department	Gender and inclusion mainstreaming, safeguard screening
Traditional Authorities and Area Councils	Community mobilisation, land access, bye-law enforcement
SIGRA / EPA-Ghana	Technical backstopping, climate finance facilitation, national alignment

6.3 Monitoring Framework

6.3.1 Purpose of Monitoring

Monitoring in the Mion CAP is conceived as an active management tool rather than a passive reporting exercise. It serves three core functions:

- Tracking the progress of the fifteen priority actions against agreed timelines, outputs, and budgets;
- Detecting implementation bottlenecks early, particularly for high-cost interventions such as the Mobile Health Units and Community-Based EWS programmes;
- Informing adaptive decisions on work plans, budget reallocation, and implementation modalities.

Monitoring data feed directly into the structured learning loops described in Section 6.5 and into the adaptive management triggers set out in Section 6.9.

6.3.2 Monitoring Levels

Monitoring operates across four interconnected levels to ensure both operational detail and strategic oversight:

Level	Focus
Activity Level	Tracks what is being done (inputs, trainings delivered, construction milestones, community consultations).
Output Level	Tracks immediate deliverables (number of retrofitted facilities, number of functional WSMTs, number of beneficiaries reached).
Outcome Level	Tracks behavioural and service-level change (increased CSA adoption, improved water access, reduced health risks).
Portfolio Level	Tracks overall CAP delivery against the investment envelope, phasing, and financing strategy, and reports to the DASC and SIGRA.

The inclusion of a portfolio-level perspective gives the District Chief Executive and the DASC a clear line of sight on cross-sector delivery.

6.3.3 Core Monitoring Indicators

A practical but rigorous indicator set captures the key performance dimensions of the Mion CAP:

Indicator Category	Examples
Implementation	% of fifteen priority actions completed on schedule
Financial	% of sector allocations disbursed and utilised; variance against indicative cost ranges
Efficiency	Average cost per unit output (per borehole, per hectare restored, per outreach visit)
Gender and Inclusion	% of beneficiaries who are women, youth, or persons with disabilities; ≥50% female membership in WSMTs and HHCs
Infrastructure Performance	% of boreholes, retrofitted facilities, and EWS sirens functional after 12 months
Health Outcomes	Reduction in diarrhoeal cases; outreach coverage in Zuro, Kayong, Nyentuo
Livelihood Outcomes	% yield maintained during drought; % reduction in post-harvest losses; hectares under conservation

6.3.4 Data Collection Methods

Monitoring data are drawn primarily from existing district systems, supplemented where necessary to capture sector-specific performance.

Method	Responsible Unit
Administrative records (work plans, beneficiary registers)	MPCU and sector departments
Field inspections	Works; Agriculture; Forestry; Environmental Health
Contractor and implementation reports	Works Department / MPCU
Community feedback and scorecards	Community MEL Focal Persons; CICs; Assembly Members
Financial reports	District Finance Officer
Disease surveillance and facility audits	District Health Directorate
Borehole logs and WSMTs minutes	CWSA; WSMTs

6.4 Evaluation Framework

6.4.1 Purpose of Evaluation

Evaluation focuses on assessing the overall effectiveness, efficiency, and equity of CAP investments. Key evaluation questions include:

- What worked, what did not, and why across the five sectors;
- Whether investments delivered value for money, particularly for the large EWS, Mobile Health, and Facilities programmes;
- Whether benefits reached women, youth, PWDs, and hotspot communities;
- Whether interventions are sustainable and scalable beyond the initial CAP period.

Particular attention will be given to comparing performance across sectors—for example, whether low-cost community-scale actions deliver greater resilience returns per GHS invested than large capital programmes.

6.4.2 Types of Evaluation

Evaluations will combine quantitative data with qualitative insights from communities, implementers, and stakeholders.

Evaluation Type	Timing	Purpose
Mid-term CAP Review	End of Year 2 (2027)	Identify implementation challenges; enable course correction; revise priority actions and costing for Year 3
End-of-Plan Evaluation	End of Year 3 (2028)	Assess overall effectiveness, impact, and lessons; inform the next DMTDP and CAP cycle

6.4.3 Evaluation Criteria

Evaluations are guided by the following criteria:

- Relevance to CRVA risks and vulnerable populations;
- Effectiveness in delivering outputs and outcomes;
- Efficiency and cost performance;

- Equity and inclusion across gender, disability, and youth dimensions;
- Sustainability of investments beyond the plan period;
- Scalability and replicability within the Northern Region.

These criteria ensure a balanced assessment of both technical performance and social outcomes.

6.5 Learning and Adaptive Management

6.5.1 Learning Objectives

Learning within the Mion CAP is designed to strengthen both current delivery and future adaptation planning. Priority objectives include:

- Improving the accuracy of adaptation costing and budgeting;
- Enhancing implementation efficiency across sectors;
- Strengthening gender-responsive and disability-inclusive practices;
- Informing future DMTDP preparation and bankable proposal development.

6.5.2 Learning Mechanisms

Learning within the Mion CAP is structured around six learning loops, each operating at a different time scale and providing structured opportunities for MPCU, sector departments, communities, and partners to reflect on evidence.

Mechanism	Description
Community Feedback and Field Verification	Quarterly; tracks whether actions reach intended beneficiaries and identifies negative effects on women, PWDs, or youth
Sector Technical Review	Bi-annual (June and December); reviews implementation, cost performance, and inclusion
Annual CAP Review	Annual (Q4); produces annual progress report and learning briefs shared with SIGRA and partners
Mid-Term CAP Evaluation	End of Year 2; revalidates priorities and costing for the final year
Post-Event Learning Review	Within 30 days of a significant climate event; assesses EWS, infrastructure performance, and preparedness gaps
District-Regional-National Knowledge Exchange	Annual; aligned with SIGRA and NDPC cycles; produces transferable lessons

Learning outputs will be shared with SIGRA, EPA-Ghana, MESTI's NAP coordination unit, and NDPC knowledge management platforms, thereby contributing to broader national learning.

6.5.3 Feedback and Adaptive Management

Evidence from monitoring and learning loops feeds directly into management decisions. Specifically, it is used to:

- Revise annual work plans and implementation schedules;
- Reallocate budgets toward high-performing or high-priority actions;
- Redesign or discontinue underperforming interventions;
- Adjust targeting and modalities based on community feedback.

This ensures that the CAP functions as a living, adaptive framework rather than a static document.

6.6 Gender-Responsive MEL

6.6.1 Gender Integration in Monitoring and Evaluation

Gender responsiveness is systematically integrated through:

- Sex-, age-, and disability-disaggregated indicators across all sectors;
- Tracking of benefits reaching women, youth, PWDs, and other marginalised groups, with ≥60 per cent female membership targets in WSMTs, HHCs, and management committees;
- Inclusion of diverse voices through community scorecards and feedback forums;
- Monitoring that moves beyond participation counts to assess the quality of inclusion in decision-making and benefit-sharing.

6.6.2 Accountability for Inclusion

The Social Welfare Department, in collaboration with the MPCU, is responsible for:

- Monitoring gender and inclusion outcomes across all fifteen priority actions;
- Validating the inclusion of PWDs in beneficiary lists;
- Identifying systematic exclusion and triggering safeguard review where needed;
- Coordinating Dagbani-language community dialogue forums and scorecards.

6.7 Reporting and Alignment with Existing Systems

6.7.1 Reporting Schedule

Report	Frequency	Audience
Implementation progress report	Quarterly	MPCU Cross-Sector Review; DCE
CAP annual progress brief	Annual	DASC; SIGRA; EPA-Ghana
DMTDP integration report	Annual	District Assembly; NDPC; MLGDRD
Post-event report	Within 30 days of climate event	DCE; NADMO; DASC
Learning brief	Annual	SIGRA Steering Committee; MESTI NAP unit

6.7.2 Alignment with Existing Systems

The MEL framework integrates with:

- DMTDP annual review, composite budget preparation, and District Statistical Development Plan data systems;
- SIGRA results-based monitoring and reporting requirements;
- EPA-Ghana climate reporting frameworks aligned to the NDC and NAP;
- NDPC and MLGDRD performance review submissions.

Reports will combine financial performance (budget against expenditure and variance against indicative costs) with physical progress (outputs delivered and functionality rates) to ensure comprehensive accountability.

6.8 Sustainability of the MEL Framework

Sustainability of the MEL system is achieved by embedding responsibilities, tools, and processes within established district structures. Key features include:

- Allocation of MEL responsibilities to MPCU, sector departments, Social Welfare, NADMO, and Community MEL Focal Persons;
- Use of standardised and replicable tools, including scorecards, community dialogue protocols, feedback boxes, and WSMTs reporting templates;
- Continuous capacity-building focused on practical application, built into the Year 1 training programme;
- Integration of MEL into routine planning, budgeting, and DMTDP reporting cycles rather than being operated as a stand-alone SIGRA compliance function.

These measures ensure continuity of monitoring and learning beyond external programme support.

6.9 MEL System Overview

Table 14 illustrates the integrated MEL system guiding the implementation of the Mion District Climate Adaptation Plan. It depicts the flow from inputs—the fifteen costed adaptation actions and their blended financing sources—through phased hotspot implementation and four-level monitoring (activity, output, outcome, and portfolio), to evaluation and performance assessment. The system incorporates structured community feedback through Community MEL Focal Persons in Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang; six learning loops; and six adaptive management triggers that convert evidence into decisions on budget reallocation, intervention redesign, and implementation adjustment. The feedback loop demonstrates how learning and adaptive management continuously improve delivery, strengthen gender and disability inclusion, and enhance resilience outcomes across the three-year horizon.

**Table 14: Implementation, Monitoring, Evaluation, and Learning System
for the Mion District Climate Adaptation Plan**

MEL System Component	Mion-Specific Elements
INPUTS	
Costed Adaptation Actions	15 priority actions across Agriculture, Ecosystem, Water, Critical Infrastructure, Health (GHS 38.7–43.4m)
Financing Sources	DACF; DDF; SIGRA; GCF; Adaptation Fund; GEF SGP; development partners; private sector
IMPLEMENTATION	
Phased Delivery	Phase 1 – Hotspots (Zuro, Kayong, Nyentuo, Kpumi); Phase 2 – Scale-up; Phase 3 – Consolidation
MONITORING (FOUR LEVELS)	
Activity / Output / Outcome / Portfolio	Fed by administrative records, field inspections, contractor reports, community scorecards, financial reports, disease surveillance, borehole logs
EVALUATION & LEARNING	
Six Learning Loops	Community feedback; sector technical review; annual CAP review; mid-term evaluation; post-event review; knowledge exchange
ADAPTIVE MANAGEMENT	
Six Triggers to Decisions	Budget reallocation; intervention redesign; targeting revision; emergency response
FEEDBACK LOOP (returns to Inputs)	

7. INSTITUTIONAL COORDINATION AND CAPACITY BUILDING

7.1 Introduction

Strong institutional coordination and sustained capacity development are essential for translating the Mion CAP into concrete, lasting resilience outcomes. Even well-prioritised and adequately financed adaptation actions risk failure without clear institutional ownership, coordinated cross-sector delivery, and the technical capacities required to plan, implement, and sustain climate-responsive investments.

This chapter sets out the institutional coordination architecture and capacity development priorities for the Mion District CAP over the 2026–2029 horizon. It complements the financing strategy in Chapter Five and the MEL framework in Chapter Six by specifying who coordinates what, how decisions are made, and what skills and systems are required to deliver the fifteen priority adaptation actions identified in Chapter Four. The coordination arrangements and capacity priorities described here are presented as recommendations and best practice for the District Assembly and its partners to adopt and adapt to local circumstances, rather than as binding requirements.

Specifically, this chapter:

- defines the coordination framework across strategic, operational, and community levels;
- clarifies institutional roles and responsibilities;
- identifies critical capacity gaps and sets out a structured capacity development strategy;
- addresses institutional risks and sustainability measures;
- establishes resource mobilisation responsibilities and learning arrangements.

7.2 Institutional Coordination Framework

7.2.1 Overall Coordination Mechanism

The District Planning Co-ordination Unit (DPCU) should serve as the central coordination body for the CAP. Its role should encompass:

- Coordinating cross-sector implementation;
- Aligning CAP priorities with the DMTDP 2026-2029, Annual Action Plan, and Composite Budget;
- Tracking both physical and financial performance against the fifteen priority actions.

Coordination should operate on three principles:

- Integration – embedding CAP actions within district planning and budgeting systems;
- Collaboration – joint planning and delivery across sector departments and with development partners;
- Accountability – clear ownership and reporting responsibilities at every level.

Coordination should operate through a three-tier architecture. Coordination operates through a three-tier architecture:

- Strategic oversight: The District Adaptation Steering Committee (DASC), chaired by the District Chief Executive and convening bi-annually, provides strategic direction, reviews CAP progress and budget performance, and endorses bankable proposals for external finance.
- Operational coordination: The DPCU Cross-Sector Review Meeting (quarterly) and five sector Technical Working Groups (monthly) handle day-to-day coordination across Agriculture, Ecosystem, Water, Critical Infrastructure, and Health.
- Community-level coordination: Community Implementation Committees (CICs) and Community MEL Focal Persons anchor implementation in Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang.

Horizontal coordination with development partners should be organised through the bi-annual Development Partner and NGO Forum, while a Community Grievance Mechanism provides continuous redress channels for residents across all communities.

7.2.2 Roles and Responsibilities

Institution / Unit	Core Responsibilities	CAP-Specific Role
Institution / Unit	Core Responsibilities	CAP-Specific Role
District Assembly (General Assembly)	Governance and oversight	Approve plans and budgets; endorse CAP actions into DMTDP; allocate DACF/DDF to adaptation
District Chief Executive (DCE)	Political leadership	Chair DASC; lead external engagement with MLGDRD and development partners; endorse proposals
Presiding Member	Assembly oversight	Support General Assembly endorsement; convene community validation
District Planning Co-ordinating Unit (DPCU)	Planning and coordination	Central coordination body; CAP performance tracking; cross-sector coordination; MEL custodian; CAP Adaptation Focal Person
Finance Department	Budgeting and financial management	Tracking financing flows; climate budget tagging; composite budget alignment; financial reporting
Department of Works	Infrastructure implementation	Supervision of facilities retrofitting; local contractor certification; O&M planning
CWSA / WATSAN Unit	Water and sanitation	Borehole supervision; WSMTs training; water governance
Department of Agriculture (MoFA)	Livelihoods and CSA	Extension; farmer field schools; CSA adoption tracking; post-harvest loss reduction
Forestry Commission	Ecosystem restoration	Nursery management; reforestation; bushfire and riparian coordination
District Health Directorate	Health service delivery	HHCs; health education; PWD access; Mobile Health Unit deployment
NADMO	Disaster preparedness	Community-Based EWS; preparedness drills; post-event reporting

7.3 Coordination Across Levels and Partners

7.3.1 National and Regional Linkages

CAP implementation should be supported through coordination with:

- Environmental Protection Agency (EPA-Ghana);
- Ministry of Environment, Science, Technology and Innovation (MESTI), as the NAP coordination lead;
- Ministry of Local Government, Decentralisation and Rural Development (MLGDRD);

- Northern Regional Coordinating Council (RCC);
- National Development Planning Commission (NDPC);
- Relevant sector ministries, including MoFA, MSWR, Ministry of Health, MLNR, and Ministry of the Interior (NADMO).

These linkages secure policy alignment, technical support, and improved access to climate finance opportunities.

7.3.2 Partner Engagement

Development partners, NGOs, and private actors are recommended to engage on the basis of:

- Technical relevance to the fifteen priority actions;
- Co-financing capacity;
- Alignment with district priorities and hotspot targeting.

Engagement should be structured to preserve district ownership and avoid fragmentation, through the Development Partner and NGO Forum convened bi-annually by MPCU. Priority partners include SIGRA, GIZ (ecosystem and EWS), UN agencies (health, WASH, gender), and World Bank programmes channelled through MLGDRD for large infrastructure.

7.3.3 District CAP Coordination Platform

A quarterly CAP Coordination Platform, is recommended convene as the MPCU Cross-Sector Review Meeting and chaired by the District Planning Officer brings together all sector department heads, Social Welfare, and NADMO.

Its functions should include:

- Reviewing implementation progress against the fifteen priority actions;
- Identifying and escalating bottlenecks;
- Aligning budgets and financing flows;
- Coordinating cross-sector actions, for example linking borehole delivery to WSMTs training and green jobs certification.

This mechanism ensures that coordination remains continuous and decision-oriented rather than *ad hoc*. Its outputs feed into the bi-annual DASC for strategic oversight.

7.3.4 Institutional Coordination Architecture

Table 15 illustrates the institutional coordination architecture supporting implementation of the Mion District CAP. It highlights the central role of the MPCU in coordinating sector departments, aligning implementation with financing and policy frameworks, and convening the quarterly CAP coordination platform. The framework demonstrates linkages with national and regional institutions (EPA-Ghana, MESTI, MLGDRD, NDPC, Northern RCC), engagement with development partners (SIGRA, GIZ, UN agencies, World Bank) and the private sector (solar equipment suppliers, construction contractors, commodity aggregators, MFIs, and telecoms), and the integration of capacity-building functions including adaptation costing, infrastructure oversight, MEL, climate finance proposal development, solar water system maintenance, EWS operation, and gender-responsive planning. Together, these elements show how coordinated institutional action supports effective delivery of adaptation investments in hotspot communities and strengthens long-term district capacity.

Table 15: Institutional Coordination and Capacity Building System for the Implementation of the Mion District Climate Adaptation Plan

Coordination Layer	Mion-Specific Institutions and Functions
STRATEGIC OVERSIGHT	
District Adaptation Steering Committee (DASC)	Chair: DCE Bi-annual review of CAP progress, budget, finance proposals
CENTRAL COORDINATION HUB	
Municipal Planning Coordination Unit (MPCU)	CAP focal point; DMTDP integration; quarterly cross-sector review; performance tracking
SECTOR IMPLEMENTATION	
Works; CWSA; Agriculture (MoFA); Forestry Commission; Health Directorate; NADMO; Social Welfare; Environmental Health; Finance	Delivery of assigned priority actions; monthly Technical Working Groups
COMMUNITY-LEVEL COORDINATION	
Community Implementation Committees (CICs); WSMTs ; HHCs; Community MEL Focal Persons	Operating in Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, Sang and other target communities
NATIONAL & REGIONAL LINKAGES	
EPA-Ghana; MESTI; MLGDRD; NDPC; Northern RCC; sector MDAs	Policy alignment; technical support; climate finance access
DEVELOPMENT PARTNERS & PRIVATE SECTOR	
SIGRA; USAID Feed the Future; GIZ; UNICEF / WHO / UN Women; World Bank / IFC	Co-financing; technical assistance; concept note mentoring
Solar equipment & agro-input suppliers; climate-resilient contractors; commodity aggregators; MFIs (MASLOC, Rural & Agricultural Credit); telecoms (MTN, Telecel, AirtelTigo)	Equipment supply; construction; off-take; credit; SMS-based EWS
CAPACITY-BUILDING FUNCTIONS (Embedded across all layers)	
Costing; procurement; construction supervision; MEL; solar maintenance; EWS operation; climate finance; gender-inclusive planning	Delivered by SIGRA technical advisors, sector trainings, vocational certification, and mentored proposal development

7.4 Capacity Gaps Identified

The participatory planning process revealed critical capacity gaps that could constrain CAP implementation unless addressed:

Capacity Area	Key Gaps
Costing and financial planning	Limited climate finance proposal skills at MPCU for GCF, Adaptation Fund, and GEF
Adaptation M&E	District M&E frameworks do not yet track adaptation or gender-disaggregated outcomes
Climate-smart agriculture	Insufficient CSA-trained extension officers; weak post-harvest and seed systems knowledge
Ecosystem restoration	Limited agroforestry and nursery management skills at the Forestry Commission
Solar water system maintenance	Inadequate local maintenance capacity; reliance on Tamale-based contractors; WSMTs governance gaps
Climate-resilient construction	Local contractors lack familiarity with reinforced roofing, flood-proofing, and disability-accessible design
Early warning systems	Few trained community focal persons; no operational SMS or radio EWS tools
Safeguards and inclusion	Weak disability-inclusive and gender-responsive project screening; no standardised safeguard tool

7.5 Capacity Development Strategy

7.5.1 Objectives

The capacity development strategy should aim to:

- Strengthen adaptation costing and financial planning skills at MPCU and the Finance Office;
- Improve implementation and supervision of climate-resilient investments;
- Enhance MEL and data use across sector departments;
- Build MPCU capacity for climate finance proposal development;
- Institutionalise gender-responsive and disability-inclusive adaptation practices across Social Welfare and sector departments.

7.5.2 Priority Areas

Area	Focus
CSA costing and agricultural planning	Bottom-up cost estimation; gender-responsive programme planning for Extension, MPCU, and farmer groups
Procurement and contract management	PPA Act 663 procedures; climate-resilient materials specifications; performance-based maintenance contracts
Construction supervision and QA	Reinforced roofing, flood-proofing, disability-accessible design; site inspection
Monitoring, Evaluation, and Learning	Results-based M&E; adaptation indicators; gender-disaggregated data; DMTDP reporting
Solar water system maintenance	Pump mechanics; WSMTs financial management; youth technician certification
Community EWS operation	SMS, siren, and radio operation; SOPs; evacuation planning; GMet forecast linkage
Climate finance proposal development	GCF, Adaptation Fund, and GEF landscape; concept notes; NDC alignment; SIGRA-mentored submissions
Gender and disability-inclusive planning	Gender analysis; disability-inclusive standards; safeguard screening

7.5.3 Delivery Modalities

Capacity development should be delivered through:

- On-the-job coaching by SIGRA technical advisors;
- Practical workshops linked to real CAP actions rather than abstract training sessions;
- Standardised tools and templates, including costing sheets, MEL tools, and safeguard checklists;
- Peer learning exchanges with other SIGRA-supported districts in the Northern Region;
- Certification pathways for youth technicians through NVTI and vocational institutions;
- Embedded technical support during procurement and implementation.

7.6 Institutional Learning and Knowledge Management

Learning processes are recommended to be directly linked to the MEL system set out in Chapter Six. Mechanisms include:

- Annual reflection sessions organised around the six learning loops;
- Structured learning briefs shared with SIGRA, MLGDRD, MESTI, and NDPC;
- Peer exchanges with adjacent districts across the Northern Region;

- Documentation of cost variance, implementation innovations, and indigenous knowledge from WSMTs, HHCs, and farmer field schools;
- Community-level knowledge capture through Dagbani-language scorecards and dialogue forums.

These processes ensure continuous improvement and feed directly into future district planning cycles.

7.7 Risk Management and Institutional Sustainability

Risk	Implication	Mitigation
Weak coordination across sectors	Delivery delays, duplication, and conflicting work plans	Quarterly MPCU Cross-Sector Review; bi-annual DASC
Limited infrastructure supervision capacity	Poor quality delivery on facilities and EWS	Technical supervision training; SIGRA backstopping; local contractor certification
Financing constraints	Incomplete delivery of Tier 3 actions	Active resource mobilisation strategy; pre-positioned bankable concept notes
Staff turnover	Loss of institutional knowledge	Systematic documentation; cross-training; mentorship pairing
Weak O&M systems	Premature failure of boreholes, solar systems, and EWS equipment	Early O&M planning; WSMTs financial training; youth technician certification
Partner fragmentation	Duplication and targeting conflicts	Development Partner and NGO Forum harmonisation
Elite capture or exclusion	PWDs and women sidelined in benefit distribution	Community-validated beneficiary lists; grievance mechanism; Social Welfare oversight

7.8 Resource Mobilisation Responsibilities

Resource mobilisation should be jointly led by:

- DPCU – coordination, concept note drafting, and partner engagement;
- District Finance Officer – financial structuring, co-financing arrangements, and composite budget tagging;
- EPA-Ghana / SIGRA – technical support, national alignment, and GCF and Adaptation Fund facilitation;
- District Chief Executive – political leadership, District Assembly endorsement, and MLGDRD engagement.

This structure ensures that the financing strategies outlined in Chapter Five are actively implemented, with SIGRA-mentored bankable proposals targeting GCF, Adaptation Fund, and World Bank windows for the high-cost Critical Infrastructure and Health programmes.

7.9 Conclusion

Strong institutional coordination and targeted capacity development are essential for translating the Mion CAP's GHS 38.72 to 43.37million investment portfolio into tangible resilience outcomes for women, youth, persons with disabilities, and the hotspot communities of Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang. By aligning MPCU coordination with sector delivery, financing strategy, and the MEL system, the District Assembly establishes the institutional foundation for sustained, scalable, and inclusive climate adaptation across Mion District.

8. CONCLUSION, WAY FORWARD AND RECOMMENDATIONS

8.1 Conclusion

The Mion District Costed Adaptation Plan (CAP) marks a meaningful milestone in addressing the lived realities of climate change in one of Ghana's most climate-vulnerable districts. Developed through a rigorous and participatory process grounded in the findings of the Mion Climate Risk and Vulnerability Assessment (CRVA), this Plan moves beyond diagnosis to deliver a practical, prioritised, and gender-responsive roadmap for building resilience. It reflects the voices, experiences, and priorities of local stakeholders, including smallholder farmers, women and female-headed households, youth, persons with disabilities (PWDs), traditional leaders, and district technical officers, who actively shaped its content through workshops and consultations.

Spanning five key sectors, namely Agriculture and Food Security, Ecosystem and Biodiversity, Water Resources, Critical Infrastructure, and Health, the CAP identifies fifteen high-priority adaptation actions. These actions respond directly to the district's dominant climate hazards: prolonged drought and water scarcity, erratic and high-intensity rainfall leading to flash floods, extreme heat, windstorms, bushfires, and ecosystem degradation. With an indicative investment envelope of approximately GHS 38.72 to 43.37million over the three-year planning horizon (2026 to 2028), the Plan focuses on the most vulnerable communities and population groups identified in the CRVA. These include women who carry a disproportionate burden of water collection and caregiving, youth facing livelihood insecurity and migration pressures, persons with disabilities confronting mobility and access barriers, and smallholder farming households in climate risk hotspots such as Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang.

A defining strength of the CAP lies in its human-centred and inclusive approach. Gender responsiveness and social inclusion served as core criteria in the Multi-Criteria Analysis (MCA) prioritisation process. This ensured that adaptation measures actively reduce, rather than reinforce, existing inequalities. Intersectional considerations, such as how gender intersects with disability, poverty, and age, were explicitly factored into the design of actions. The Plan also bridges the gap between technical evidence and district governance by producing costed and implementable actions that can be mainstreamed into the 2026 to 2029 Medium-Term Development Plan (MTDP), Annual Action Plans, and Composite Budgets. Rather than establishing a parallel climate agenda, the CAP strengthens existing district planning and budgeting systems. It aligns with Ghana's National Adaptation Plan (NAP), Nationally Determined Contributions (NDCs), and relevant Sustainable Development Goals (SDGs 1, 2, 5, and 13).

The process of developing the CAP has already generated important co-benefits. District staff have strengthened their capacities in participatory prioritisation, activity-based costing, gender-responsive planning, and climate finance readiness. Cross-sectoral collaboration has improved, and greater awareness and ownership of climate adaptation have been fostered among Assembly Members, traditional authorities, and communities. In this way, Mion District demonstrates that locally led, evidence-informed, and inclusive adaptation planning is both feasible and effective even in resource-constrained settings.

Ultimately, the true value of this CAP will be judged not by the quality of the document itself, but by the extent to which its actions deliver tangible improvements in livelihoods, health, water security, ecosystem stability, and public service continuity for the people of Mion, particularly the most vulnerable, in the face of a changing climate.

8.2 Key Achievements of the CAP Development Process

Beyond the technical outputs, the CAP process has contributed meaningfully to institutional and social learning. District officers have enhanced their technical capacity in translating CRVA findings into prioritised and costed actions while applying gender and equity lenses. Cross-departmental

coordination has improved, helping to break down traditional silos between sectors such as Agriculture, Works, Health, Forestry, NADMO, and CWSA. Local ownership has been strengthened through meaningful engagement of communities and traditional authorities. The Plan also demonstrates clear alignment with national frameworks (NAP and NDC) and contributes directly to SIGRA's results on increased gender-responsive climate investments and strengthened inclusive district governance.

These achievements highlight the effectiveness of SIGRA's participatory and capacity-focused methodology in supporting districts to move from climate diagnostics to implementable adaptation measures.

8.3 Way Forward

Implementation of the CAP will follow a realistic, phased, and adaptive approach that recognises Mion District's fiscal constraints while prioritising early results to build momentum and confidence. The pathway outlined below integrates risk mitigation measures to address potential challenges such as financing gaps, staff turnover, and delays in accessing international climate finance.

Phase 1: Foundation and Quick Wins (2026)

Secure formal endorsement of the CAP by the General Assembly and fully integrate its priority actions into the 2026 to 2029 MTDP, the 2027 Annual Action Plan, and Composite Budget, with explicit tagging of climate adaptation and gender or equity expenditures. Designate a CAP Adaptation Focal Person within the Municipal Planning and Coordinating Unit (MPCU) and operationalise the District Adaptation Steering Committee (DASC) for strategic oversight. Commence low-cost, high-impact Tier 1 actions (for example, women-led health and hygiene committees, gender-equitable and inclusive water governance, health education campaigns, community-led reforestation, and post-harvest loss reduction) in priority hotspots. These efforts will draw on District Assembly Common Fund (DACF), SIGRA catalytic support, and existing sector resources. Allocate at least 10 to 15 percent of DACF and District Development Facility (DDF) resources to climate adaptation in the 2027 budget, with clear gender and inclusion performance indicators. Mitigate early risks through immediate capacity-building for MPCU and sector staff and activation of the quarterly Cross-Sector Review Meeting.

Phase 2: Scaling and Resource Mobilisation (2027)

Advance medium-scale Tier 2 actions through blended financing involving SIGRA, national sector programmes, NGOs, and the Adaptation Fund. Develop and submit high-quality bankable concept notes for Tier 3 investments (climate-resilient community facilities, community-based early warning systems, and mobile health units) to the Green Climate Fund (GCF) and other windows, with technical mentoring from SIGRA and EPA-Ghana. Roll out targeted capacity development for district staff, community structures (WSMTs, HHCs, youth technicians), and local contractors, with emphasis on operations and maintenance (O&M), climate-resilient construction, and gender-responsive planning. Monitor implementation closely using the CAP MEL framework and apply adaptive management triggers to address emerging bottlenecks such as cost overruns or inclusion gaps.

Phase 3: Consolidation, Evaluation and Institutionalisation (2028)

Complete major infrastructure works and ecosystem restoration activities while strengthening local O&M systems and green job opportunities. Conduct a comprehensive Mid-Term Review (late 2027) and End-of-Plan Evaluation (2028) to assess effectiveness, efficiency, equity impacts (including intersectional outcomes for women, youth, and PWDs), cost performance, and sustainability. Integrate lessons learned into the next MTDP cycle (2030 to 2033) and update the CAP as a living document. Document and share Mion's experience through SIGRA and national platforms (EPA-Ghana, MESTI, and NDPC) to support scaling across the Northern Region.

Throughout implementation, risks such as financing shortfalls for Tier 3 actions, staff turnover, and potential elite capture will be actively managed through diversified funding pipelines, cross-training, community-validated beneficiary lists, and the established grievance mechanism.

8.4 Recommendations

To ensure successful implementation and long-term impact, the following targeted recommendations are offered to different stakeholders.

To the Mion District Assembly Leadership and Management

1. Provide visible political championship. The District Chief Executive and Presiding Member should lead CAP endorsement by the General Assembly and ensure regular progress reporting.
2. Mainstream climate adaptation systematically as a cross-cutting priority in all planning, budgeting, and project appraisal processes. Allocate at least 10 to 15 percent of DACF and DDF resources explicitly for adaptation, with gender and equity indicators clearly tagged in the composite budget.
3. Institutionalise inclusive governance by ensuring that all infrastructure designs incorporate universal access features and women-led or gender-balanced management structures.
4. Strengthen local ownership through active partnerships with traditional authorities, Area Councils, and community groups in implementation, monitoring, and benefit-sharing.

To Sector Departments and Decentralised Agencies

1. Align annual workplans, budgets, and procurement processes with assigned CAP actions and assign clear institutional responsibilities for delivery and reporting.
2. Invest in continuous and practical capacity development, particularly in climate-smart agriculture, resilient infrastructure supervision, solar system maintenance, early warning operations, adaptation costing, and gender-responsive planning. Set measurable targets for staff trained and skills applied.
3. Prioritise operations and maintenance (O&M) planning from the design stage and allocate dedicated resources to safeguard the longevity of boreholes, solar pumps, retrofitted facilities, and early warning equipment.
4. Contribute consistently to the CAP MEL system with timely, accurate, sex-, age-, and disability-disaggregated data.

To Development Partners, SIGRA, EPA-Ghana, and National Institutions

1. Provide catalytic and flexible support for Tier 1 and Tier 2 actions in 2026/27 to generate early and visible results that build momentum and demonstrate proof-of-concept.
2. Actively facilitate access to international climate finance by mentoring the District in the preparation and submission of bankable proposals to the GCF, Adaptation Fund, and other windows, with particular attention to Tier 3 investments.
3. Promote knowledge exchange by documenting and disseminating Mion's experience as a replicable model for gender-responsive, district-led adaptation in Ghana's Guinea Savannah zone. Feed lessons into national NAP and NDC reporting.
4. Harmonise all support through the District Development Partner and NGO Forum to avoid duplication and ensure strong alignment with district priorities and the SIGRA results framework.

To Communities, Traditional Authorities, and Civil Society

1. Engage actively in implementation structures (WSMTs, women-led health and hygiene committees, tree nurseries, and early warning focal points) by contributing local and indigenous knowledge, labour, and oversight.

2. Hold implementers accountable through community scorecards, grievance mechanisms, and engagement with Assembly Members. Ensure transparent and equitable benefit distribution that reaches women, youth, PWDs, and other marginalised groups.
3. Adopt, promote, and scale climate-resilient practices across households and communities while fostering peer learning and intergenerational knowledge transfer.

8.5 Final Outlook

Climate change is already profoundly affecting daily lives, livelihoods, and landscapes in Mion District. Yet this Costed Adaptation Plan offers a grounded and hopeful pathway forward. By combining robust evidence from the CRVA, transparent prioritisation through MCA, realistic costing, and a strong emphasis on gender equity and inclusion, the CAP equips the district with the tools needed to build resilience that is both effective and just.

Success will depend on sustained political leadership, creative and diversified resource mobilisation, genuine cross-sector and community partnerships, rigorous monitoring with adaptive management, and continuous learning. When effectively implemented, the Plan will contribute to improved food security and incomes, reliable year-round water access that reduces burdens on women and girls, functional public services during extreme events, restored ecosystems, and empowered communities better able to anticipate, absorb, and recover from climate shocks.

Mion District now possesses a clear, practical, and inclusive roadmap. With committed leadership from the District Assembly, supportive partnerships through SIGRA and beyond, and active participation of its people, the district can transform climate vulnerability into an opportunity for more equitable, sustainable, and resilient development. In doing so, Mion can serve as an inspiring model for northern Ghana and similar contexts across the country.

ANNEX A

1. Agriculture Sector

PROJECT DESCRIPTION — Climate-Smart Varietal Choice and Seed Systems

- Intervention & Objectives: Establishes 12 one-acre demonstration plots (maize, rice, soybean, and groundnut; 4 per community) and delivers 9 training sessions on varietal selection, seed multiplication, and seed storage/record-keeping, supported by 12 field days and extension services; procures and distributes 390 bags of certified drought-tolerant, early-maturing seed (30 maize, 60 soybean, 150 groundnut, 150 rice) and establishes community seed storage; District Agriculture Officers verify varietal performance and certify seed multiplication quality. Objective: enable farmers to grow crops that survive drought, heat, and changing rains, and make improved seeds easy for women and youth to access.
- Beneficiaries: Approximately 150 participating smallholder farming households across the three target communities; women and youth benefit directly as managers of seed banks and demonstration plots.
- Communities Targeted: Jimile, Sang, and DC Kura.
- MCA Priority Ranking: 1st (tied), MCA score 50.
- Gender Responsiveness & Equity: Seed banks and demonstration plots are women- and youth-managed by design; participation and yield indicators are reported sex- and age-disaggregated.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUE	RATE (c)	AMOUNT (GHc)	REMARKS
Climate-Smart Varietal Choice & Seed Systems		GOODS AND SERVICES					
	Demonstration trials, farmer training on varietal selection and seed multiplication practices, and technical support for community-based seed systems.	Seed for 1-acre demonstration plot (Groundnut (unshelled))	40	3	50	6,000.00	Foundation seed
		Seed for 1-acre demonstration plot (Soybean)	18	3	30	1,620.00	Foundation seed
		Seed for 1-acre demonstration plot (Maize)	10	3	30	900.00	Foundation seed
		Seed for 1-acre demonstration plot (Rice)	40	3	20	2,400.00	Foundation seed
		Ploughing (land preparation)	12	1	250	3,000.00	
		Harrowing (land preparation)	12	1	200	2,400.00	
		Pre & post-emergence (weeding/chemical)	12	1	200	2,400.00	
		NPK fertilizer (Maize and rice)	6	1	600	3,600.00	
		Urea fertilizer (Maize and rice)	3	1	500	1,500.00	
		Inoculant (Groundnut and soya)	6	1	100	600.00	
		Field days	4	3	2000	24,000.00	Planting, vegetative and brown
		Fuel for mobilization	4	1	500	2,000.00	
		Training workshop on improved varietal selection (maize, soybean, groundnut, rice)	3	1	2500	7,500.00	
		Practical training on seed multiplication techniques for maize, soybean and groundnut	3	1	2500	7,500.00	
		Training on community seed storage, record keeping and quality assurance	3	1	2500	7,500.00	
		Extension officers providing technical guidance and field supervision	6	1	800	4,800.00	Across 3 communities
		Technical monitoring of seed multiplication fields	6	1	700	4,200.00	Extension services
		SUBTOTAL				81,920.00	

[illegible]

PROJECT DESCRIPTION — Post-Harvest Loss Reduction and Safe Storage

- **Intervention & Objectives:** Delivers 9 farmer-group training sessions (3 per community) on grain drying, moisture-meter use, and rodent control, with 150 printed post-harvest handling manuals; constructs 3 elevated, ventilated community storage facilities (one per community) and supplies 300 hermetic storage bags (100 per community); District Agriculture Officers inspect storage standards and verify post-harvest loss reduction. Objective: enhance food security and incomes by minimising post-harvest losses through improved drying, storage, and preservation.
- **Beneficiaries:** Farming households in the three target communities; women and youth agro-processors receive targeted training in moisture testing and aflatoxin prevention; elderly persons and PWDs benefit from accessible storage design.
- **Communities Targeted:** Jimile, Sang, and DC Kura.
- **MCA Priority Ranking:** 1st (tied), MCA score 50.
- **Gender Responsiveness & Equity:** Women and youth processors are a priority training group; storage facilities apply accessible design standards; trainee numbers are reported sex-disaggregated.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
Post-Harvest Loss Reduction & Safe Storage	Provide structured training on grain drying, moisture testing, and rodent control practices.	GOODS AND SERVICES					
		Structured training for farmers on proper grain drying methods	3	1	2000	6000	Farmer groups
		Farmer training on use of moisture meters and safe moisture thresholds	3	1	2000	6000	Farmer groups
		Training on rodent control and safe storage management practices	3	1	2000	6000	Farmer groups
		Printing manuals and guides on post-harvest handling and storage	150	1	10	1500	For participants
		SUBTOTAL				18,000.00	
		CAPEX					
		Construction of elevated and ventilated community storage facilities	3	1	50000	150000	One per community
		Procurement of hermetic storage bags for grain storage	300	1	25	7500	100 bags per community
		SUBTOTAL				157,500.00	
		COMPENSATION					
		Inspection of storage standards and verification of post-harvest loss reduction rates	6	1	900	5400	Across communities
		Documentation and reporting on storage performance and loss reduction	3	1	700	2100	One report per community
		SUBTOTAL				7,500.00	
		TOTAL				183,000.00	

PROJECT DESCRIPTION — Water Access for Dry-Season and In-Season Stabilisation

- Intervention & Objectives: Installs and commissions 6 solar irrigation pumps (2 per community); constructs 3 community irrigation dugouts, 3 small reservoirs, and 9 water storage tanks of 5,000 litres (3 per community); holds 3 community meetings on water-use rules and 3 farmer trainings on efficient irrigation (50 farmers each), with 150 printed manuals and quarterly technical supervision and preventive maintenance. Objective: ensure year-round crop and livestock production through small-scale irrigation, water storage, and equitable water governance.
- Beneficiaries: Approximately 150 trained smallholder and dry-season farmers in the three target communities; women and vulnerable groups are guaranteed inclusive participation in community water-user groups.
- Communities Targeted: Jimile, Sang, and DC Kura.
- MCA Priority Ranking: 3rd, MCA score 49.
- Gender Responsiveness & Equity: Inclusive participation of women and vulnerable groups in water-user groups is guaranteed; the share of women in water-user group executive roles is a key success indicator.

Water Access for Dry-Season and In-Season Stabilization							
		GOODS AND SERVICES					
	Technical installation of pumps, community sensitization on water management, and irrigation efficiency training for farmers.	Technician installation and commissioning of solar irrigation pumps	6	1	2000	12,000.00	2 pumps per community (Jimile, Sang, DC Kura)
		Community meetings on water use rules and irrigation scheduling	3	1	1200	3,600.00	
		Farmer training on efficient irrigation methods and pump operation	3	1	2500	7,500.00	50 farmers per training
		Printing manuals and irrigation guides	150	1	10	1,500.00	For participating farmers
		SUBTOTAL				24,600.00	
		CAPEX					
	Procurement and construction of dugouts, small reservoirs, water storage tanks, and solar-powered irrigation pumps.	Excavation and construction of community irrigation dugouts	3	1	35000	105,000.00	One per community
		Construction of small irrigation reservoirs	3	1	60000	180,000.00	Community irrigation
		5,000 litre irrigation water tanks	9	1	2500	22,500.00	3 tanks per community
		Solar pump sets including panels and controllers	6	1	8500	51,000.00	2 pumps per community
		SUBTOTAL				358,500.00	
		COMPENSATION					
	Monitoring, supervision, and maintenance oversight of water	Extension officers monitoring irrigation systems	3	4	1000	12,000.00	Across communities
		Technical supervision and maintenance of pumps and water structures	6	4	1000	24,000.00	Preventive maintenance
		Preparation of water access monitoring reports	1	4	600	2,400.00	One per community
		SUBTOTAL				38,400.00	
		TOTAL				421,500.00	

2. Ecosystem and Biodiversity Sector

PROJECT DESCRIPTION — Community-Led Reforestation and Nurseries

- Intervention & Objectives: Conducts community entry and sensitisation in 3 pilot communities (3 rounds each) and a 3-day training of a Community Natural Resource Management Committee in each community, supported by IEC materials in local languages; establishes 3 community tree nurseries equipped with poly water tanks, 30 watering cans, shade structures, fencing, and native tree seedlings; engages 3 community nursery supervisors and 3 seasonal planting coordinators on monthly stipends, with cash-for-work restoration labour. Objective: increase forest cover, stabilise degraded land, and build a local supply of climate-resilient seedlings.
- Beneficiaries: The whole population of the 3 pilot communities; women and youth groups manage the nurseries and derive livelihoods; economically vulnerable households benefit from cash-for-work; elderly persons are engaged for traditional ecological knowledge.
- Communities Targeted: 3 pilot communities to be selected from the seven hotspot communities (Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang).
- MCA Priority Ranking: 1st, MCA score 51.
- Gender Responsiveness & Equity: Nurseries are managed by women and youth groups as a designed livelihood pathway; cash-for-work targets economically vulnerable households.

Community-Led Reforestation and Nurseries						
GOODS AND SERVICES						
Training community groups on nursery management, seed selection of indigenous species, planting techniques, and post-planting care.	Community entry and sensitization	3	3	2000	18,000.00	Community entry and sensitization for three pilot communities.
	Training of Community Natural Resource Committees/ groups (3-day)	3	3	5000	45,000.00	Capacity strengthening of CNRMCs on biodiversity protection, climate resilience, and environmental governance. Includes facilitation, logistics, materials, and participant support.
	Development & printing of IEC materials (Lump sum)				15,000.00	The cost is presented as a lump sum because it combines design, translation, printing, and distribution into one amount. The exact quantity of materials may change depending on the needs of the communities. Printing costs also vary based on paper type, size (A3, A4, banners), and the quantity ordered. Using a lump sum therefore makes budgeting easier at the proposal stage when the detailed printing specifications have not yet been finalized.
	SUBTOTAL				78,000.00	
CAPEX						
Establishment of community tree nurseries, procurement of nursery infrastructure (shade nets, water storage tanks, seedbeds), and acquisition of native tree seedlings for restoration.	Water tanks for nurseries (poly tanks)	3	1	4000	12,000.00	
	Purchase of watering Can (10L)	30	1	150	4,500.00	
	Tree nursery shade structures	3	1	7000	21,000.00	
	acquisition of native tree seedlings	10	1	15000	150,000.00	
	Fencing/barbed wire	18	1	700	12,600.00	
	SUBTOTAL				200,100.00	
COMPENSATION						
Engagement of community nursery supervisors and seasonal planting coordinators on stipend basis to manage seedling production and planting campaigns.	Training facilitator	1	3	2000	6,000.00	Facilitation fee for technical person from forestry department including fuel and per diem
	Community nursery supervisors	3	1	1000	3,000.00	Monthly Stipends for each officer for the duration of the project: fuel and per diem
	Seasonal planting coordinators	3	1	800	2,400.00	Monthly Stipends for each officer for the duration of the project: fuel and per diem
	Casual labour for restoration works				40,000.00	Lump sum amount for any casual works
	SUBTOTAL				51,400.00	
	TOTAL				329,500.00	

PROJECT DESCRIPTION — Conserve and Restore Riparian Zones

- Intervention & Objectives: Holds 9 community sensitisation meetings on riparian protection, 3 watershed management training sessions for farmers and local leaders, and 9 sustainable land-use planning meetings; demarcates riparian buffer zones with signage and boundary marking in 3 communities and plants 300 native tree and grass seedlings for riverbank restoration; monitoring teams conduct 12 quarterly ecological assessments of buffer recovery and compliance. Objective: protect vital ecological habitats around water bodies and improve water quality and flow.
- Beneficiaries: Households and farmers dependent on the protected water bodies in the 3 riverine communities; youth serve on Youth Water Monitoring Teams; farmers and local leaders receive watershed training.
- Communities Targeted: 3 riverine communities (to be confirmed from the district's riverine settlements).
- MCA Priority Ranking: 2nd, MCA score 47.
- Gender Responsiveness & Equity: Youth are engaged through dedicated Water Monitoring Teams; training and planning meetings include women and local leadership structures.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
Conserve and Restore Riparian Zones		GOODS AND SERVICES					
	Community sensitization on riparian protection regulations, watershed management training, and sustainable land-use planning.	Community sensitization meetings on riparian	3	3	2000	18,000.00	
		Watershed management training for farmers and local leaders	3	1	7000	21,000.00	
		Sustainable land-use planning meetings with community stakeholders	3	3	2000	18,000.00	
						-	
		SUBTOTAL				57,000.00	
		CAPEX					
	Demarcation and physical protection of riparian buffers, planting of native vegetation along riverbanks, and installation of erosion control structures.	Demarcation of riparian buffer zones (signage & boundary marking)	3	1	4000	12,000.00	
		Native tree and grass seedlings for riverbank restoration	300	1	7	2,100.00	
		SUBTOTAL				14,100.00	
		COMPENSATION					
	Monitoring and Evaluation teams engaged to conduct periodic ecological assessments of riparian buffer recovery and compliance	Quarterly ecological assessment visits	4	3	5000	60,000.00	
		SUBTOTAL				60,000.00	
		TOTAL				131,100.00	

PROJECT DESCRIPTION — Restoration of Critically Degraded Land

- Intervention & Objectives: Carries out technical land assessment and mapping of degraded sites (3 communities, 3 rounds), community mobilisation meetings, and 9 soil-rehabilitation training sessions for farmers; implements contour bunding on degraded slopes and reseeds with grass and leguminous cover crops (50 units at each of 3 sites); monitoring personnel (36 person-months) and quarterly stakeholder field visits track vegetation recovery, soil stability, and restoration success. Objective: actively reclaim and heal land damaged by severe erosion and poor land management.
- Beneficiaries: Economically vulnerable households employed through labour-intensive cash-for-work; smallholder farmers on degraded lands receive training and subsidised soil inputs; entire communities benefit from reduced erosion risk.
- Communities Targeted: 3 communities with critically degraded sites (identified through the technical land assessment).
- MCA Priority Ranking: 3rd, MCA score 40.
- Gender Responsiveness & Equity: Cash-for-work restoration labour prioritises economically vulnerable households, including women-headed households.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
Restoration of Critically Degraded Land		GOODS AND SERVICES					
	Technical land assessment services, community mobilisation for restoration campaigns, and training on soil rehabilitation techniques.	Technical land assessment and mapping of degraded sites	3	3	8000	72,000.00	
		Community mobilisation meetings for restoration campaigns	3	1	2000	6,000.00	
		Training of farmers on soil rehabilitation techniques	3	3	5000	45,000.00	
						-	
		SUBTOTAL				123,000.00	
		CAPEX					
	Implementation of land restoration structures such as contour bunds, check dams, erosion control barriers, and reseeded of degraded sites.	Construction of contour bunds on degraded slopes	3	50	1000	150,000.00	
		Reseeding of degraded land with grass and leguminous cover crops	3	50	900	135,000.00	
		SUBTOTAL				285,000.00	
		COMPENSATION					
	Monitoring and Evaluation personnel engaged to assess vegetation recovery rates, soil stability improvements, and restoration success indicators.	Monthly Monitoring and evaluation personnel allowances	3	12	1000	36,000.00	
		Quarterly field monitoring visits by stakeholders	4	12	5000	240,000.00	
		SUBTOTAL				276,000.00	
		TOTAL				684,000.00	

3. Water Resources Sector

PROJECT DESCRIPTION — Establish Deep Groundwater Access and Protection

- Intervention & Objectives: Undertakes hydrogeological siting, drilling, and mechanisation of a deep borehole with submersible pump, protective wellhead structure, and fencing (one drilling site budgeted); conducts water quality testing (2 rounds) and community groundwater-protection training (13 participants over 4 sessions); engages 3 trained borehole caretakers and 5 community groundwater management volunteers on monthly stipends for 12 months. Objective: ensure dependable, year-round access to safe domestic water while reducing scarcity and the long water-fetching burden on women and girls.
- Beneficiaries: Residents of the drought-prone hotspot communities; women and girls benefit from a reduced water-fetching burden; PWDs and elderly persons benefit from mandated accessible designs (ramps and appropriate pump heights).
- Communities Targeted: Zuro, Kayong, and Kpumi.
- MCA Priority Ranking: 1st, MCA score 55.
- Gender Responsiveness & Equity: Directly reduces the water-collection burden on women and girls; accessibility features for PWDs and the elderly are mandated in the infrastructure design.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
Establish Deep Groundwater Access & Protection		GOODS AND SERVICES					
	Hydrogeological surveys, water quality testing, technical installation services, and community training on groundwater protection and sustainable abstraction practices.	1. siting	1	1	12,000.00	12,000.00	
		2. installation service	1	1	5,000.00	5,000.00	
		3. water quality testing	1	2	4,000.00	8,000.00	
		4. training	13	4	3,120.00	12,480.00	
		SUBTOTAL				37,480.00	
		CAPEX					
	Drilling and mechanization of deep boreholes, installation of submersible pumps, construction of protective wellhead structures, and fencing of groundwater recharge zones.	1. drilling, installation & mechanization	1	1	53,000.00	53,000.00	
		2. construction of protective	1	1	26,000.00	26,000.00	
		SUBTOTAL				79,000.00	
		COMPENSATION					
	Engagement of trained borehole caretakers and community groundwater management volunteers on stipend basis to oversee daily functionality and enforce protection measures.	1. caretakers	3	12	200	7,200.00	
		2. volunteers	5	12	100	6,000.00	
		SUBTOTAL				13,200.00	
		TOTAL				129,680.00	

PROJECT DESCRIPTION — Gender-Equitable and Inclusive Water Governance

- Intervention & Objectives: Builds the capacity of Water User Associations on inclusive governance, gender-sensitive decision-making, conflict resolution, and leadership (approximately 25 trainees over 4 rounds); upgrades water points with accessible infrastructure — ramps, handrails, and gender-sensitive sanitation facilities; community water governance facilitators support inclusion compliance and structured stakeholder engagement. Objective: empower women, youth, and PWDs in local water decision-making and ensure fair water allocation during scarcity.
- Beneficiaries: Women as the primary target group, holding WSMT leadership with at least 60 per cent female membership; youth and PWDs with guaranteed representation in planning, monitoring, and tariff-setting; vulnerable households receiving priority water allocation during drought.
- Communities Targeted: Zuro, Kpumi, Kayong, and Palari.
- MCA Priority Ranking: 2nd, MCA score 54.
- Gender Responsiveness & Equity: A minimum of 60 per cent female WSMT membership with women in leadership; guaranteed youth and PWD representation; priority drought-period water allocation for vulnerable households.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHC)	REMARKS
Gender-Equitable and Inclusive Water Governance							
		GOODS AND SERVICES					
	Capacity building for Water User Associations on inclusive governance, gender-sensitive decision-making, conflict resolution, and leadership training for women and marginalized groups.	stationary	2	2	90	180.00	
		allowance for trainee	25	4	240	24,000.00	
		allowance for instructor	1	4	900	3,600.00	
		SUBTOTAL				27,780.00	
		CAPEX					
	Provision of accessible water infrastructure upgrades, including ramps, handrails, and gender-sensitive sanitation facilities at water	provision of water and infrasstructure	6	6	400	14,400.00	
		provision of ramp,handrail,gender sen.	25	3	240	18,000.00	
		SUBTOTAL				32,000.00	
		COMPENSATION					
	Engagement of community water governance facilitators to support inclusion compliance and structured stakeholder engagement processes.	stationary	2	1	90	180.00	
		stakeholders allowace including lunch	18	1	300	5,400.00	
		dispatch rider for invitation letters	18	1	20	360.00	
		projector	1	1	150	150.00	
		SUBTOTAL				6,090.00	
		TOTAL				65,870	

PROJECT DESCRIPTION — Green Jobs in Local Water Services

- Intervention & Objectives: Provides technical certification training for youth in borehole maintenance, pump repair, solar water system servicing, and small-scale plumbing (5 training rounds with practice fittings); supplies maintenance toolkits, spare-parts banks, and first-aid equipment; certified local technicians are engaged on performance-based service contracts within the district. Objective: create skilled employment and local maintenance capacity while improving the long-term sustainability of water systems.
- Beneficiaries: Young men and women as the primary target group, certified as water service technicians and organised into cooperatives; all communities served by boreholes and solar pumps benefit from locally sustained water services.
- Communities Targeted: District-wide coverage of communities served by boreholes and solar pumps, including Zuro, Kayong, and Kpumi.
- MCA Priority Ranking: 3rd, MCA score 52
- Gender Responsiveness & Equity: Certification training deliberately targets both young men and young women; employment outcomes are reported sex-disaggregated.

Green Jobs in Local Water Services							
		GOODS AND SERVICES					
Technical certification training for youth in borehole maintenance, pump repair, solar water systems servicing, and small-scale plumbing services.	training	6	5	240	7,200.00		
	stationary	2	1	90	180.00		
	plumbing fittings to be used in practice	13	1	42	546.00		
	instructor	6	5	166.67	5,000.00		
	SUBTOTAL				12,926.00		
		CAPEX					
Provision of maintenance toolkits, spare parts banks, and mobile repair units for local water technicians.	tools box	1	2	700	1,400.00		
	first aid box	1	2	510	1,020.00		
	SUBTOTAL				2,420.00		
		COMPENSATION					
Engagement of certified local water service technicians on performance-based service contracts within the district.	certificate	1	1	300	300.00		
	performance base services	1	4	500	2,000.00		
	SUBTOTAL				2,300.00		
		TOTAL				17,646	

4. Critical Infrastructure Sector

PROJECT DESCRIPTION — Build Climate-Resilient Community Facilities

- Intervention & Objectives: Retrofits 7 public facilities — 4 CHPS compounds and 3 schools/Area Council offices — with reinforced roofing, elevated floors, solar PV with battery storage, rainwater harvesting, and accessibility ramps; includes certified structural assessments, retrofit designs, solar and emergency-shelter installation services, and 11 structural compliance inspections by District Works Department engineers; provides retrofitting micro-loans to vulnerable households. Objective: keep essential public services (CHPS compounds, schools, and offices) fully operational during floods, storms, and extreme heat.
- Beneficiaries: All users of the 7 retrofitted facilities, which double as multi-hazard evacuation and shelter centres; PWDs and elderly persons benefit from universal accessibility features; approximately 200 female-headed households and 150 elderly-headed households are budgeted for retrofitting micro-loans.
- Communities Targeted: District-wide, across the facilities' host communities (final sites confirmed through the structural assessments).
- MCA Priority Ranking: 1st (tied), MCA score 55
- Gender Responsiveness & Equity: Universal accessibility features for PWDs and the elderly; retrofitting micro-loans prioritise female-headed and elderly households.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENC	RATE (c)	AMOUNT (GHC)	REMARKS
Build Climate-Resilient Community Facilities		GOODS AND SERVICES					
	Conduct certified structural assessments, prepare retrofit designs, install solar systems, and develop facility-level emergency shelter plans.	assessment cost	4	1	70,000.00	280,000.00	
		prepare retrofit design	4	1	10,000.00	40,000.00	
		install solar systems and emergency shelter	4	1	200,000.00	800,000.00	
		monitoring/supervision	4	2	5,000.00	40,000.00	
		SUBTOTAL				1,160,000.00	
		CAPEX					
	Retrofit CHPS compounds, schools, and Area Council offices with reinforced roofing, elevated concrete floors, solar	retrofit CHPS compounds	4	1	2,000,000.00	8,000,000.00	
		Schools and Area council offices	3	1	5,000,000.00	15,000,000.00	
		SUBTOTAL				23,000,000.00	
		COMPENSATION					
	District Works Department engineers to conduct structural compliance inspections and certify installation of solar and water systems against approved technical standards.	conduct compliance inspections	11	1	2,000.00	22,000.00	
		SUBTOTAL				22,000.00	
		TOTAL				24,182,000.00	

PROJECT DESCRIPTION — Community-Based Early Warning Systems (EWS)

- Intervention & Objectives: Develops 5 flood and wind alert Standard Operating Procedures and trains 60 youth and women EWS focal persons (20 per round over 3 rounds) in warning dissemination and response coordination; installs sirens, community radio equipment, SMS alert systems, and hazard display boards at 5 area-level sites; 5 appointed Community EWS Coordinators manage seasonal testing and alert activation (10 rounds). Objective: enable timely alerts and coordinated community response to floods, strong winds, and drought to protect lives and assets.
- Beneficiaries: The entire district population, with trained EWS focal persons in all seven hotspot communities; 60 youth and women serve as trained focal points; elderly persons and PWDs receive accessible preparedness checklists.
Communities Targeted: All seven hotspot communities — Zuro, Kpumi, Kayong, Nyentuo, Dijeo, Palari, and Sang — through 5 area-level installation sites.
- MCA Priority Ranking: 1st (tied), MCA score 55
- Gender Responsiveness & Equity: Youth and women constitute the 60 trained focal persons; preparedness materials are adapted for accessibility by the elderly and PWDs.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENC	RATE (c)	AMOUNT (GHc)	REMARKS
Community-Based Early Warning Systems (EWS)							
		GOODS AND SERVICES					
	Develop flood and wind alert SOPs; train youth and women focal persons in warning dissemination and response coordination.	Develop flood and wind alert SOPs	5	1	20,600.00	103,000.00	
		train youth and women focal persons in warning dissemination and response coordination.	20	3	400.00	24,000.00	
		SUBTOTAL				127,000.00	
		CAPEX					
	Install sirens, community radio equipment, SMS alert systems, and hazard display boards.	Install sirens, community radio equipment, SMS alert systems, and hazard display boards.	5	1	500,000.00	2,500,000.00	
		SUBTOTAL				2,500,000.00	
		COMPENSATION					
	Appointed Community EWS Coordinators to manage seasonal testing and alert activation.	Seasonal testing and alert activation.	5	10	10,000.00	500,000.00	
		SUBTOTAL				500,000.00	
		TOTAL				3,127,000.00	

PROJECT DESCRIPTION — Promote Local Infrastructure Job Creation

- Intervention & Objectives: Delivers certified training in climate-resilient construction and structured cash-for-work programme management to approximately 40 trainees (20 per round over 2 rounds, with resource persons); procures culvert installation tools, drainage maintenance equipment, masonry toolkits, and safety gear; certified site supervisors oversee construction quality, enforce safety compliance, and validate completed works. Objective: generate skilled youth employment and build local technical capacity for climate-resilient construction and maintenance.
- Beneficiaries: Approximately 40 youth trainees certified in green construction skills; women-led cooperatives receive guaranteed maintenance contracts; economically vulnerable residents access post-flood cash-for-work opportunities.
- Communities Targeted: District-wide, with post-flood cash-for-work most relevant in Nyentuo, Dijeo, and Sang.
- MCA Priority Ranking: 3rd, MCA score 53
- Gender Responsiveness & Equity: Maintenance contracts are guaranteed for women-led cooperatives; cash-for-work targets economically vulnerable households.

Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENC	RATE (c)	AMOUNT (GHc)	REMARKS
Promote Local Infrastructure Job Creation		GOODS AND SERVICES					
	Deliver certified training in climate-resilient construction and manage structured cash-for-work programs.	climate-resilient construction and manage structured cash-for-work programs training	20	2	200	8,000.00	
		Resource person	4	2	1500	12,000.00	
		SUBTOTAL				20,000.00	
		CAPEX					
	Procure culvert installation tools, drainage maintenance equipment, masonry toolkits, and safety gear.	Buying of tool and equipment requires	1	1	5,000,000.00	5,000,000.00	
		SUBTOTAL				5,000,000.00	
		COMPENSATION					
	Engage certified site supervisors to oversee construction quality, enforce safety compliance, and validate completed works.	TnT for technical person	1	1	500,000.00	500,000.00	
		SUBTOTAL				500,000.00	
		TOTAL				5,520,000.00	

5. Health Sector

PROJECT DESCRIPTION — Health Education on Heat, Hygiene, and Nutrition

- Intervention & Objectives: Runs Dagbani-language community campaigns on heat-stress prevention, hygiene, and climate-sensitive nutrition, with school and market demonstration events; procures portable public address systems and 20 complete handwashing demonstration facilities for schools and markets; Community Health Promotion Officers coordinate campaign delivery and outreach scheduling. Objective: increase community knowledge and behaviour change on heat-stress prevention, hygiene, and climate-sensitive nutrition to reduce malnutrition and disease risks.
- Beneficiaries: The entire district population reached through radio and community campaigns and notice boards in 25 communities (5 per sub-district); children targeted through nutrition education against drought-period malnutrition; school children, market users, and women's group networks engaged directly.
- Communities Targeted: District-wide: 5 communities in each of the 5 sub-districts (25 communities).
- MCA Priority Ranking: 1st, MCA score 52.
- Gender Responsiveness & Equity: Campaigns are delivered in Dagbani through women's group networks; child-nutrition messaging addresses drought-period malnutrition risks.

SN	Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHC)	REMARKS
6	Health Education on Heat, Hygiene, and Nutrition							
			GOODS AND SERVICES					
		Conduct Dagbani-language campaigns on heat-stress prevention, hygiene practices, and climate-sensitive nutrition; implement school and market demonstrations.	P.A system	2	1	4500	9,000.00	A
			Fuel(gals)	55	5	12	3,300.00	
			Lunch pack	4	4	70	1,120.00	
			Snack and water	4	4	25	400.00	
			SUBTOTAL				13,820.00	
			CAPEX					
		Procure portable public address systems, demonstration kits (handwashing stations), and visual education materials.	P.A system	1	1	4500	4,500.00	
			Complete handwashing facility	20	1	300	6,000.00	
			SUBTOTAL				10,500.00	
			COMPENSATION					
		Engage Community Health Promotion Officers to coordinate campaign delivery and outreach scheduling.	fuel(gals)	55	175	12	115,500.00	
			Lunch pack and snack	40	12	100	48,000.00	
			SUBTOTAL				163,500.00	
			TOTAL					

PROJECT DESCRIPTION — Women-Led Health and Hygiene Committees (HHCs)

- Intervention & Objectives: Trains women-led committees in hygiene promotion, sanitation governance, waste management planning, and climate-health advocacy (approximately 30 participants plus facilitators per round, 2 rounds budgeted); provides 175 community WASH toolkits with IEC materials, waste collection bins, and protective equipment for committee operations; multisectoral facilitators coordinate sanitation oversight and structured community-level reporting (5 rounds). Objective: empower women to lead local health promotion, sanitation governance, and climate-health advocacy at community level.
- Beneficiaries: Women as the primary target group, leading and managing the committees; entire communities across the 5 sub-districts benefit from improved sanitation governance and water-point management.
- Communities Targeted: All 5 sub-districts of Mion District (175 community kits budgeted).
- MCA Priority Ranking: 2nd, MCA score 50
- Gender Responsiveness & Equity: Committees are women-led by design, placing women in decision-making roles over community sanitation and climate-health advocacy.

SN	Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
4	Women-Led Health and Hygiene Committees (HHCs)	Train women-led committees in hygiene promotion, sanitation governance, waste management planning, and climate-health advocacy integration.	GOODS AND SERVICES					
			Lunch for Pre-facilitation meeting	4	1	70	280.00	
			T&T for facilitators	4	1	70	280.00	
			T&T for participants	30	2	100	3,000.00	
			T&T for facilitators	4	2	200	800.00	
			snack and water	34	2	25	850.00	
			Markers	2	1	45	90.00	
			Flip chart	2	1	65	130.00	
			SUBTOTAL				5,430.00	
		Provide sanitation toolkits, waste collection bins, and protective equipment for committee operations.	CAPEX					
			WASH toolkit with IE&C materials	1	175	2000	350,000.00	
			Waste bins	1	175	1000	175,000.00	
			Protective equipment	2	175	600	105,000.00	
			SUBTOTAL				630,000.00	
		Engage Committee Facilitators to coordinate sanitation oversight and structured reporting at community level.	COMPENSATION					
			Lunch for 4 multisectoral facilitators	4	5	70	1,400.00	
			snack and water	4	5	25	500.00	
			Fuel(gals)	6	55	12	3,960.00	
			SUBTOTAL				5,860.00	
			TOTAL					

PROJECT DESCRIPTION — Mobile Health Units for Remote Communities

- Intervention & Objectives: Procures and equips 5 motor-tricycle mobile clinic units with medical cabinets, cold boxes, fridges, vaccine carriers, essential drug kits, and basic diagnostic equipment; establishes outreach schedules with market-day rotations, clinical outreach on designated remote routes, and mobile medicine supply chains, supported by motorbikes, fuel, megaphones, and IEC materials; structured duty allowances support mobile clinic nurses, community health officers, and driver-technicians. Objective: deliver continuous clinical outreach, emergency care, and preventive services to remote and flood-isolated communities when fixed facilities are inaccessible.
- Beneficiaries: Populations of remote, flood-prone communities on the designated outreach routes; women, children, elderly persons, and PWDs — who face the greatest barriers to fixed facilities — are the priority service group; local women and youth are trained as volunteers and drivers.
- Communities Targeted: Remote, flood-isolated communities on designated outreach routes, including Zuro, Kayong, and Nyentuo.
- MCA Priority Ranking: 3rd, MCA score 48.
- Gender Responsiveness & Equity: Prioritises women, children, the elderly, and PWDs facing access barriers; local women and youth are trained and employed as outreach volunteers and drivers.

SN	Adaptation Action	Action Description/Activity	ITEM DESCRIPTION	QTY	FREQUENCY	RATE (c)	AMOUNT (GHc)	REMARKS
	Mobile Health Units for Remote Communities							
			GOODS AND SERVICES					
			motorbikes	20	1	85000	1,700,000.00	
			fuel	55	175	12	115,500.00	
			Lunch pack and snack	40	12	100	48,000.00	
			megaphones	20	10	750	150,000.00	
			IEC material	20	20	450	180,000.00	
			internet data and call credit	20	12	100	24,000.00	
			SUBTOTAL				2,217,500.00	
			CAPEX					
		Procure and equip motor-tricycle or van-based mobile clinic units with medical cabinets, cold boxes, essential drug kits, and basic diagnostic equipment.	Tricycle motorking	5	5	35000	875,000.00	
			medical equipment	5	5	9000	225,000.00	
			fridges	15	5	16500	1,237,500.00	
			coldboxes	5	5	2000	50,000.00	
			shringe and needles	10	5	70	3,500.00	
			vaccine carriers	20	5	500	50,000.00	
			BP Apparatus	2	5	400	4,000.00	
			cabinet for medication	20	5	2500	250,000.00	
			gauze(50yards)	50	5	70	17,500.00	
			cottonwool	50	5	60	15,000.00	
			detergents	30	5	50	7,500.00	
			essential drugs	50	5	300	75,000.00	
			SUBTOTAL				2,810,000.00	

1							
		COMPENSATION					
	Engage mobile clinic nurses, community health officers, and driver-technicians on structured outreach duty allowances.	Lunch pack	40	20	70	56,000.00	
		Snack and water	40	20	25	20,000.00	
		stationery	1	1	450	450.00	
		SUBTOTAL				76,450.00	
TOTAL							

ANNEX B: Longlist of Adaptation Option

AGRICULTURE ADAPTATION OPTIONS.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
1. Climate-Smart Varietal Choice & Seed Systems	Help farmers grow crops that can survive drought, heat, and changing rains; make improved seeds easy for women and youth to access.	- Introduce early-maturing, drought- and heat-tolerant crop varieties for cereals and legumes. - Establish women- and youth-managed seed banks and demonstration plots. - Promote staggered planting and varietal mixes guided by seasonal advisories.
2. Water Access for Dry-Season and In-Season Stabilization	To ensure year-round crop and livestock production by improving small-scale irrigation, water storage, and equitable water governance for all social groups.	- Deploy micro-irrigation technologies (treadle or solar pumps, drip kits). - Create inclusive water-user committees with seats for women and PWDs. - Introduce household rainwater harvesting systems for kitchen gardens and small livestock.
3. Soil-Moisture Conservation & Heat-Stress Reduction	To maintain soil fertility and moisture while reducing heat stress on crops through sustainable land management and agroforestry practices accessible to women and PWDs.	- Apply mulching, tied ridges, zai pits, and contour bunds to retain moisture. - Integrate shade trees such as shea and dawadawa on farmlands. - Conduct women-timed, PWD-accessible field schools and demonstrations.
4. Flood-Resilient Production Systems	Reduce crop loss during floods by using raised beds, good drainage, and quick replanting after water damage.	- Construct raised beds, feeder drains, and flood-tolerant rice and vegetable varieties. - Pre-position rapid-replanting seed and tool packs for vulnerable households.
5. Gender-Responsive Extension & Local Climate Information	To enhance farmers' adaptive capacity through timely, localized climate information and inclusive agricultural extension services tailored to gender and literacy needs.	- Disseminate localized advisories on rainfall, temperature, and heat alerts via radio and SMS in Dagbani. - Schedule women-only and mixed sessions at convenient times. - Use pictorial and voice-based materials for low-literacy farmer
6. Inclusive Land Access & Last-Mile Input Delivery	To strengthen women's and youth's participation in climate-smart agriculture by improving access to land, inputs, and training.	Facilitate simple written land-use agreements granting secure plots to women and youth.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
		- Establish community input kiosks and home-delivery for elderly and PWD farmers. - Combine input access with targeted CSA training.
7. Integrated Soil Fertility & Organic Resource Management	To restore soil health and sustain productivity through organic fertilizer use, composting, and legume-based cropping systems.	- Promote composting, manure management, and micro-dosing with women-friendly tools. - Encourage legume rotations and intercropping to enhance soil health.
8. Post-Harvest Loss Reduction & Safe Storage	To enhance food security and incomes by minimizing post-harvest losses through improved drying, storage, and preservation technologies.	- Provide hermetic bags, metal silos, and solar dryers to reduce spoilage. - Train women and youth processors in moisture testing and aflatoxin prevention. - Design storage facilities accessible to elderly and PWDs.
9. Women- & Youth-Led Value Addition and Market Resilience	To diversify livelihoods and stabilize household income by promoting climate-resilient agro-processing and access to structured markets.	- Establish hygienic processing centres for rice, shea, groundnut, and vegetables. - Facilitate group marketing contracts with institutions and urban buyers. - Pilot mobile aggregation for elderly and PWD producers.
10. Climate-Smart Pest, Disease & Bird Pressure Management	To safeguard crop yields under changing climatic conditions through early warning, eco-friendly pest control, and integrated pest management.	- Promote pest scouting calendars tied to rainfall and temperature shifts. - Encourage eco-friendly pest controls and safe pesticide handling. - Issue quick response alerts via SMS during outbreaks.
11. Labor-Saving & Accessible Technologies	To reduce physical strain and increase agricultural efficiency by introducing ergonomic and adaptive technologies for women, elderly, and PWDs.	- Distribute lightweight planters, ergonomic weeders, and small mechanization services. - Adapt tools for PWDs and provide solar lighting at processing sites. - Introduce shared service models for women's groups.
12. Heat-Health Protection Across the Farm Calendar	To protect farmers' health and productivity during extreme heat events through adjusted work schedules, shaded rest areas, and hydration practices.	- Adjust work hours to cooler periods and provide shaded rest shelters. - Ensure field water points and scheduled hydration breaks. - Train communities to recognize and prevent heat stress.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
13. Livestock Heat-Stress Mitigation & Welfare	To improve livestock productivity and survival by enhancing animal housing, ventilation, and water access during heat waves.	• Improve livestock housing for shade and ventilation. • Install water and cooling points near kraals. • Introduce heat-tolerant breeds and mineral supplements during hot months.
14. Year-Round Fodder & Water Security for Livestock	To ensure sustainable feed and water availability during dry periods through fodder cultivation, hay storage, and inclusive water management.	• Establish fodder plots, hay, and silage reserves near homesteads. • Maintain inclusive fodder banks with fair pricing for women and PWD keepers. • Protect and label accessible animal watering points.
15. Animal Health Calendars Aligned to Climate Signals	To strengthen animal health resilience by synchronizing vaccination and disease control with climatic patterns and forecasts.	• Schedule vaccination and deworming campaigns to precede dry spells and post-flood periods. • Train youth para-vets for local service delivery. • Circulate SMS/voice reminders in Dagbani for female and elderly livestock keepers.
16. Women-First Financial Inclusion & Risk Transfer	To empower women and youth through access to climate finance, savings groups, and weather-index insurance for agricultural risk management.	• Expand VSLAs with seasonal input loans and emergency funds. • Offer micro-credit for CSA equipment and solar irrigation. • Pilot simple weather-index insurance bundled with seed and fertilizer.
17. Accessible Mechanization & Service Hubs	To boost productivity and inclusivity by establishing shared mechanization centers designed to serve women, youth, and PWD farmers.	• Establish shared mechanization centres (planters, threshers, shellers) with women/youth quotas. • Ensure designs accommodate PWDs. • Provide off-peak service discounts for elderly farmers.
18. Youth Skills & Climate Entrepreneurship in Agri-Services	To harness youth innovation and employment potential in agri-technologies, irrigation, and animal health services.	• Train youth (including youth with disabilities) in pump repair, storage fabrication, and animal health services. • Integrate small-business modules linked to CSA technologies. • Encourage peer-to-peer awareness campaigns.

ECOSYSTEM AND BIODIVERSITY

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
1. Protect Essential Economic Trees (Shea/Dawadawa)	To preserve the critical natural assets that provide income, especially for women, against deforestation and overexploitation.	- Enforce local laws (bye-laws) with Traditional Leaders to stop the illegal cutting of Shea and Dawadawa trees for charcoal or firewood. - Provide subsidies for women's cooperatives to plant and maintain these trees on communal land. - Integrate the protection of these trees into the responsibilities of male landholders to secure the resource for all.
2. Establish Sustainable Energy Alternatives	To significantly reduce the high demand for wood fuel and charcoal, which is the primary driver of deforestation and resource loss.	- Provide training and subsidized, efficient cookstoves to women to cut down on firewood consumption and protect their respiratory health. - Offer business training and start-up funds to youth for selling and repairing clean energy products (solar kits, LPG), creating green jobs. - Implement a clear, phased plan to strictly regulate charcoal production in critical forest areas.
3. Community-Led Reforestation and Nurseries	To increase forest cover, stabilize degraded land, and build a local supply of climate-resilient seedlings.	- Establish and resource community tree nurseries (using drought-tolerant species), with women and youth groups managing the operations. - Organize annual tree-planting drives in degraded areas, offering short-term cash-for-work opportunities to the economically vulnerable. - Use simple mapping tools to monitor where trees are surviving, involving local elderly for site selection based on traditional knowledge.
4. Implement and Manage Bushfire Control	To prevent the recurring climate-linked bushfires that destroy vegetation, farmland, and community assets every dry season.	Create and equip Community Fire Patrol Teams (composed of men and youth) to establish firebreaks and respond rapidly to outbreaks.

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
		• Conduct intensive education campaigns targeting herdsmen and local charcoal producers on the severe penalties for setting unauthorized fires. • Develop and share a Community Bushfire Preparedness Calendar detailing restricted activities during the peak dry period (Jan-Apr).
5. Integrate Agroforestry on Farmlands	To enhance the ecological health of agricultural land, improve soil structure, and protect farms from erosion and high temperatures.	• Provide training and free seedling packages to male farmers on how to successfully plant economic trees within their food crop systems (agroforestry). • Encourage FHHs to plant fruit and fodder trees on homesteads to diversify nutrition and provide shade. • Use demonstration farms to show the economic benefits of combining trees with crops to convince skeptical farmers.
6. Conserve and Restore Riparian Zones	To protect the vital ecological habitats around water bodies (streams, dams) and improve the quality and flow of water resources.	• Use bio-engineering methods (planting indigenous grasses and shrubs) along stream banks to prevent soil erosion and sedimentation. • Form Youth Water Monitoring Teams to regularly inspect buffer zones and report illegal farming or waste disposal activities. • Engage Traditional Leaders to enforce sanctions against those who pollute or encroach on water buffer zones.
7. Inclusive Biodiversity Monitoring and Knowledge	To ensure all segments of the population contribute to and benefit from knowledge about the local environment.	• Run a "Biodiversity Storytelling Project" to record the traditional knowledge of the elderly and PWDs about medicinal plants and fauna behavior. • Train youth and women on simple, accessible methods for tracking changes in wildlife populations and reporting pest/disease outbreaks. • Ensure all collected ecological data is shared with the District Assembly Planning Unit for official land-use decisions.

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
7. Sustainable Management of Game and Fauna	To regulate hunting practices and protect local wildlife populations (a key resource) that are stressed by habitat loss and drought.	- Partner with local hunters (men) to create and abide by a sustainable hunting calendar and develop species protection zones. - Promote the shift to sustainable small livestock rearing (poultry, goats) as an alternative source of protein and income, reducing pressure on wild fauna. - Provide training on managing livestock health, as climate stress increases disease risks.
8. Restoration of Critically Degraded Land	To actively reclaim and heal areas damaged by severe erosion and poor land management practices.	- Implement large-scale earthworks (e.g., contour bunding, check dams) in erosion hotspots, using vulnerable women and men in "Cash-for-Work" repair projects. - Provide subsidized compost and soil enrichers to farmers working on degraded plots to boost natural recovery. - Promote the use of drought-tolerant, soil-enriching cover crops (like legumes) on bare and fallow land.
9. Develop Inclusive Green Entrepreneurship	To foster sustainable livelihoods that provide income without destroying natural assets, targeting the youth demographic.	- Provide vocational training and seed grants for youth to specialize in bee-keeping, honey production, and the sustainable harvesting of non-timber forest products (NTFPs). - Facilitate the creation of Women's NTFP Value Addition Cooperatives for processing shea butter, fruit, and medicinal herbs for better market access. - Offer business mentorship that prioritizes environmental sustainability over quick resource extraction.
10. Integrate PWDs and the Elderly in Asset Care	To ensure conservation programs leverage the skills of all residents, regardless of mobility limitations.	- Design specific, low-mobility tasks for PWDs and the elderly within community nurseries (e.g., sorting seeds, counting inventory, light watering). - Ensure all community conservation meetings are held in accessible locations with clear, simple communication formats.

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
		Establish a mentorship program where the elderly share traditional ecological wisdom with youth volunteers.
11. Mainstream Ecosystem Valuation in Policy	To ensure the economic and social value of ecosystems is formally recognized in District Assembly planning and budgets.	- Provide technical training to District Assembly staff on how to quantify the value of clean water, carbon storage, and storm protection provided by forests. - Develop an Ecosystem Services Management Plan that dictates resource allocation for natural asset maintenance. - Require all major development projects to include a component for mitigating impact on local biodiversity.

HEALTH SECTOR

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
1. Expand and Climate-Proof CHPS Coverage	Ensure health facilities remain functional and accessible during floods, droughts, and extreme heat.	- Construct new CHPS compounds in high-vulnerability communities (e.g., Kayong, Kpumi, Palari). - Retrofit existing facilities with heat-reflective roofing and flood-resistant foundations. - Install solar power and reliable backup water storage at all health facilities.
2. Mobile Health Units for Remote Communities	Deliver continuous healthcare to communities without CHPS compounds, particularly during floods and extreme heat.	- Deploy motor-tricycle or van-based mobile clinics covering remote routes like Zuro, Kayong, Nyentuo. - Schedule outreach on market days to serve women, children, and the elderly. - Stock essential medicines and first-aid kits during field visits.
3. Safe and Sustainable WASH for Health	Reduce waterborne disease and ease women's and girls' water collection burden.	- Drill solar-powered mechanized boreholes in water-stressed and saline areas. - Install rainwater harvesting at schools and health centres. - Construct lined drains and soakaways around health sites to prevent stagnant water.
4. Climate-Sensitive Disease Surveillance and Rapid Response	Detect and control disease outbreaks linked to climate variability (malaria, diarrhoea, heat stress).	- Integrate climate-linked case tracking into CHPS records. - Train health staff to interpret GMet forecasts for malaria or meningitis peaks. - Pre-position rehydration salts, ITNs, and antimalarials before hot or rainy seasons.
5. Localized Health Early Warning and Information Systems	Enable communities to receive timely, actionable climate-health alerts.	- Translate flood, drought, and heat alerts into Dagbani and broadcast via local FM stations. - Use women's group leaders and town criers to share messages with households without radios.
6. Community Emergency Transport and Referral Network	Overcome long distances and poor roads during medical emergencies, especially for pregnant women and the elderly.	- Form local transport volunteer groups managing tricycles or pickups for emergency referrals. - Provide contact lists at community notice boards for immediate access. - Offer fuel support or vouchers for vulnerable households during floods.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
7. Women-Led Health and Hygiene Committees (HHCs)	Empower women to lead local health promotion and WASH governance.	- Establish women-managed health and hygiene committees to oversee community sanitation and water points. - Provide training in hygiene promotion, waste management, and climate-health advocacy. - Integrate indigenous women's knowledge of herbal and water-conservation practices into local health plans.
8. Mental Health and Psychosocial Support	Address climate-related trauma and chronic stress among caregivers and displaced households.	- Train community volunteers and teachers in basic psychosocial first aid. - Integrate counselling and safe discussion spaces within CHPS outreach. - Partner with faith leaders and social welfare to assist families facing climate-induced losses.
9. Health Education on Heat, Hygiene, and Nutrition	Increase knowledge of preventive care in response to local climate and food insecurity risks.	- Conduct targeted radio and community campaigns on heat-stress prevention and hygiene in Dagbani. - Link nutrition education with home gardens and local foods to reduce child malnutrition during droughts. - Hold clean-up and handwashing demonstrations in schools and markets.
10. Inclusive Health Access for Persons with Disabilities (PWDs)	Ensure PWDs can access health services and information before, during, and after climate events.	- Retrofit existing health facilities with ramps, wide doors, and accessible latrines. - Train mobile health teams to communicate effectively with PWDs. - Collect and track health data disaggregated by disability and gender.
11. Strengthen Institutional Coordination and Financing	Sustain collaboration between health, WASH, NADMO, and agriculture to respond efficiently to climate-related health risks.	- Create a District Health and Climate Working Group to align adaptation actions and funding priorities. - Train district staff on accessing climate-health financing (GCF, AF).
12. Establish Community Health Volunteers (CHVs) and Local Surveillance Points	Fill service delivery gaps and strengthen local disease monitoring.	- Recruit and train CHVs (men and women) to track malaria, diarrhoea, and heat illness cases. - Equip them with first-aid kits and thermometers. - Create simple phone-based or radio reporting channels to CHPS supervisors.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
13. Promote Climate-Resilient Waste Management	Reduce pollution and health risks from open dumping, especially after floods.	• Introduce organized waste collection points in Sang and Nyentuo markets. • Train youth groups in composting and recycling. • Conduct seasonal clean-up campaigns before the rainy season.
14. Build Local Emergency Preparedness and Recovery Plans	Prepare communities for health emergencies caused by climate shocks.	• Develop simple flood and heat emergency response maps for each subzone. • Train women's groups, PWD representatives, and youth in first aid and household preparedness. • Stock emergency kits (water purification tablets, ORS, insect repellent) at community halls.

WATER RESOURCES

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
1. Establish Deep Groundwater Access & Protection	To ensure dependable, year-round access to safe domestic water, reducing scarcity and the walking burden on women and girls.	- Construct deep, solar-powered mechanized boreholes in drought-prone communities (e.g., Zuro, Kayong, Kpumi). - Mandate accessible design (ramps, proper pump height) for PWDs and elderly users. - Conduct hydrogeological assessments to identify sustainable, climate-resilient aquifers and recharge zones for long-term use.
2. Maximize Floodwater Harvesting (RWH)	To capture and store erratic rainfall for domestic and productive uses while minimizing dependence on unsafe surface sources.	- Promote household and institutional rainwater harvesting (RWH) systems in schools, CHPS compounds, and markets. - Train women's groups and youth artisans in constructing durable ferro-cement or polytank systems. - Establish RWH demonstration centers for hands-on training in purification and maintenance.
3. Water for Climate-Smart Livelihoods	To secure water for diversified agricultural and livestock activities that sustain both men's and women's livelihoods.	- Rehabilitate existing community dams and dugouts for irrigation and livestock watering. - Introduce affordable small-scale irrigation kits (solar drip, treadle pumps) prioritizing female-headed households. - Develop community-managed livestock watering points to reduce conflicts and pressure on single boreholes.
4. Integrated Catchment and Ecosystem Management	To prevent soil erosion and protect water sources from degradation caused by floods and uncontrolled land use.	- Demarcate and protect 30–50 m buffer zones around dams, streams, and riverbanks. - Promote agroforestry (e.g., shea, dawadawa) and stone bunding to stabilize slopes. - Partner with youth and forestry units to replant degraded riparian zones.
5. Gender-Equitable and Inclusive Water Governance	To empower women, youth, and PWDs in local water decision-making and ensure fair water allocation during scarcity.	- Establish women-led WASH committees (WASHCOMs) with at least 50 % female membership. - Include youth and PWD representatives in planning, monitoring, and tariff-setting processes. - Adopt transparent water allocation rules that prioritize domestic use for vulnerable households during drought.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
6. Sustainable Financing for Water Systems	To ensure long-term maintenance of boreholes, pumps, and RWH systems through locally managed funding.	• Implement community-based user-fee systems with clear recordkeeping. • Form VSLAs dedicated to water-point maintenance and replacement of spare parts. • Build the capacity of District WASH officers to develop proposals for external climate-water financing (GCF, Adaptation Fund).
7. Climate-Health Water Quality Assurance	To safeguard community health, especially for children, elderly, and PWDs exposed to saline and contaminated water.	• Conduct quarterly water quality tests (salinity, E. coli, turbidity) and post results publicly at CHPS and markets. • Distribute household ceramic or biosand filters to poor households in salinity-prone communities (e.g., Kpumi). • Run health education campaigns led by women health volunteers on safe storage and avoiding stagnant or saline sources.
8. Emergency Drought and Water-Scarcity Reserves	To create equitable backup water options during prolonged dry spells or system breakdowns.	• Establish drought-reserve boreholes or tanks in strategic communities (e.g., Palari, Kpumi) accessible only during declared emergencies. • Develop a Drought Contingency Plan specifying rationing rules, priority users (children, elderly, PWDs), and communication procedures. • Train water committees to activate reserve protocols during critical shortages.
9. Green Jobs in Local Water Services	To create skilled employment and local maintenance capacity while improving sustainability of water systems.	• Collaborate with vocational institutions to certify youth (men and women) as pump mechanics, solar technicians, and plumbers. • Support youth cooperatives to provide paid maintenance and RWH installation services. • Involve trained youth in participatory water monitoring and mapping using simple GPS tools.
10. Water-Specific Climate Information Services	To equip local managers and households with actionable weather and hydrological information.	• Formalize collaboration between GMet, the District Assembly, and CWSA for seasonal water forecasts. • Translate rainfall and drought forecasts into simple visuals (charts, pictograms) for public display at community centers.

ADAPTATION MEASURE	ADAPTATION OBJECTIVE	KEY ACTIONS
		• Train WASH committees to interpret forecast data for dam management, irrigation timing, and conservation messaging.
11. Infrastructure Protection from Wind and Erosion Damage	To reduce structural damage to water systems caused by intense windstorms and erosion.	• Construct windbreaks and reinforced shelters for solar pump components. • Use gabions and stone pitching to stabilize exposed slopes near dams and borehole platforms. • Enforce quality construction standards for all elevated storage tanks and water towers.
12. Universal Accessibility and Mobility for Water Collection	To ensure equitable access for all users, particularly women carrying loads, elderly persons, and PWDs.	• Retrofit existing boreholes with ramps, graded paths, and non-slip platforms. • Train operators to assist users with mobility limitations and manage queues fairly. • Allocate DACF budget for annual maintenance of accessibility features and connecting paths.

INFRASTRUCTURE AND ASSESTS

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
1. Climate-Proof Road Networks & Bridges	To ensure year-round mobility, market access, and reliable emergency response during and after extreme rainfall and flooding events.	- Upgrade all critical feeder roads and market access routes (e.g., in Kayong, Dijeo) using permeable surfaces and durable materials to withstand waterlogging. - Rehabilitate or construct new bridges and culverts with increased height and capacity (climate-proof design) to handle projected high-intensity runoff. - Implement routine, community-led monitoring and maintenance programs for roads, providing income for local youth groups.
2. Develop Flood-Resilient Drainage Systems	To protect community assets (homes, farms, local markets) and minimize property damage caused by waterlogging and localized flooding.	- Design and construct integrated storm drainage channels and retention ponds in flood-prone community centers (e.g., Nyentuo, Zuro). - Implement bio-engineering solutions (e.g., vegetated ditches and swales) to slow runoff, encourage infiltration, and reduce erosion damage to surrounding infrastructure. - Map all flood pathways and enforce building setbacks from vulnerable watercourses to protect assets.
3. Build Climate-Resilient Community Facilities	To ensure critical social services remain operational during and immediately after climate hazards, prioritizing vulnerable groups' access.	- Climate-proof and retrofit existing CHPS compounds, schools, and local Assembly offices with storm-resistant roofing, elevated floors, and robust foundations against flooding and high winds. - Install solar power and RWH systems in all public facilities to ensure continuous power and water supply during infrastructure disruptions. - Equip selected facilities as multi-hazard evacuation and shelter centers, ensuring they are universally accessible (PWD ramps/facilities).

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
4. Promote Resilient Housing & Asset Protection	To reduce household vulnerability to structural damage from rainstorms, extreme heat, and high winds, protecting private assets.	- Promote the use of local, durable, and thermal-efficient building materials (e.g., stabilized earth blocks) to insulate homes against extreme heat. - Provide subsidies or revolving micro-loans for female-headed households (FHHs) and the elderly to invest in storm-resistant roofing and foundation reinforcement. - Train local masons and artisans (including youth/women) in eco-construction and climate-proofing techniques.
5. Strategic Storage & Post-Harvest Protection	To safeguard agricultural inputs, harvested crops, and livestock feed/assets from heat, pests, and post-harvest loss due to climate stress.	- Construct small, elevated, rodent-proof community storage facilities with adequate ventilation to minimize post-harvest losses from humidity and heat (critical for male farmers' primary assets). - Provide training and small grants to FHHs for acquiring heat-resistant mobile storage containers for processed goods (shea butter, groundnuts). - Develop dedicated, climate-proof shelters for livestock during severe weather events (rainstorms/floods).
6. Community-Based Early Warning Systems (EWS)	To enable timely action and asset protection by all community members, particularly those with reduced mobility (elderly, PWDs).	- Establish a decentralized EWS focused on flash floods and high winds, utilizing community radio, town criers, and mobile SMS alerts. - Appoint and train local youth and women as EWS focal points to interpret warnings and lead community communication and response efforts. - Develop simple, accessible action checklists for the elderly and PWDs to secure their homes and assets when a warning is issued.
7. Financial Mechanisms for Asset Recovery	To establish systems that support rapid, equitable recovery and rebuilding for households whose assets are damaged by climate hazards.	Facilitate access to micro-insurance products for smallholder farmers and petty traders to cover losses of crops, livestock, and small assets from extreme events.

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
		- Create a District Adaptation Revolving Fund for emergency repairs to damaged infrastructure (e.g., public boreholes, market roofs). - Partner with MASLOC to provide low-interest loans specifically for climate-resilient home repairs and asset replacement.
8. Strengthen Electricity & Communications Resilience	To ensure continuity of essential services (health, water, education) and access to information during weather-related power outages.	- Elevate critical utility poles and transmission lines in flood-prone areas to prevent service disruption during floods. - Promote the use of small, standalone solar kits in rural households and businesses as a reliable backup power source (reducing vulnerability for all groups). - Invest in robust community radio transmitters capable of functioning during power outages to broadcast safety information and warnings.
9. Promote Local Infrastructure Job Creation	To provide green employment for youth and other marginalized groups through sustained infrastructure maintenance and construction activities.	- Establish a certified training program for youth in climate-proof construction skills, road maintenance, and culvert installation. - Ensure local women-led cooperatives are contracted for maintaining public spaces, drainage systems, and green infrastructure (e.g., community park development). - Implement a "Cash-for-Work" program for infrastructure repair immediately following major flood events, prioritizing the economically vulnerable.
10. Protect Educational Infrastructure Access	To ensure children's education is not interrupted by climate hazards and that school access is maintained for all students, including PWDs.	- Build elevated, all-weather footpaths and accessible ramps leading to school facilities, addressing issues of impassable roads during the rainy season. - Ensure school kitchens and sanitation blocks are climate-proofed against flooding and connected to reliable, clean water access (protecting the health of girls and staff).

ADAPTATION MEASURE	ADAPTATION OBJECTIVES	KEY ACTIONS
		Develop temporary learning centers (TLCs) protocols for use when schools are damaged or inaccessible due to climate events.
11. Conserve Key Natural Assets (Shea/Dawadawa)	To protect the natural assets that support women's core economic activities and provide ecological stability against heat and erosion.	- Develop and enforce community bye-laws to protect shea and dawadawa trees from charcoal burning and bushfires (key natural assets for women's livelihoods). - Promote agroforestry that integrates these species into farming systems (male farmers' land) to enhance ecological resilience and asset protection. - Provide secure land-use agreements that incentivize the elderly and traditional leaders to actively protect these high-value trees.

ANNEX C: Detailed Indicator Matrix for Monitoring, Evaluation and Learning

This annex presents the core indicators for tracking implementation, financial performance, inclusion, and outcomes under the Mion District Climate Adaptation Plan. The matrix defines each indicator, specifies its data source, assigns institutional responsibility, and outlines reporting frequency, ensuring consistency and usability across the fifteen priority adaptation actions.

Table A1: CAP Indicator Matrix for Mion District

Indicator Category	Indicator	Definition	Data Source	Responsible Unit	Frequency
Implementation	% of priority actions implemented	Proportion of the fifteen planned actions completed within the reporting period	Departmental progress reports	MPCU / Sector Departments	Quarterly
	% of actions implemented on schedule	Share of actions completed within planned timelines	Work plans; progress reports	MPCU	Quarterly
Financial	% of budget disbursed	Share of allocated CAP budget released for implementation	Financial records	Finance Department	Quarterly
	% of funds utilised	Proportion of disbursed funds spent on planned activities	Financial reports; audits	Finance Department	Quarterly
	Variance against indicative cost	Difference between actual costs and Chapter Four estimates	Procurement records; costing sheets	MPCU / Finance	Quarterly
	Unit cost of key outputs	Average cost per borehole, per ha restored, per training session, per outreach visit	Costing sheets; financial data	MPCU / Finance	Annual
Gender & Inclusion	% of beneficiaries who are women	Share of direct beneficiaries who are female	Beneficiary records; surveys	Social Welfare / Sector Depts	Quarterly
	% of beneficiaries from vulnerable groups	Share of beneficiaries who are youth, PWDs, or from female-headed households	Surveys; community records	Social Welfare / MPCU	Quarterly
	% of WSMTs / HHCs with ≥50% female membership	Compliance with gender inclusion targets	WSMTs and HHC minutes	Social Welfare; CWSA; DHD	Bi-annual

Indicator Category	Indicator	Definition	Data Source	Responsible Unit	Frequency
Infrastructure	% of infrastructure functional after 12 months	Proportion of boreholes, retrofitted facilities, and EWS sirens still operational	Field inspections; maintenance reports	Works / CWSA / NADMO	Annual
	% of infrastructure maintained according to plan	Share of infrastructure receiving scheduled maintenance	Maintenance logs	Works / CWSA	Annual
Livelihoods	% yield maintained during drought	Change in yield among CSA adopters compared with non-adopters	MoFA surveys	Department of Agriculture	Annual
	% reduction in post-harvest losses	Change in losses among beneficiaries	Household surveys	Department of Agriculture	Annual
	Hectares under soil conservation	Total hectares under contour bunding, check dams, cover crops	Field reports	Agriculture / Forestry	Annual
	% of beneficiaries adopting CSA practices	Share of trained farmers applying CSA techniques	Extension reports; surveys	Department of Agriculture	Annual
Service Delivery	Number of functional boreholes established	Count of operational solar-mechanised boreholes in hotspot communities	Borehole logs	CWSA / WATSAN	Quarterly
	Outreach visits by Mobile Health Units	Count of visits to Zuro, Kayong, Nyentuo and other remote communities	Mobile unit logs	District Health Directorate	Quarterly
	% of households reached by health education	Share of households engaged in Dagbani-language campaigns	Campaign reports	DHD / Environmental Health	Quarterly
Ecosystem	Trees planted and survival rate	Total trees planted and % surviving at 12 and 24 months	Survival registers	Forestry Commission	Annual
	Kilometres of riparian buffer demarcated	Length of buffer zones protected	WRC inspections	Forestry / WRC	Annual

Indicator Category	Indicator	Definition	Data Source	Responsible Unit	Frequency
	Hectares of degraded land reclaimed	Total hectares under active restoration	Land condition surveys	Agriculture / Forestry / DA	Annual
Early Warning	% of households receiving timely alerts	Share receiving advance warning before hazard events	NADMO alert logs; community surveys	NADMO	After each event; annual
Outcome	Reduction in reported climate-related losses	Change in frequency or severity of losses (crop failure, flood damage, outbreaks)	Community surveys; NADMO data	MPCU / NADMO	Annual
	% of households reporting improved resilience	Share of households reporting improved capacity to cope with climate shocks	Household surveys	MPCU / SIGRA support	Annual
Capacity	Number of staff trained in adaptation planning and costing	Count of MPCU and sector staff trained through CAP processes	Training records	MPCU / SIGRA	Annual
	Number of certified youth water technicians	Count of youth certified in pump and solar system maintenance	Certification records	Works / NVTI	Annual
	Application of skills in planning processes	Evidence of adaptation costing and integration in DMTDP/AAP	Planning documents	MPCU	Annual

This matrix enables structured and gender-responsive tracking of CAP delivery, ensuring accountability, adaptive management, and alignment with SIGRA, NAP, and SDG reporting requirements.

ANNEX D: Practical Costing and Financial Planning Guide for District Climate Adaptation Actions

Purpose of This Guide

This guide provides practical support to MPCU and sector department staff in Mion District for preparing, reviewing, and updating cost estimates for climate adaptation actions under the CAP. It builds on the participatory costing approach applied during the Mion district adaptation workshops and is designed to ensure that future costing exercises are:

- Consistent with CAP methodology;
- Aligned with the District Composite Budget and DMTDP cycles;
- Usable for financing and implementation planning with SIGRA, GCF, Adaptation Fund, and GEF.

The guide moves beyond basic cost estimation to support activity-based costing, financial planning, and implementation readiness.

Step 1: Define the Adaptation Action Clearly

Costing must start from a precisely specified intervention.

- “Improve water access”
- “Construct and mechanise five deep solar-powered boreholes in Zuro, Kpumi, Kayong, and Nyentuo over three years, supported by WSMTs with at least 50 per cent female membership”

Checklist:

- What exactly will be implemented?
- Which communities and beneficiary groups are targeted, with gender and disability breakdown?
- What is the implementation timeframe?
- What climate risk identified in the CRVA is being addressed?

Step 2: Break Actions into Implementation Components

Each action should be decomposed into standardised operational components, consistent with the CAP methodology:

Component Type	Description
Preparatory activities	Hydrogeological surveys; community consultations; design; baseline assessments
Capital investments	Infrastructure; equipment (solar pumps, sirens, cold-chain units); inputs (seeds, seedlings)
Operational activities	Training; extension; community mobilisation; outreach delivery
O&M requirements	Maintenance; spare parts; recurrent service delivery
MEL provisions	Monitoring; supervision; community feedback; evaluation

This structure ensures clarity and prevents systematic under-costing, particularly for O&M expenditures that are often omitted.

Step 3: Estimate Quantities and Phasing

Define:

- Quantities (for example, number of boreholes, trainings, nurseries, outreach visits);

- Frequency (annual or quarterly);
- Phasing across Years 1 to 3, aligned with CAP Phase 1 hotspot targeting and subsequent scale-up.

Step 4: Apply Context-Specific Unit Costs

Use:

- Recent Mion District project data, including DACF projects and past NGO interventions;
- CWSA, Works Department, and MoFA unit cost benchmarks;
- SIGRA and EPA-Ghana guidance;
- Comparable Northern Region programme costs.

Where uncertainty exists, apply cost ranges rather than single-point estimates.

Step 5: Develop Cost Ranges and Totals

Avoid false precision. Apply low–high ranges across components:

Item	Low Estimate (GH¢)	High Estimate (GH¢)
Solar-mechanised borehole (drilling + pump + tank, per unit)	60,000	80,000
CSA training session (per session)	10,000	15,000
Community nursery (annual operation)	60,000	80,000
EWS siren installation (per community, complete system)	150,000	200,000
Solar PV retrofit for CHPS/school (per facility)	80,000	120,000
Hermetic storage bag (per bag)	80	120
Metal silo, 250 kg capacity (per unit)	800	1,200
Motor tricycle, equipped for mobile health (per unit)	300,000	500,000

Aggregate costs across components to produce annual estimates and three-year totals consistent with CAP planning horizons.

Step 6: Integrate Financing Considerations

Each costed action must be linked to realistic financing pathways set out in Chapter Five. For each action:

- Identify primary and secondary funding sources (DACF, DDF, SIGRA, GCF, AF, GEF, and partners);
- Determine whether costs can be phased;
- Assess co-financing opportunities and community contributions (labour, land, tariffs).

This ensures that costing supports resource mobilisation rather than planning alone.

Step 7: Assign Institutional Responsibilities

Each costed action specifies:

- Lead department (as identified in Chapter Four);
- Supporting institutions;
- Implementation, supervision, and reporting roles.

This reinforces accountability and reduces implementation delays.

Step 8: Incorporate Gender and Inclusion Costs

Explicitly budget for:

- Targeted outreach to women, youth, and persons with disabilities;
- Accessibility features, such as ramps and appropriate pump heights;
- Dagbani-language IEC materials;
- Community mobilisation for female-headed households.

These costs must be budgeted explicitly and not assumed as zero-cost contributions.

Step 9: Include Operations and Maintenance

O&M costs are essential for sustainability. Each costed action must include:

- Annual maintenance costs for solar pumps, vehicles, cold-chain equipment, and EWS sirens;
- Institutional responsibility for upkeep, assigned across WSMTs, Works, NADMO, and the District Health Directorate;
- Risks of O&M underfunding.

Omitting O&M leads to asset degradation and the loss of investment value, a particularly critical consideration for the solar water systems, Mobile Health Units, and EWS equipment deployed under the Mion CAP.

Step 10: Conduct a Basic Economic and Feasibility Check

Before finalising each costed action:

- Does the action reduce the climate-related losses identified in the CRVA?
- Are benefits likely to justify the costs?
- Is implementation feasible within current MPCU and sector capacity?
- Can the action be scaled or replicated across other Mion communities?

This aligns costing with value-for-money considerations required for climate finance submissions.

Sample CAP Costing Template

Component	Quantity	Unit Cost (GHS)	Year 1	Year 2	Year 3	Total (GHS)
Infrastructure (boreholes)	5 units	130,000	260,000	260,000	130,000	650,000
WSMTs training	3 sessions	12,000	36,000	36,000	36,000	108,000
O&M (annual)	Annual	–	20,000	20,000	20,000	60,000
MEL and supervision	Lump sum	–	15,000	10,000	10,000	35,000
Total						853,000

How This Guide Should Be Used

This guide should be applied during:

- DMTDP preparation and updates;
- Annual Action Plan and Composite Budget cycles;
- CAP revisions and the Year 3 costing update;
- Climate finance proposal development for GCF, Adaptation Fund, and GEF;
- District budgeting and resource mobilisation processes.