FP002

Saving Lives and Protecting Agriculture-based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning systems (M-CLIMES)

Malawi

February, 2025

Final Evaluation Report

This report presents the Final Evaluation of the Green Climate Fund (GCF)-funded project Saving Lives and "Protecting Agriculture-based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning systems (M-CLIMES)". The evaluation was independently commissioned by the Accredited Entity (AE), UNDP, and submitted to GCF. GCF assumes no responsibility for the accuracy of the







Final Evaluation of the UNDP supported GCF financed M-CLIMES project

Final report

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Acronyms and Abbreviations

AWS	Automated Weather Station
CBEWS	Community-Based Early Warning System
CF	Climate Finance
COP	Conference of the Parties
CRSAP	Climate Resilience and Sustainable Agriculture Program
DAC	Development Assistance Committee
DCCMS	Department of Climate Change and Meteorological Services
DoDMA	Department of Disaster Management Affairs
DWR	Department of Water Resources
EBA	Ecosystem-Based Adaptation
EWS	Early Warning System
FAA	Funded Activity Agreement
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GCF	Green Climate Fund
GHG	Greenhouse Gas
GIS	Geographic Information System
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IIED	International Institute for Environment and Development
KIIs	Key Informant Interviews
LDC	Least Developed Country
M&E	Monitoring and Evaluation
MoAIWD	Ministry of Agriculture, Irrigation, and Water Development
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NCCMP	National Climate Change Management Policy
NGO	Non-Governmental Organization
NSO	National Statistical Office
NRS	National Resilience Strategy
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
R&D	Research and Development
SDGs	Sustainable Development Goals
SMS	Short Messaging Service
SSA	Sub-Saharan Africa
TE	Terminal Evaluation
ToC	Theory of Change
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WFP	World Food Programme
WHO	World Health Organization
WRM	Water Resource Management
WWF	World Wildlife Fund

1. Executive Summary

Project Information

PROJECT INFORMATION			
Project Title:	Ensuring climate resilient water supplies in the Comoros Islands		
Country	Malawi	**Date Project Coordination and Project Managers hired:**	
UNDP Social and Environment Screening Category		**UNDP Gender Marker:**	
Quantum Project number:	00104333	**Quantum Award ID:**	00105952
UNDP-PIMS ID number:	PIMS 5710	**GCF ID number:**	FP 002
Project Start Date:	2019	**Planned end date (completion date):**	2024
GCF Results Area	A2.0		
Mitigation / adaptation focus	☐Mitigation ☒Adaptation ☐Cross-cutting		
National designated authority			
Accredited entity	United Nations Development Programme		
Executing entity / beneficiaries.			
Other Executing Partners:			

Project Financing	At approval of funding proposal	At Final Evaluation
[1] GCF Grant:	12,294,545	12,294,545
[2] UNDP Contribution:	1,800,000	1,800,000
[3] Government co-Financing:	2,170,000	2,170,000
[4] Total Co-financing [2+3]	3,970,000	3,970,000
[6] Project Total costs [1+5]:	16,264,545	16,264,545

Table 1: Project Information Table

Project description

The M-CLIMES (Scaling Up the use of Modernised Climate Information and Early Warning Systems) project was initiated with the primary goal of strengthening Malawi's climate resilience by improving the country's ability to respond to climate-related risks through enhanced climate information services and early warning systems. Funded by the Green Climate Fund (GCF) and implemented by the United Nations Development Programme (UNDP) in close collaboration with the Government of Malawi, the project was designed to directly benefit vulnerable communities, particularly those dependent on agriculture and fisheries, by improving their access to timely, accurate and tailored climate information.

Malawi is highly vulnerable to the impacts of climate change, including increasing frequency and intensity of floods, droughts, and other extreme weather events. The agricultural sector, which forms the backbone of the country's economy, is especially susceptible to these climatic changes, affecting food security and livelihoods. Recognizing these vulnerabilities, the M-CLIMES project aimed to improve climate information systems and disaster preparedness through a range of interventions. These included the installation of hydro-meteorological equipment, the establishment of community-based early warning systems (EWS), and capacity-building programs designed to enhance the ability of local institutions and communities to anticipate and respond to climate risks.

The project had three expected outputs;

1. Expansion of observation networks that generate climate-related data to save lives and safeguard livelihoods from extreme climate events
2. Development and dissemination of products and platforms for climate-related information/services for vulnerable communities and livelihoods
3. Strengthening communities' capacities for use of EWS/CI in preparedness for response to climate-related disaster

The project targeted multiple districts across Malawi, particularly in regions most prone to floods, droughts, and other climatic shocks. It aimed to integrate modern climate information systems into national governance structures, working closely with institutions such as the Department of Disaster Management Affairs (DoDMA), the Department of Climate Change and Meteorological Services (DCCMS), and the Department of Water Resources (DWR).

The M-CLIMES project was designed to run from 2017 to 2023, with a total budget of $16,264,545, including $12,294,545 from GCF and co-financing from UNDP and the Government of Malawi. The project adopted a participatory approach, engaging communities, government bodies, NGOs, and international organizations like FAO and WFP, in its efforts to build a climate-resilient future for Malawi.

Project progress summary

The M-CLIMES project, designed to enhance climate resilience in Malawi through the implementation of community-based early warning systems (EWS), climate-resilient agricultural practices, and strengthening institutional capacity, has achieved significant progress throughout its implementation. Despite facing logistical challenges, delays, and external disruptions like the COVID-19 pandemic, the project has made notable strides in building climate resilience and enhancing the adaptive capacity of vulnerable communities in Malawi.

A key achievement of the M-CLIMES project was the establishment of community-based EWS in 21 sites across eight flood-prone districts, surpassing the initial target of 115,000 beneficiaries. These systems have

benefited over 325,000 people by improving the timely dissemination of climate information and enhancing preparedness for floods and other climate-related disasters. However, logistical barriers, particularly in reaching remote areas, limited the early-phase effectiveness and reach of the EWS infrastructure. These delays impacted on the distribution of early warning messages, especially during critical periods. At national level improvements to disaster management was through expansion of the flood forecasting system, Operational Decision Support System (ODSS), covering the Bua and Linthipe river catchments. The system integrates meteorological, hydrological, and hydraulic data to monitor river levels and generate short-term flood forecasts and warnings, supporting decision-makers in issuing early warnings. The DWR flood control room, central to monitoring river levels and issuing alerts, was upgraded with LAN/internet infrastructure, ICT equipment, and a power backup system to ensure continuous flood management operations. Additionally, capacity building of DWR staff aimed at strengthening sustainability of the installed hydro equipment and hydro -data management.

The project made substantial contributions to expanding the hydro-met infrastructure in Malawi through the procurement of additional equipment, especially for the Department of Climate Change and Meteorological Services (DCCMS) and the Department of Water Resources. The installation of 33 automated weather stations (AWS), 37 automated hydro stations, 8 lightning detection and warning systems (LDS) spread across Malawi, 2 lake-based weather buoys and a weather data integration and processing system. These systems significantly increased the national capacity to collect real-time climate data, which is crucial for disaster preparedness and long-term climate adaptation planning. This expansion of the hydromet network strengthened Malawi's ability to monitor weather patterns and issue timely warnings, particularly for flood-prone areas. Apart from equipment, the project also conducted training programs to enhance staff capacity for implementing and maintaining hydromet equipment. A total of 226 DCCMS staff (30% women) were trained in downscaling seasonal forecasts to district levels, as well as interpreting and disseminating these forecasts. They played a key role in communicating rainfall forecasts across 28 districts in Malawi.

A key achievement of the M-CLIMES project was enhancing access to tailored climate information for farming and fishing communities. In partnership with organizations like FAO and WFP, the project downscaled national climate forecasts to district and sub-district levels. Beyond training, it supported DCCMS in establishing the Climate and Weather Information System (WIMES), a web platform providing area-specific climate information. This includes short-term agro-weather forecasts for farmers, daily weather alerts for fishers, and weekly forecasts for fish processors. An ICT platform was also developed to disseminate crop and area-specific agro-weather advisories, reaching over 100,000 smallholder farmers across 14 districts via SMS. These efforts delivered localized, actionable climate guidance to farmers and fishers, aiding agricultural planning and ensuring safety on Lake Malawi. The initiative strengthened food security, improved livelihoods, and safeguarded vulnerable communities dependent on agriculture and fisheries..

The project promoted adopting climate-resilient agricultural practices, including using drought-tolerant crops and conservation agriculture techniques, through a novel extension approach called Participatory Integrated Climate Services for Agriculture (PICSA). Farmers who adopted these practices reported a 20-30% increase in crop yields, improving food security and agricultural productivity. In addition to agricultural gains, the project's capacity-building efforts successfully trained both hydro-met staff and community actors in operating and maintaining climate information services and EWS. However, the full realization of these capacity-building efforts was hindered by high turnover among trained staff and insufficient ongoing support to local governments.

A strong emphasis was placed on engaging women in climate resilience activities. The project provided targeted training on climate-smart agricultural practices and water conservation techniques, and women made up 55% of the project's beneficiaries. This increased female participation led to greater decision-making power for women in both household and community settings. Despite these gains, the project's impact on gender equality was somewhat constrained by structural barriers that restrict women's access to resources and decision-making platforms and limited follow-up support after training sessions.

Institutional involvement was a crucial component of the project's design, with key government institutions such as the DCCMS and DoDMA actively implementing climate information services. However, gaps in institutional capacity—exceptionally high staff turnover and inconsistent support from local governance structures brought challenges to ensuring project outcomes' long-term sustainability. Stakeholder coordination improved, but maintaining consistent institutional engagement and retaining knowledge within local institutions remained challenging.

Logistical barriers and delays in fund disbursement also affected the project's implementation. These delays hindered the timely installation of infrastructure, including EWS, reducing the overall effectiveness of early warning messages in the early stages. Additionally, the reliance on subscription-based ICT platforms for climate information dissemination added ongoing costs, which somewhat reduced the project's cost efficiency. Despite these obstacles, the project effectively leveraged local institutions and minimized administrative overheads to optimize the use of available resources.

The project's environmental impact has been largely positive, with the promotion of sustainable land and water management practices leading to improved environmental resilience. The interventions are expected to have long-lasting benefits, particularly in reducing soil degradation, improving water retention, and increasing crop yields. However, ongoing environmental monitoring and adaptive management will be necessary to sustain these gains, particularly as climate variability and extreme weather events pose ongoing risks to the infrastructure and agricultural systems established by the project.

Evaluation rating table

Monitoring & Evaluation (M&E)	Rating[1]
M&E design at entry	Satisfactory (S)
M&E Plan Implementation	Satisfactory (S)
Overall Quality of M&E	Satisfactory (S). The M&E framework was well-designed and provided valuable insights for adaptive management. However, more robust follow-up mechanisms would have improved data collection on long-term impacts.
Implementation & Execution Rating	Rating
Quality of UNDP Implementation/Oversight	Satisfactory (S) UNDP provided effective oversight and technical support, ensuring alignment with global standards for climate resilience. However, initial coordination challenges and delays in fund disbursement impacted the timely implementation of project activities. Improved real-time problem-solving mechanisms could have mitigated these issues more effectively.
Quality of Implementing Partner Execution	Moderately Satisfactory (MS) The implementing partners, including key national institutions like DoDMA and DCCMS, contributed positively to the project's

[1] Outcomes, Effectiveness, Efficiency, M&E, I&E Execution, Relevance are rated on a 6-point rating scale: 6 = Highly Satisfactory (HS), 5 = Satisfactory (S), 4 = Moderately Satisfactory (MS), 3 = Moderately Unsatisfactory (MU), 2 = Unsatisfactory (U), 1 = Highly Unsatisfactory (HU). Sustainability is rated on a 4-point scale: 4 = Likely (L), 3 = Moderately Likely (ML), 2 = Moderately Unlikely (MU), 1 = Unlikely (U)

	progress, especially in coordinating climate information services. However, high staff turnover and limited capacity at the local government level reduced the overall execution efficiency, highlighting a need for stronger institutional capacity-building efforts.
Overall quality of Implementation/Execution	Moderately Satisfactory (MS) The overall implementation was moderately successful, with significant progress made in climate information dissemination and early warning systems. However, delays due to logistical challenges, issues with equipment vandalism, and high staff turnover affected the consistency and timeliness of implementation. Strengthening institutional coordination and addressing infrastructure-related delays would improve execution quality in future projects.
Assessment of Outcomes Rating	Rating
Relevance	Highly Satisfactory (HS) The project was highly relevant to Malawi's national climate resilience strategies and aligned with GCF priorities, addressing key vulnerabilities in agriculture, fisheries, and disaster risk management
Effectiveness	Satisfactory (S) The project met or exceeded most of its targets, particularly in the areas of climate information dissemination, capacity building, and gender-responsive interventions. However, delays in infrastructure development and challenges with equipment vandalism affected the project's overall effectiveness.
Efficiency	Moderately Satisfactory (MS) While the project demonstrated cost-effective use of resources by leveraging existing institutions and local expertise, recurrent delays in the approval of workplans, Steering Committee meetings, and occasional delays in UNDP Country Office disbursements to the holding account affected the timely implementation of certain activities. Despite the GCF disbursing funds in good time, these administrative and logistical challenges, along with high staff turnover, impacted the efficient rollout of key project components, particularly at the beginning of the year.
Overall Project Outcome Rating	Satisfactory (S). M-CLIMES project achieved significant success in enhancing climate resilience and adaptive capacity in Malawi's vulnerable communities. Key accomplishments included the establishment of community-based early warning systems (EWS), promotion of climate-resilient agricultural practices, and strengthening of institutional capacities, all contributing to better food security, disaster preparedness, and gender empowerment. However, challenges related to financial delays, logistical issues in infrastructure setup, and high turnover among trained personnel affected the continuity of progress. While the project made notable advances in gender equality and environmental sustainability, concerns remain about the long-term sustainability due to structural barriers and reliance on external funding.
Sustainability Rating	Rating
Financial resources	Moderately Unlikely (MU) The project's sustainability faces challenges due to a continued reliance on external funding, especially for the maintenance of critical infrastructure such as early warning systems - Although some efforts were made to engage public-private partnerships, these were insufficiently developed to ensure ongoing financial independence. Without more robust financial mechanisms or government funding allocations, the financial sustainability of the project remains uncertain.
Socio-political/economic	Moderately Likely (ML) The project successfully engaged local communities, particularly women, fostering ownership of the interventions and contributing to resilience-building efforts. However, political instability or shifts in governance priorities could impact the long-term sustainability of the project outcomes.

	Continued local government support is crucial for maintaining these benefits, but uncertainties remain about future political will and resource allocation.
Institutional framework and governance	Moderately Likely (ML) While the project made commendable progress in building capacity at the institutional level, there remain opportunities to further strengthen local institutions to ensure they can independently maintain early warning systems and other critical infrastructure. Despite some challenges such as staff turnover and capacity gaps, the involvement of government institutions has laid a foundation for long-term sustainability. With continued efforts to bolster institutional frameworks and reduce reliance on individual personnel, the resilience and sustainability of these systems can be significantly enhanced. The project's success in engaging local government agencies provides a promising platform for future resilience-building efforts.
Environmental	Likely (L) The project's focus on promoting climate-resilient agriculture and sustainable land use practices is expected to have a positive environmental impact in the long term. By encouraging drought-resistant crops and conservation agriculture techniques, the project contributes to ongoing environmental sustainability. However, climate variability and extreme weather events could still pose risks to infrastructure, requiring continued attention to adaptive environmental management.
Overall Likelihood of Sustainability	Moderately Unlikely (MU) While the project made commendable progress in building climate resilience, its overall sustainability is threatened by weak financial mechanisms, institutional capacity gaps, and political uncertainties. The environmental benefits are likely to persist, but the continued reliance on external funding for infrastructure maintenance and insufficient institutional capacity reduce the likelihood that the project's gains will be sustained without additional interventions. A stronger financial and institutional framework is needed to improve sustainability.

Conclusions

The M-CLIMES project effectively contributed to building climate resilience in Malawi, particularly in food security, community disaster preparedness, and gender inclusion. The project's interventions aligned well with national climate priorities, including Malawi's National Adaptation Plan and Resilience Strategy. However, sustainability remains a concern, primarily due to reliance on external funding for maintaining key infrastructure, such as early warning systems.

Strengthening institutional capacity was a key area for improvement, as high staff turnover undermined the long-term impact of training efforts. Future projects should focus on building institutional knowledge and retention strategies to ensure continuity.

Community engagement played a critical role in the project's success, but more consistent efforts are needed to ensure local ownership and sustainability. Engaging communities in infrastructure planning could help mitigate issues such as equipment theft and vandalism. Similarly, while the project made progress in promoting gender equality, addressing systemic barriers beyond short-term training interventions is essential for sustaining women's empowerment.

Improving financial management and resource allocation, particularly in remote regions, is necessary to avoid delays in future projects. Additionally, successful elements such as climate-resilient agriculture and CBEWS have strong potential for replication and scaling, but require additional investment in infrastructure, capacity building, and financial mechanisms to ensure long-term viability.

Lessons learned

The following lessons learned were identified from this evaluation :

1. Community involvement ensures sustainability: Actively involving communities in planning and managing climate initiatives, as seen in Chikwawa and Nsanje, builds ownership and accountability. This enhances the sustainability of systems like early warning tools, reduces risks like vandalism, and fosters local adoption through participatory governance and clear communication.
2. Effective capacity building requires follow-up: While training improved skills, its long-term impact was limited without consistent follow-up. Tailored capacity-building strategies, including refresher training and mentoring, are essential for reinforcing skills and empowering communities to manage climate resilience independently.
3. Financial planning secures infrastructure sustainability: Infrastructure like meteorological stations and early warning systems risk degradation without reliable funding mechanisms. Establishing public-private partnerships, cost-sharing, and market-based solutions can ensure continued functionality and reduce dependency on external donors.
4. Gender equality needs systemic change: While women represented 55% of beneficiaries, persistent barriers to resource access and decision-making hindered sustained progress. Structural policies and long-term initiatives, such as women-led committees and advocacy, are crucial to achieving meaningful gender equity.
5. Adaptability is vital during crises: The project's flexible response to COVID-19, such as using radio and SMS alerts, sustained engagement despite challenges. Adaptive management, including alternative implementation pathways, is key to maintaining resilience and achieving objectives in unpredictable situations.

Recommendations

Recommendation	Intended Responsible Party	Roles and Responsibilities	Priority
Develop long-term financial mechanisms for EWS sustainability	**UNDP, Government of Malawi, Private Sector**	- UNDP: Conduct feasibility studies for sustainable financing models. - Government of Malawi: Integrate climate services into national budgets. - Private Sector: Support financing through PPPs and CSR investments.	**High**
Establish a Climate Resilience Training & Knowledge Hub	**Government of Malawi (DoDMA, DCCMS), UNDP**	- Government: Institutionalize climate training into public sector development plans. - UNDP: Provide technical expertise and resource mobilization for ongoing capacity-building.	**High**
Strengthen community ownership of EWS infrastructure	**Local Governments, Traditional Leaders, Community-Based Organizations**	- Local Governments: Formally engage VDPCs in EWS maintenance. - Traditional Leaders: Introduce local bylaws for infrastructure protection. - CBOs: Facilitate co-financing mechanisms for maintenance.	**High**
Expand gender-responsive policies and financial inclusion for women farmers	**Ministry of Gender, UNDP, Civil Society Organizations**	- Ministry of Gender: Strengthen policies that improve women's access to agricultural resources.	**Medium**

Recommendation	Intended Responsible Party	Roles and Responsibilities	Priority
		- UNDP: Support mentorship and financial inclusion programs. - CSOs: Advocate for structural reforms supporting women in climate adaptation.	
Improve procurement and financial disbursement processes	**Government of Malawi (Ministry of Finance, DoDMA), UNDP**	- Government: Establish pre-approved supplier lists for rapid procurement. - UNDP: Streamline approval processes for faster fund disbursement.	**Medium**
Enhance climate information dissemination channels	**UNDP, Telecommunication Companies, Media Partners**	- UNDP: Develop **pictorial and voice-based advisories** for low-literacy communities. - Telcos: Expand mobile-based climate alert systems. - Media Partners: Scale up **interactive community radio programming**.	**Medium**

2. Introduction

Purpose and objective of the final evaluation

The purpose of the final evaluation (FE) of the Scaling up Use of Modernised Climate Information and Early Warning System (M-CLIMES) project was to assess its overall performance at the conclusion of its implementation cycle. The evaluation aimed to provide a comprehensive and unbiased analysis of the extent to which the project achieved its stated objectives, its relevance to the needs of beneficiaries, and its contribution to national climate resilience strategies.

The evaluation had the following core objectives:

1. To assess the project's effectiveness: The evaluation determined whether the project's activities, outputs, and outcomes were successfully implemented as per the project design. This included evaluating the adequacy of the interventions and whether they addressed the targeted issues, such as climate vulnerability, early warning systems, and capacity building.
2. To measure the project's relevance: The evaluation analyzed the alignment of the project objectives with national and regional climate adaptation goals, including Malawi's national climate policies and international climate commitments.
3. To evaluate resource use efficiency: The evaluation reviewed project resources, including financial, human, and material resources, and assessed whether the project used them efficiently to maximize outcomes.
4. To determine the sustainability of the interventions: The evaluation assessed whether the project's achievements were likely to be sustained beyond its duration. This involved evaluating the capacity of local institutions and stakeholders to maintain the systems established by the project and continue building on the achievements made.
5. To provide lessons learned and recommendations: Based on the project's analysis, the evaluation provided lessons to inform future projects of a similar nature, especially in Malawi or other countries facing climate-related risks. Recommendations focused on enhancing the design and implementation of future climate resilience initiatives.

The evaluation was critical to understanding the broader implications of the M-CLIMES project. It offered feedback that would shape future interventions and inform stakeholders on both the successes and challenges faced during the project's implementation.

Scope

The scope of the final evaluation covered the entire life cycle of the M-CLIMES project from its inception in 2017 through to its completion in June 2024 The evaluation focused on the following areas:

1. **Geographic scope**: The M-CLIMES project was implemented across multiple regions in Malawi, with a particular focus on flood-prone and climate-vulnerable areas. The evaluation assessed the project's impact across these various geographic locations and ensured that the specific climate challenges of different areas were accounted for.
2. **Thematic scope**: The evaluation explored the following key thematic areas:
    - **Climate information and early warning systems**: The evaluation examined the infrastructure, systems, and tools established to improve weather forecasting, monitoring, and dissemination of climate information.

- **Capacity building and institutional strengthening**: The evaluation assessed the training and skills development activities that aimed to enhance the capacity of government agencies, local institutions, and communities to manage climate risks.
- **Community engagement and gender inclusion**: The evaluation examined how effectively the project reached vulnerable communities, especially women and marginalized groups, and how climate information was disseminated to these groups.
- **Sustainability of interventions**: The evaluation assessed the mechanisms put in place to ensure that the project's benefits would continue after its closure.

3. **Timeframe**: The final evaluation considered the entire project period from 2017 to 2024. It examined the progress made during different phases of implementation and considered any major milestones, delays, or challenges that occurred throughout the project's life.
4. **Stakeholder engagement**: The evaluation included an analysis of the involvement of key stakeholders such as the Government of Malawi, UNDP, Green Climate Fund, local communities, NGOs, and private sector actors.
5. **Key results and outcomes**: The evaluation specifically reviewed the project's significant achievements, including the installation of meteorological stations, the dissemination of climate information to communities, and the capacity building of government institutions.

Methodology

The methodology for the final evaluation adopted a mixed-methods approach, combining quantitative and qualitative data to provide a comprehensive understanding of the project's results and impact. The methodology adhered to international evaluation standards, focusing on accuracy, transparency, and the active involvement of all key stakeholders.

1. Evaluation framework

The evaluation framework was structured around critical evaluation criteria, which included:

- **Relevance**: The evaluation assessed how the project addressed critical climate resilience needs in Malawi and aligned with national policies and priorities.
- **Effectiveness**: The evaluation measured the achievement of the project's objectives and outcomes as defined in the project's logical framework.
- **Efficiency**: The evaluation reviewed the relationship between the project's inputs and outputs to determine whether resources were used cost-effectively.
- **Sustainability**: The evaluation examined whether the project's results would be maintained after its conclusion, focusing on local ownership and the capacity of institutions to continue project activities.
- **Impact**: The evaluation assessed the broader long-term changes attributable to the project, particularly regarding improved climate resilience in Malawi.

To improve clarity in the ratings system, evaluation judgments were assigned using a standardized scale based on predefined thresholds for performance. The rating system applied in this evaluation is outlined below:

Rating	Description	Criteria for assignment
Highly Satisfactory (HS)	The project exceeded expectations across all key indicators, demonstrating exceptional performance with no significant shortcomings.	- All or nearly all objectives were achieved or exceeded. - Outcomes are sustainable and

Rating	Description	Criteria for assignment
		demonstrate high impact. - No major risks identified.
Satisfactory (S)	The project achieved most of its intended objectives with only minor shortcomings.	- Most outcomes were achieved as planned. - No significant risks threaten sustainability. - Implementation was effective, with only minor operational challenges.
Moderately Satisfactory (MS)	The project achieved some of its objectives but faced notable challenges that affected performance.	- Some key objectives were only partially achieved. - Moderate risks to sustainability exist but can be mitigated. - Delays and operational inefficiencies affected impact.
Moderately Unsatisfactory (MU)	The project faced significant shortcomings in achieving its objectives.	- A large portion of the outcomes were not met. - Risks to sustainability are high. - Serious delays, inefficiencies, or coordination gaps affected performance.
Unsatisfactory (U)	The project failed to meet expectations with major weaknesses in execution.	- Most intended results were not achieved. - Sustainability is highly unlikely. - Severe operational and financial challenges hindered progress.
Highly Unsatisfactory (HU)	The project did not achieve any significant outcomes and demonstrated critical failures.	- Project activities were largely ineffective. - Severe financial mismanagement or operational failures occurred. - Outcomes were not sustainable and showed no potential for future impact.

This rating framework ensures consistency in performance assessments, allowing stakeholders to interpret evaluation findings with clarity and confidence.

2. Data collection techniques

The data collection for the final evaluation of the M-CLIMES project employed a multifaceted approach to ensure comprehensive coverage and representation. The following methods were utilized:

- **Document review**: A thorough examination of 40+ project-related documents, including the project proposal, logical framework, progress reports, mid-term reviews, and monitoring reports, was conducted. This review established a solid baseline understanding of the project's objectives and tracked its performance over time.
- **Key informant interviews (KIIs)**: In-depth interviews were conducted with 25 key stakeholders, including representatives from the UNDP, the Department of Climate Change and Meteorological Services (DCCMS), local government officials, partner NGOs, and community leaders. These interviews provided valuable insights into the effectiveness of the project and captured the perspectives of those involved in its implementation and beneficiaries. A purposive sampling strategy was used to select individuals with diverse roles and experiences, ensuring balanced representation across various levels of engagement.

- **Focus group discussions (FGDs)**: Eight FGDs were organized, engaging over 80 community members across different districts targeted by the project. The discussions offered qualitative data on how community members interacted with climate information systems and evaluated their benefits from the project activities. Efforts were made to include participants from different socio-economic backgrounds, with special attention to gender balance to capture the perspectives of women and marginalized groups.
- **Field visits and observations**: Site visits were conducted at 12 key project locations to observe established infrastructure, such as meteorological stations, and to verify the project's physical outcomes. These visits enabled evaluators to triangulate findings from interviews, FGDs, and document reviews, strengthening the reliability of the data collected.

To maintain a balanced representation of views, particular emphasis was placed on including voices from both direct and indirect beneficiaries, as well as stakeholders at different levels of project engagement.

3. Data analysis

The data analysis process followed a systematic approach that incorporated both qualitative and quantitative methods:

- **Qualitative analysis**: Thematic analysis examined qualitative data from interviews, focus groups, and observations. Key themes related to relevance, effectiveness, sustainability, and challenges were identified and analyzed to conclude the project's performance.
- **Quantitative analysis**: Data collected from surveys and project reports were subjected to statistical analysis to quantify key project outcomes. Descriptive statistics were used to summarize the data, while comparative analysis examined changes over time and across different target regions.
- **Triangulation**: To ensure the accuracy and reliability of the evaluation findings, data from different sources (e.g., interviews, surveys, document review) were triangulated. This process ensured that the evaluation conclusions were based on multiple lines of evidence.

4. Roles of stakeholders during the evaluation process

The evaluation process for the M-CLIMES project involved various partners, each contributing distinct roles to ensure the integrity, efficiency, and comprehensiveness of the Independent Evaluation (IE). These roles are outlined below:

UNDP:

- Provided oversight and coordination throughout the evaluation process.
- Facilitated access to project documents, stakeholders, and beneficiaries.
- Ensured adherence to UNDP evaluation standards and GCF guidelines.
- Supported logistical arrangements for field visits and stakeholder consultations.
- Maintained independence by refraining from influencing the evaluation design, data collection, or findings.

Evaluation team:

- Designed and executed the evaluation framework, ensuring methodological rigor and independence.
- Conducted data collection activities, including interviews, surveys, and field visits.
- Triangulated data from multiple sources to produce balanced and objective findings.
- Drafted the report and recommendations based on evidence gathered, free from external influence.

National partners and government agencies:

- Provided project-specific insights and data, including reports and monitoring records.
- Facilitated introductions to field-level stakeholders and community beneficiaries.
- Participated in interviews and focus group discussions to share their experiences with project implementation.

Beneficiaries and local stakeholders:

- Shared perspectives on project outcomes and provided qualitative and quantitative data during consultations.
- Actively engaged in focus group discussions to highlight the impacts and challenges of project interventions.

The M-CLIMES Final Evaluation was conducted with a strong emphasis on maintaining independence from the project's implementation structures. The evaluation team, led by independent consultants, operated autonomously from the DoDMA and UNDP Malawi, ensuring that findings and recommendations were based on objective assessments rather than institutional influence.

To reinforce independence, clear delineation of roles and responsibilities was established at the outset of the evaluation:

- UNDP Malawi and DoDMA provided logistical support, access to project documents, and facilitated introductions to stakeholders, but did not interfere in the evaluation process.
- The evaluation team retained full control over data collection, analysis, and reporting, ensuring that assessments remained impartial.
- Project implementing partners and beneficiaries participated solely in the capacity of information providers and were not involved in shaping the evaluation conclusions.

Additionally, independence was safeguarded through separation of implementation and evaluation roles. The evaluation team did not include individuals previously engaged in M-CLIMES project management, minimizing conflicts of interest. Stakeholders were consulted through structured interviews and focus group discussions, with responses cross-verified through multiple data sources to prevent undue influence from any single entity.

Ethics

The evaluation adhered to the highest ethical standards, ensuring that all data collection and analysis processes were conducted with respect, integrity, and transparency. Key ethical considerations included:

1. **Informed consent**: All participants in interviews, surveys, and focus group discussions were fully informed about the purpose of the evaluation, the voluntary nature of their participation, and their right to withdraw at any time. Consent was obtained before conducting any interviews or data collection activities.
2. **Confidentiality**: The privacy of all participants was respected, and personal identifiers were not included in the evaluation report. Data collected were anonymized to protect participants' identities, particularly in sensitive discussions related to community experiences and challenges.
3. **Respect for cultural sensitivities**: The evaluation team ensured that cultural norms and sensitivities were respected during fieldwork, particularly when working with vulnerable groups such as women and marginalized communities. This was especially important in communities where climate change impacts were more acute.
4. **Avoidance of harm**: The evaluation team ensured that no harm—whether psychological, social, or physical—was caused to participants due to their involvement in the evaluation. This was achieved by conducting interviews and discussions in a safe, supportive environment where participants were free to express their views without fear of repercussions.
5. **Objectivity and independence**: The evaluation was carried out with complete independence from the implementing agencies to guarantee unbiased, objective findings. External evaluators, with no prior involvement in the project, designed and conducted the evaluation, eliminating potential conflicts of interest. A clear and transparent framework guided the evaluation process, finalized by the evaluation team and shared with stakeholders only after completion. Data collection methods, including standardized interview guides and questionnaires, were implemented solely by impartial evaluators. Triangulation was used in the analysis phase, cross-verifying information from various sources such as documents, interviews, and field observations to ensure balanced conclusions. The development of findings, conclusions, and recommendations adhered to strict evidence-based practices, with no implementing partners involved in drafting or reviewing, preserving objectivity and independence throughout the process.

Quality assurance (QA) processes

The evaluation adhered to independent QA measures to ensure methodological rigor and reliability of findings. A multi-layered QA process was employed, incorporating:

1. Peer review mechanisms – The draft report underwent review by external development experts familiar with GCF-funded climate resilience projects at UNDP and GOM levels. This ensured alignment with international evaluation standards and provided an external validation of findings.
2. UNDP and stakeholder feedback – While maintaining evaluator autonomy, stakeholders, including UNDP, DoDMA, and other key partners, were given an opportunity to review the draft report and provide factual clarifications, but they did not influence the evaluative conclusions.
3. Compliance with UNEG and GCF evaluation standards – The evaluation followed UNEG guidelines and GCF Evaluation Policy, including principles of credibility, utility, and impartiality.
4. Data verification and validation – Findings were subjected to a rigorous triangulation process to validate data sources, reducing the likelihood of misrepresentation or bias.

Limitations to the evaluation

While every effort was made to ensure that the final evaluation provided an accurate and comprehensive assessment of the M-CLIMES project, certain limitations were encountered during the evaluation process:

1. **Data gaps**: In some instances, particularly in the early phases of the project, monitoring data were not systematically collected, resulting in information gaps. This affected the ability to complete trend analysis over the project period. To mitigate this, the evaluation relied on qualitative data and proxy indicators where quantitative data were unavailable.
2. **Bias in self-reporting**: Some of the data collected through interviews and focus groups relied on self-reported information from stakeholders and beneficiaries. While efforts were made to cross-check and validate this information through multiple sources, there was a risk of bias, particularly if participants exaggerated the project's benefits or downplayed challenges.
3. **Time constraints**: The evaluation was conducted over a limited period, which restricted the extent of data collection and analysis. While the evaluation was comprehensive, a longer timeframe may have allowed for a more in-depth assessment of certain aspects, particularly about the sustainability of project outcomes.
4. **Geographic limitations**: Due to logistical challenges, it was not possible to visit all regions where the project was implemented, particularly some remote areas in the northern region that would have required significant travel time. As a result, the evaluation focused on a representative sample of target areas, which may not comprehensively reflect regional variations in project outcomes.

Mitigation of bias

Recognizing the potential risks of bias in data collection and interpretation, the evaluation team adopted proactive strategies to enhance objectivity and credibility in findings.

1. Triangulation of data sources – Data was collected from multiple independent sources, including:
    - Project documents and reports
    - Key informant interviews (KIIs) with government officials, UNDP staff, and implementing partners
    - Focus group discussions (FGDs) with community members and beneficiaries
    - Quantitative surveys conducted among project participants

This ensured that findings were cross-verified across different stakeholders and datasets, reducing reliance on any single perspective.

2. Diverse stakeholder engagement – The evaluation intentionally included a broad and balanced range of stakeholders, ensuring that perspectives from government agencies, community representatives, donor partners, and implementing agencies were captured equitably. This approach prevented bias from any single group.
3. Ethical safeguards and neutral questioning – Data collection followed strict ethical guidelines, including:
    - Neutral and non-leading questioning techniques in interviews and FGDs
    - Anonymization of responses to prevent social desirability bias
    - Informed consent procedures, ensuring voluntary and confidential participation.

Structure of the FE report

The final evaluation report was structured to provide a clear and comprehensive overview of the M-CLIMES project's performance, achievements, and challenges. The report was organized as follows:

1. **Executive summary**: A concise summary of the evaluation's main findings, conclusions, and recommendations.
2. **Introduction**: Provided an overview of the M-CLIMES project, its implementation context, and the final evaluation's objectives.
3. **Methodology**: Described the approach and methods used to conduct the evaluation, including data collection and analysis techniques.
4. **Project Background**: Provided a detailed background of the M-CLIMES project, including its objectives, design, and implementation process.
5. **Evaluation Findings**:
    - **Relevance**: Assessed the project's alignment with national policies and the needs of target communities.
    - **Effectiveness**: Evaluated the extent to which the project achieved its objectives and delivered the expected results.
    - **Efficiency**: Analyzed resource use and cost-effectiveness of project activities.
    - **Sustainability**: Assessed the potential for project outcomes to be maintained and scaled beyond the project's lifespan.
    - **Impact**: Evaluated the long-term changes resulting from the project, particularly regarding climate resilience.
6. **Conclusions**: Summarized the project's overall performance, highlighting key successes and areas for improvement.
7. **Recommendations**: Provided specific recommendations for future climate resilience projects, focusing on improving project design, implementation, and sustainability.
8. **Annexes**: Included supporting documentation, such as the list of stakeholders interviewed, evaluation tools, and detailed data analysis tables.

3. Project description

Development context: environmental, socio-economic, institutional, and policy factors relevant to the project objective and scope

Malawi is highly vulnerable to the adverse effects of climate change, frequently experiencing extreme weather events such as droughts, floods, and cyclones. These events pose significant threats to its predominantly agriculture-based economy and the livelihoods of its population. For instance, in 2022/23, Cyclone Freddy dropped six months' worth of rainfall in just six days, triggering floods and mudslides that killed more than 1,200 people in Malawi. The World Food Programme (WFP) estimates that in 2024, around 9 million people in Malawi suffer from the devastating impacts of El Niño-induced floods and droughts, which are destroying harvests and causing hunger to reach crisis levels.

Problems that the project sought to address: threats and barriers targeted

Given these challenges, the need for robust climate information systems and early warning mechanisms has become increasingly urgent. Fresh from the floods in 2015 that affected more 5 than 1 million people, the M-CLIMES project was conceptualized to enhance the country's resilience to climate variability. It sought to address technical, financial, capacity, and access barriers related to climate information by enhancing national and local hydro-meteorological capacities for early warning and forecasting. The

project sought to develop and disseminate tailored climate information products targeting smallholder women and men farmers, as well as fisherfolk, thereby strengthening the capacity of communities to respond to climate-induced disasters.

Project description and strategy: objectives, outcomes and expected results, description of field sites

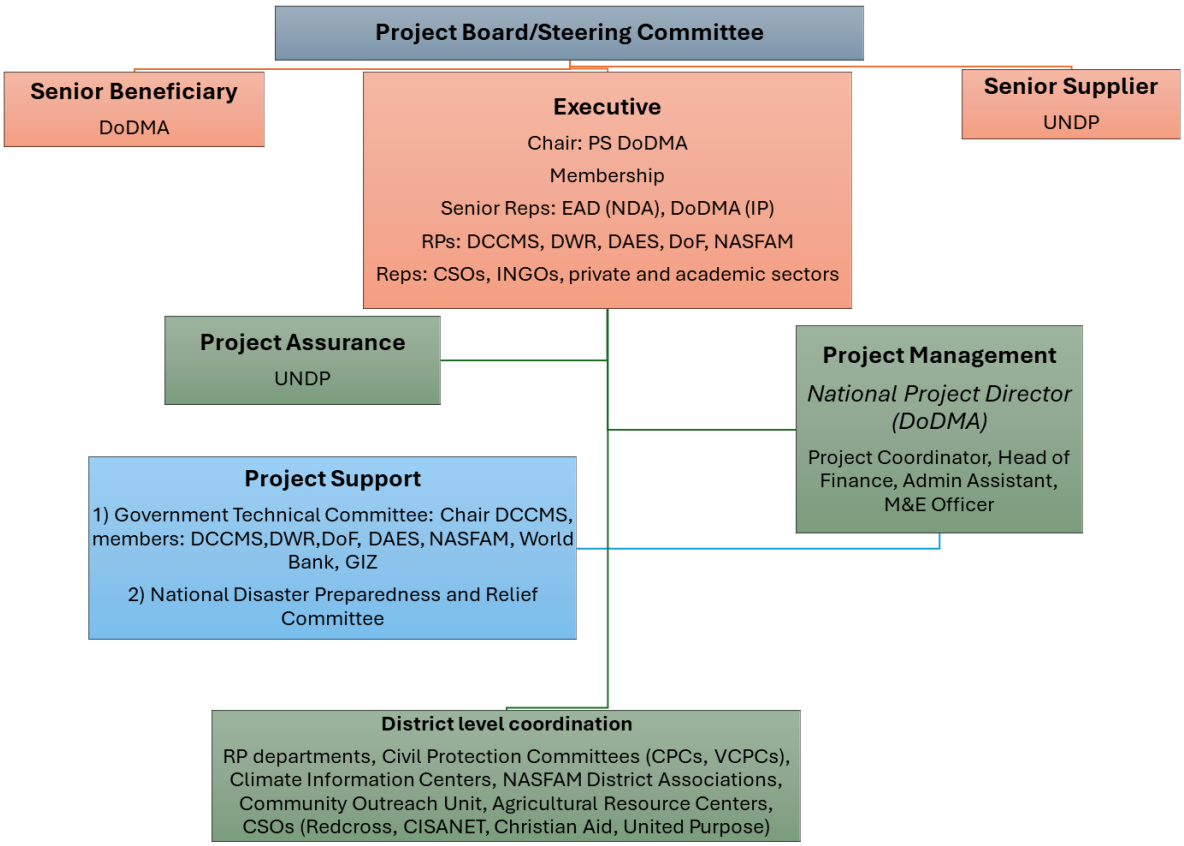
The M-CLIMES project had three primary objectives, each corresponding to a specific project component: *Expansion of Hydromet observation networks*: The first objective focused on expanding and modernizing the observation networks that generate climate-related data. This involved upgrading existing meteorological and hydrological monitoring systems, installing new equipment, and enhancing the capacity of relevant institutions to collect, analyze, and disseminate climate data. The aim was to improve the accuracy and timeliness of climate forecasts and early warnings for extreme weather events such as droughts, floods, and cyclones.

Development and dissemination of climate information products: The second objective was to develop and disseminate tailored products and advisories that meet the specific needs of vulnerable communities and agriculture-based livelihoods. This component involved working closely with farmers, fishers, and other stakeholders to co-develop user-friendly climate information products. These products were disseminated through various channels, including Information and Communication Technology (ICT), mobile platforms, print media, and radio, to ensure wide accessibility and usability.

Strengthening community capacities: The third objective aimed at strengthening communities' capacities to effectively utilize climate information and early warning systems in their preparedness and response to climate-related disasters. This involved conducting training sessions, workshops, and awareness campaigns to enhance community knowledge and skills in interpreting and acting upon climate information. The goal was to empower communities to proactively mitigate risks and adapt to changing climatic conditions.

Project implementation arrangements: short description of the Project Board, key implementing partner arrangements, etc.

At the apex of the project, oversight was provided by the Project Steering Committee (PSC), composed of controlling officers from the government ministries involved in the project. The PSC met twice annually and served as the primary mechanism for effective policy dialogue on frameworks, priority setting, and facilitating investment and technology transfer related to disaster risk management in Malawi. It also facilitated collaborative project development and implementation, aiming to optimize the contribution of disaster management to sustainable development, considering environmental, social, and economic factors. Additionally, the Project Technical Committee (PTC) consists of technical heads of departments who provide direction on activity implementation.



Project timing and milestones

Accreditation Master Agreement (AMA) between GCF and UNDP	signed August 5, 2016
Funding Proposal submitted	September 4,2015
GCF Board approval of Funding Proposal	November 5,2015
Funded UNDP GCF activity agreement (FAA) for the project	May 10,2017
Signing of effectiveness note of the financing agreement	June 28,2017
LPAC date :	June 27, 2017,
Project Document between Government & UNDP	August 8, 2017
Project Inception Workshop	September 26-28, 2017
First steering committee meeting	2018
Submission of inception report	December 25, 2017
Interim Evaluation Mission	December 3,2020
Approval for project extension	October 12, 2023
Final evaluation	August- November ,2024

Table 4: Project key milestones

Main stakeholders: summary list

The M-CLIMES project was implemented across 21 districts in Malawi, targeting areas that were particularly prone to climate-related hazards and food insecurity. The project was led by the Department of Disaster Management Affairs (DODMA), which served as the implementing partner. DODMA worked in close collaboration with several key stakeholders, including the Department of Climate Change and Meteorological Services (DCCMS), Department of Water Resources (DWR), Department of Agricultural Extension Services (DAES), Department of Fisheries (DoF), the National Smallholder Farmers Association of Malawi (NASFAM), and the Malawi Red Cross Society

4. Findings

Project design/formulation

Project logic and strategy

The M-CLIMES project was developed with the primary objective of enhancing the adaptive capacity of vulnerable communities in Malawi, particularly those exposed to climate-induced risks, and improving their overall livelihoods. Central to this effort was the project's focus on strengthening early warning systems (EWS) and climate information (CI) services. The rationale behind these interventions was to improve decision-making capabilities within agricultural and fishing communities, enabling them to better prepare for and respond to climate-related disasters such as floods, droughts, and severe weather events.

The project's logical framework was predicated on the understanding that timely access to accurate climate information would facilitate proactive measures by communities to mitigate the impacts of such events, ultimately reducing both human and economic losses. The project's ultimate aim was to contribute to sustainable, climate-resilient development in Malawi by building the resilience of vulnerable populations through improved preparedness and institutional capacity.

The strategic approach of the M-CLIMES project involved several interrelated components that addressed both structural and operational gaps within Malawi's climate information and early warning systems.

Firstly, the project sought to expand and upgrade meteorological and hydrological infrastructure across the country. This included the installation of new weather stations, the upgrading of existing systems, and the creation of more robust networks for monitoring climate data. The overarching goal was to enhance the technical capacity for real-time monitoring and forecasting of extreme weather events, addressing longstanding limitations in the country's climate observation capabilities.

Secondly, capacity building for hydro-meteorological staff was critical to the project strategy. By training personnel in the operation and maintenance of the newly installed systems, as well as in data analysis and forecasting, the project aimed to ensure the sustainability of the systems and improve the quality of climate information services delivered at both the national and local levels.

Another key element of the strategy was developing and disseminating tailored climate information products. Recognizing the diverse needs of different communities, the project focused on delivering customized weather advisories that addressed specific risks in agriculture and fisheries. For instance, drought forecasts and agricultural advisories were disseminated in 14 food-insecure districts. At the same time, targeted weather warnings for fishing communities around Lake Malawi were shared via mobile platforms and other communication channels. These efforts aimed to empower communities with the knowledge necessary to make informed decisions about their livelihoods in response to anticipated climate events.

In addition, the project sought to foster public-private partnerships (PPP) to enhance the reach and sustainability of climate information services. By engaging private enterprises, particularly those operating in climate-sensitive sectors such as agriculture and water management, the project aimed to stimulate market-driven demand for climate services. This was expected to create new opportunities for scaling up climate information dissemination, mainly through private sector innovation and investment.

Finally, the project emphasized strengthening community preparedness for climate disasters. This involved building local capacities to respond to climate risks, particularly by establishing community-based early warning systems. Installing river gauges in high-risk areas and creating communication protocols to disseminate real-time flood warnings were key interventions under this component. By focusing on the community level, the project aimed to reduce the vulnerability of the most at-risk populations to climate-related hazards.

In summary, the project's strategic approach combined infrastructure development, capacity building, community engagement, and institutional strengthening to enhance the resilience of Malawi's vulnerable populations. The integrated nature of these interventions reflected a comprehensive understanding of the complex and multifaceted challenges posed by climate change.

Indicators

The M-CLIMES project employed a comprehensive results framework to monitor and evaluate its progress. This framework utilized a combination of Fund-Level Impact Indicators, Project-Level Outcome Indicators, and Output Indicators to ensure a robust assessment of the project's effectiveness.

At the fund-level, the project's impact was primarily measured through indicators that captured improvements in resilience and livelihoods. One key metric was the total number of beneficiaries—both direct and indirect—who experienced an enhancement in their ability to withstand climate shocks. This indicator was disaggregated by gender to ensure that the project's commitment to gender equity was adequately reflected, with particular attention given to the proportion of female beneficiaries. Another important impact indicator was the extent to which the project improved adaptive capacity, as evidenced by the number of people who gained access to climate-related early warning systems and other risk reduction measures.

At the project-level, outcome indicators were designed to capture the intermediate results of the project's interventions. These included the coverage of climate monitoring systems, which was measured by the percentage of national territory covered by hydro-meteorological equipment. This indicator was critical

in determining the project's success in expanding Malawi's capacity to monitor weather patterns comprehensively.

Another outcome indicator focused on the technical proficiency of personnel trained under the project. The number of individuals who received training in early warning systems and climate information services was tracked to assess improvements in institutional capacity. This was accompanied by indicators measuring the availability of tailored climate information to the target population, particularly in the project's focal districts. Finally, the project also tracked the engagement of the private sector, with indicators capturing the outcomes of market feasibility studies and the involvement of private enterprises in climate service delivery.

At the output-level, indicators focused on the immediate products of the project's activities. These included the number of weather stations and other hydro-meteorological infrastructure installed and maintained, as well as the number of personnel trained in their operation. Additionally, output indicators measured the dissemination of climate information products and the number of communities benefiting from flood early warning systems and related training programs. These indicators were essential in assessing whether the project's activities were being implemented as planned and whether they were achieving the desired immediate outcomes.

Theory of change

The Theory of Change (ToC) for the M-CLIMES project provided a conceptual framework that articulated the logical pathways through which the project's activities were expected to lead to the desired outcomes and long-term impacts. The ToC was grounded in several key assumptions and identified specific risks that could influence the success of the project.

A central assumption underlying the ToC was that national institutions possessed the necessary capacity to install, maintain, and utilize the advanced hydro-meteorological equipment provided by the project. Without this institutional capacity, the long-term sustainability of the infrastructure and the climate services it enabled would be jeopardized. Another key assumption was that communities would be willing and able to engage with early warning systems and climate information services. This assumption reflected the importance of public trust in the effectiveness and accuracy of the information being disseminated. The project also assumed that its interventions would successfully reach and benefit vulnerable groups, particularly women, whose livelihoods were often disproportionately affected by climate-related hazards.

The impact pathways defined in the ToC outlined a clear sequence from project inputs and activities to the achievement of the long-term goal of increased resilience. The inputs to the project included financial resources, technical expertise, and the equipment necessary to build and enhance the country's climate information infrastructure. These inputs were used to implement a series of activities, including capacity building, infrastructure development, and the creation of communication platforms for climate information dissemination.

The outputs of these activities, such as improved accuracy and coverage of weather forecasts and increased community awareness, were expected to lead to significant outcomes. These outcomes included

reduced loss of life and damage to livelihoods due to more timely and accurate early warnings, as well as improved institutional capacity to manage climate risks. Over the long term, these outcomes were expected to contribute to the impact of enhanced resilience and improved livelihoods for Malawi's vulnerable communities.

The ToC also identified potential risks that could impede the project's progress. One major risk was the occurrence of natural disasters, such as tropical cyclones, that could damage the infrastructure installed by the project. To mitigate this risk, the project included provisions for regular maintenance and repairs, as well as community sensitization campaigns aimed at promoting the long-term use of the systems. Economic challenges, including fluctuations in the currency exchange rate and inflation, were also recognized as potential risks. The project sought to mitigate these by adopting a flexible approach to budgeting and planning, allowing for adjustments in response to changing economic conditions.

Logical framework

The Logical Framework (LF) for the M-CLIMES project served as a crucial tool for planning, monitoring, and evaluation. It clearly outlined the relationships between the project's inputs, activities, outputs, outcomes, and impact. The LF was developed during the project's design phase and was used throughout the implementation period to track progress and ensure that the project remained aligned with its overall objectives.

The LF included SMART indicators (Specific, Measurable, Achievable, Relevant, and Time-bound) that were designed to facilitate objective monitoring and evaluation. These indicators were linked to specific outputs and outcomes, allowing the project team to assess the effectiveness of the interventions and make necessary adjustments where needed.

An important feature of the LF was its incorporation of gender-sensitive indicators, which ensured that the project's benefits were equitably distributed between men and women. Given that women comprise a significant proportion of Malawi's agricultural workforce, the project made concerted efforts to target women in its capacity-building activities and in the dissemination of climate information. For example, the project aimed to reach over 50% of female farmers through its advisory services, ensuring that they had access to the information necessary to adapt their farming practices to changing climate conditions.

The Monitoring and EvaluationFramework of the M-CLIMES project provided a comprehensive structure for evaluating the project's performance from the input level through to the long-term impact. The combination of a clear Theory of Change, robust indicators, and an adaptive Logical Framework ensured that the project's progress could be systematically tracked, and that the project's contributions to enhancing climate resilience in Malawi could be rigorously assessed.

Assumptions and risks

A risk matrix was developed during the design stage, which generally identified key risks and proposed mitigation measures. While a range of risks were considered, a critical review of the underlying assumptions is detailed in the comments section. This review highlights that the risk assessment did not fully account for certain economic shocks that are particularly relevant to the Malawian context. Specifically, risks such as foreign exchange shortages, high inflation, and fuel shortages—challenges that frequently affect Malawi's economy—were not sufficiently addressed. These economic disruptions have the potential to severely impact project implementation, affecting everything from the cost of inputs to

the ability to sustain operations. As such, the absence of comprehensive mitigation strategies for these risks represents a significant oversight that could hinder the project's overall resilience and effectiveness.

#	Risk	Mitigation/reduction measure	Assumption	Comments
1	Delayed implementation of baseline projects by the government and donors negatively affects MCLIMES project outcomes.	Continuous lobbying and sensitization of the policy makers based on evidence from the pilot sites to secure cooperation and commitment.	Baseline projects are implemented according to the timeline identified in the design phase of the project, and achieve the desired outcomes and objectives.	Realistic
2	Installed hydrometeorological equipment fails because it is vandalised or not maintained.	Awareness raising activities will be undertaken in target communities to highlight the importance of the installed equipment. In addition, the equipment will be housed within a secure fence.	Communities living in proximity to installed hydro-meteorological equipment commit to taking active measures to prevent the equipment from being vandalised; and the equipment is adequately maintained by the responsible institution.	Unrealistics – sufficient effort should have been put to design vandalism/theft proof infrastructure. The upstream communities are not direct beneficiaries of early warning and lack incentive to invest in security.
3	Climate shocks occurring during the design and implementation phase of the MCLIMES results in disruptions to installed equipment and severely affect communities, prior to the EWSs being established.	Disaster mitigation and response activities will be prioritized at the target communities whilst the EWS is being established.	Any climate shocks occurring whilst the EWSs are being established will not be so severe as to result in a relocation of the communities where the effectiveness of the EWSs will be tested, or to irreparably damage hydrometeorological equipment.	Unrealistic – the risk of equipment damage recognized but not appropriate mitigation measures and assumptions does not hold as equipment is installed in rivers.
4	Local information technology and telecommunications infrastructure restricts the transfer of data from installed equipment to necessary recipients, and restricts communication amongst key role players and end-users.	The project has been designed in accordance with local conditions, taking, where applicable, the latest available international technology into account.	Information technologies and telecommunications systems implemented or used through the project are best suited to the local context and do not restrict the transfer and communication of information.	Realistic – Did not affect project outcomes
5	Procurement and installation of hydrometeorological equipment, including hardware and software, is delayed because of complications with the release	Effective administrative planning will be undertaken, with support from UNDP CO, which will include procuring equipment at an early stage in the project implementation phase.	UNDP CO and HQ will coordinate with the IP to ensure effective administrative planning and the timely procurement and installation of equipment.	Realistic – Did not affect project outcomes

	of funds and/or national procurement procedures.			
6	Lack of commitment from communities where EWS are established undermines the effectiveness of the project demonstrations.	The project will avoid a 'top down' approach and seek to create community ownership of the EWSs through community training and encouraging participation in project activities.	Awareness-raising activities and the demonstration of the advantages of responding to the information provided through the established EWS will ensure the commitment of the communities participating in the project.	Realistic – Did not affect project outcomes
7	Alerts and warnings required by communities are not feasible to produce due to scientific or technological failure.	The project will ensure that the training provided is based on the most up to date scientific and technical advances in the fields of hydrology and meteorology. A regional team of experts will be available on a full-time basis to provide support to work towards ensuring state-of-the-art technology and scientific methodology – suitable to the local context – is used.	The most up to date technology and scientific approaches and advances are feasible and appropriate for meeting the project needs. The level of error for forecasting is within the minimum thresholds appropriate for the project activities.	Realistic – Did not affect project outcomes

Table 4: Risks Analysis

Lessons from other relevant projects (e.g. same focal area) incorporated into project design

The project effectively integrates several lessons learned from previous initiatives. One key lesson is the critical need for enhanced early warning systems (EWS) to mitigate the impacts of extreme weather events, which have significantly affected the country. By addressing this need, the project aims to improve the timely dissemination of climate information, thereby protecting vulnerable communities.

Strong stakeholder engagement and ownership emerged as essential factors for successful project implementation. The project was developed through extensive consultations at various levels, ensuring that the Government of Malawi (GoM) fully owned the initiative. This collaborative approach involved input from community members, government ministries, NGOs, civil society, and the private sector, fostering a sense of shared responsibility and commitment.

Capacity building is another important lesson incorporated into the project design. Recognizing the limited financial, technical, and human capacity in hydro-meteorological services, the project focuses on enhancing the skills of hydro-met staff and local actors. This aims to empower them to generate and effectively utilize timely climate information.

The project also emphasizes the need for tailored climate information relevant to specific sectors. By supporting the development and dissemination of this information, the project facilitates informed decision-making among agriculture and fishing communities, ultimately enhancing their resilience.

Public-private partnerships (PPP) are prioritized to enhance the sustainability and scalability of climate information services. Engaging private enterprises and service providers in climate-sensitive sectors helps broaden the reach and effectiveness of the project's initiatives.

Additionally, the project aims to strengthen community resilience by building local capacities for disaster preparedness. This focus is supported by comprehensive baseline mapping of catchments and communities, ensuring that interventions are appropriately targeted and effective.

Finally, gender considerations are integrated throughout the project design. The initiative specifically targets women, who represent a significant portion of Malawi's agricultural workforce. By adopting gender-sensitive approaches, the project aims to ensure that both women and men benefit equitably from climate resilience efforts, ultimately fostering inclusive growth and development.

Planned stakeholder participation

The M-CLIMES project strongly emphasizes stakeholder participation, which is crucial for its successful implementation and sustainability. The project was developed through extensive consultations with key stakeholders to ensure full ownership by the Government of Malawi (GoM). These consultations took place at various levels, including community, district, and national levels. They involved a diverse array of participants such as government ministries and departments, NGOs, civil society, the private sector, and development partners. A notable example is the GCF concept validation workshop held by the Department of Disaster Management Affairs (DoDMA) in June 2015, which was organized to gather input and feedback from these stakeholders.

The project includes several mechanisms, such as project boards, technical committees, and other participation frameworks, to facilitate ongoing stakeholder engagement. The National Designated Authority (NDA) played a significant role throughout the project development process. Emphasis was placed on ensuring women's representation through the involvement of various NGOs and CSOs and by including female staff members from key agencies.

The project design underscores the importance of the continued commitment and active participation of stakeholders, particularly farming and fishing communities. Regular assessments are planned to monitor climate information uptake and the effectiveness of stakeholder engagement strategies. These assessments will help ensure that the information provided is utilized effectively and that the engagement strategies remain relevant and impactful.

Linkages between project and other interventions within the sector

The MCLIMES project at design phase intended to establish links and coordinate with various ongoing initiatives to enhance its effectiveness and reach. These include:

Project	Description	Status of collaboration
Shire River Basin Management Program Phase 1 (SRBMP)	Aiming to improve water resource management and mitigate flood risks within the Shire River Basin	No formal linkages established. The two were complementary
Integrated Flood Risk Management Strategy (IFRMS)	This strategy focuses on comprehensive flood risk	No formal linkages established. The two were complementary

	assessment and management across vulnerable regions	
National Climate Change Programme (NCCP) and Programme Support to Climate Change	These programs are designed to enhance national capacities to respond to climate change impacts	No formal linkages established. The two were complementary
World Bank's Weather-Based Insurance Project	This initiative aims to provide farmers with insurance products that are tied to weather conditions, helping them mitigate risks associated with climate variability	No formal linkages established. The two were complementary
USAID Expanded Vulnerability Mapping Project:	This project seeks to identify and address vulnerabilities in communities affected by climate change	No formal linkages established. The two were complementary
Malawi Vulnerability Assessment Committee (MVAC)	Assesses the country vulnerability to food insecurity	No formal linkages established. The two were complementary
Famine Early Warning Systems Network (FEWSNet)	monitoring and forecasting food security risks associated with climate events	No formal linkages established. The two were complementary
Southern African Regional Climate Outlook Forum (SARCOF):	This forum provides climate predictions that can guide agricultural planning and disaster preparedness	No formal linkages established. The two were complementary
Group on Earth Observations (GEO) AfriGEOSS initiative	These initiatives focus on utilizing Earth observation data for sustainable development and security in Africa	No formal linkages established. The two were complementary
WMO's Global Framework for Climate Services (GFCS) initiative	This initiative aims to improve the availability and use of climate information for decision-making	No formal linkages established. The two were complementary
Malawi Red Cross's Early Warning Systems (EWS) activities	Implements community based early warning projects	Involved in CBFEWS in projects sites

Table 5: Collaboration with other interventions in the sector

Project Implementation

Adaptative management (changes to the project design and project outputs during implementation)

The M-CLIMES project implemented adaptive management practices to ensure both its effectiveness and responsiveness to emerging challenges and opportunities throughout its lifespan. From the outset, the project was grounded in extensive stakeholder consultations and feasibility assessments, which provided a solid foundation for its implementation. However, as the project progressed, several strategic adjustments were made to optimize the approach and enhance the achievement of its outcomes.

During the early stages of project implementation, various challenges emerged that necessitated shift in strategy. The project demonstrated a flexible and responsive approach by adapting its initial strategies based on real-time feedback and observed difficulties. Key adjustments included refining community engagement methods and incorporating localized solutions to enhance the effectiveness of early warning systems (EWS). These modifications ensured that the interventions were better aligned with local contexts, thereby improving their relevance and impact.

Moreover, the project revised its initial targets and indicators based on continuous evaluations and the realities of what could be achieved within the project's time frame and available resources. These revisions were crucial to maintaining the project's focus and feasibility. By exercising this level of flexibility, the project managed to stay on course despite facing unforeseen challenges, thereby safeguarding the achievement of its overarching goals.

A critical element of the adaptive management approach was the integration of continuous stakeholder feedback into the project cycle. Regular input from a broad spectrum of stakeholders, including community members, government officials, and non-governmental organizations (NGOs), was systematically gathered and incorporated into the evolving project design. This ongoing dialogue enabled the project to realign its activities and focus areas in response to the needs and concerns of stakeholders, ensuring that the project maintained its relevance and appropriateness throughout its duration.

The project's Monitoring and Evaluation (M&E) framework played a pivotal role in influencing adjustments to the project's implementation. Regular assessments provided critical insights into areas that required change, leading to modifications in project activities, resource allocations, and strategic priorities. For example, when certain interventions were identified as being less effective, resources were reallocated to more impactful areas. This adaptive approach ensured that the project remained responsive to the realities on the ground.

In terms of capacity building, the initial focus was on training hydro-meteorological staff and community actors. However, as implementation progressed, gaps were identified through ongoing evaluations, leading to the introduction of additional training programs. These programs addressed previously unanticipated needs, ensuring that personnel were adequately skilled in operating and maintaining EWS and climate information services. This approach was essential in building sustainable local capacity to manage climate risks effectively.

The project also made significant strides in addressing gender disparities, especially following the results of early-stage gender assessments. These assessments highlighted the need for more focused interventions to engage women effectively in the project. As a result, the project intensified its efforts to adopt gender-sensitive approaches, which included tailored capacity-building activities and the development of climate information products specifically designed for women farmers. This targeted approach ensured that women, who are disproportionately affected by climate risks in agricultural settings, could fully benefit from the project's interventions.

The Inception Workshop (IW), held from September 26-28, 2017, in Mzuzu, played a crucial role in establishing the foundation for the project's effective and efficient implementation. The workshop brought together all key stakeholders involved in climate information and early warning systems, and facilitated discussions on the Annual Work Plan (AWP). The AWP was subsequently endorsed by both the project's technical and steering committees, setting the stage for coordinated and structured project activities.

As a result of the IW and IR, several key modifications were made to strengthen project governance. These included changes to the composition of the steering and technical committees, with a recommendation to utilize existing national coordination structures for Disaster Risk Management (DRM) in Malawi. Consequently, the National Disaster Preparedness and Relief Committee (NDPRC) was selected to serve as the Project Steering Committee (PSC), while the National Disaster Preparedness and Relief Technical Committee (NDPRTC) was designated as the Project Technical Committee (PTC). These adjustments enhanced

coordination and ensured that the project's governance structure was aligned with national disaster management frameworks.

Project management was further bolstered through formal agreements between Implementing Partners (IP) and Responsible Parties (RP), which outlined their respective roles and responsibilities. Additionally, the Ministry of Finance approved the opening of Project Bank Accounts, facilitating efficient financial management and ensuring the smooth disbursement of funds throughout the project's implementation.

During the IW, stakeholders made several key recommendations aimed at enhancing project execution. These recommendations emphasized the importance of engaging academic institutions and universities, strengthening the role of the private sector, involving the Environmental Affairs Department (EAD), ensuring the active participation of district councils, and incorporating the Department of Buildings in the construction of Data Collection Platforms (DCPs). The adoption of these recommendations was intended to enhance stakeholder engagement and ensure that the project's implementation benefitted from a wide range of expertise and resources.

The M-CLIMES project demonstrated a strong commitment to adaptive management, ensuring that it remained responsive to evolving circumstances, stakeholder input, and on-the-ground realities. By continuously refining its strategies, incorporating feedback, and adjusting its activities based on monitoring and evaluation data, the project was able to enhance its overall effectiveness and achieve significant progress in building resilience to climate risks in Malawi.

Actual stakeholder participation and partnership arrangements

The stakeholder engagement and partnership arrangements in the M-CLIMES project were fundamental to its implementation, though they faced certain challenges that necessitated adaptive management strategies. The project employed a participatory approach, aiming to involve stakeholders at various levels, from local communities to national government agencies. These partnerships facilitated the delivery of services, particularly in remote areas, and helped mitigate some of the project's logistical and institutional challenges. However, gaps in early consultation, coordination, and institutional capacity were noted, impacting the project's overall effectiveness in certain areas.

Stakeholder participation

At the national level, the Department of Disaster Management Affairs (DoDMA) served as the project's executing entity, ensuring compliance with UNDP regulations and accountability for achieving project results. The project was implemented under UNDP's National Implementation Modality (NIM), following a comprehensive assessment of DoDMA's capacity in terms of financial, operational, and programmatic management. The assessment confirmed that DoDMA had the necessary systems in place to oversee the project, which was executed in accordance with the United Nations Development Assistance Framework (UNDAF) Action Plan for Malawi and the Green Climate Fund (GCF) guidelines.

Despite the strong institutional framework, challenges emerged, particularly at the local government level. Many local government offices lacked the technical expertise and resources necessary to support the implementation and maintenance of key project interventions, such early warning systems. These capacity limitations often led to delays in executing activities and hindered the project's progress. Fragmented coordination between government departments and project partners further exacerbated these challenges, requiring adjustments to the project's strategy to ensure alignment with its goals.

Community engagement was another crucial aspect of the project, with a participatory approach being emphasized as a means of fostering local ownership and ensuring that interventions met community needs. Focus group discussions indicated that many community members, particularly women, felt involved in the planning and implementation phases. This level of engagement was seen as a key strength, as it increased the relevance of the interventions and improved community buy-in.

However, despite these successes, there were notable gaps in early-stage consultation, particularly during the project's design phase. This lack of engagement contributed to issues such as the improper selection of caretakers for the community-based early warning systems (CBEWS). As a result, some community members felt excluded from critical decision-making processes, which in turn led to poor ownership of the systems and challenges related to their maintenance. The issues of vandalism and theft of CBEWS components, such as solar panels, further underscored the need for more comprehensive community involvement in planning and security considerations.

Partnership arrangements

The partnership arrangements in the M-CLIMES project were structured to leverage the strengths of various national and local stakeholders. UNDP played a central role as the GCF Accredited Entity (AE), providing oversight and quality assurance throughout the project's implementation. DoDMA, as the executing entity, was supported by a Project Coordination Unit (PCU), which was responsible for day-to-day project management, including monitoring, evaluation, and financial oversight.

The project engaged six national implementation partners, each tasked with delivering specific project outputs:

1. **Department of Agriculture Extension** – responsible for activities under Output 2 related to agricultural advisories and services.
2. **Department of Climate Change and Meteorological Services** – in charge of Output 1, focusing on the expansion and improvement of climate monitoring systems.
3. **Department of Fisheries** – involved in activities under Output 2, particularly in providing tailored weather advisories to fishing communities.
4. **Department of Water Resources** – also contributing to Output 1, with a focus on water resource management and flood early warning systems.
5. **National Smallholder Farmers Association of Malawi** – supporting Output 2, aimed at enhancing the resilience of smallholder farmers through climate information services.
6. **Malawi Red Cross Society** – initially not part of the project design but later included for its expertise in disaster risk reduction (DRR) and EWS, with a focus on Output 3.

The inclusion of the Malawi Red Cross Society was one of the significant changes to the project's implementation arrangements. Their experience in disaster risk management and early warning systems was considered crucial for ensuring the successful implementation of community-level disaster preparedness activities. This adjustment demonstrated the project's adaptive management approach, where stakeholder roles were revisited to address emerging needs and challenges effectively.

Originally, Memoranda of Understanding (MOUs) between UNDP and each participating government department were envisaged during the project design phase. However, in alignment with Malawi's foreign aid guidelines, a single Letter of Agreement (LOA) was signed between UNDP and DoDMA, with the latter taking on a coordination role among the various government entities involved. This consolidation helped

streamline coordination but also placed a significant burden on DoDMA to manage interdepartmental collaboration, which proved challenging in some instances due to capacity constraints.

The project faced several challenges that impacted stakeholder coordination and partnerships. Early in the project, there were coordination issues among implementing partners, particularly in aligning activities with the overall project objectives and managing the logistical challenges posed by remote areas with poor infrastructure. However, these challenges were mitigated through regular stakeholder consultations and feedback loops, which allowed the project to adapt and refine its approaches. This flexible management approach improved coordination among the partners over time and led to more efficient delivery of services.

Additionally, the project's focus on community engagement, although generally effective, faced challenges in ensuring full community ownership of interventions. Insufficient early consultation, particularly regarding the placement and security of CBEWS, led to instances of theft and vandalism. This highlighted the need for deeper involvement of community members in planning processes and a more proactive approach to addressing local security concerns.

Another key challenge was the limited institutional capacity at the local government level, which impacted the implementation of critical infrastructure components such as early warning systems. These limitations often led to delays and required adjustments in resource allocation and technical support to ensure that project activities remained on track.

Despite these challenges, the project's partnership arrangements evolved positively over time. Continuous stakeholder engagement, combined with adaptive management practices, allowed the project to make the necessary adjustments to its strategy and activities. This included reallocating resources to more effective interventions, refining training programs for local actors, and enhancing coordination among implementing partners. The improved collaboration between stakeholders and the project's responsiveness to feedback were critical in maintaining alignment with the project's goals and ensuring its overall success.

The M-CLIMES project demonstrated a robust stakeholder engagement strategy, underpinned by a wide array of partnerships at national, local, and community levels. Despite initial challenges related to institutional capacity, coordination, and community involvement, the project employed adaptive management practices to address these issues and improve implementation over time. The integration of lessons learned from stakeholder feedback and the adjustment of roles within the partnership arrangements were key factors in enhancing the project's effectiveness and relevance in achieving its objectives.

Project finance and co-finance

The total project budget was US$16,264,545, of which US$12,294,545 was GCF grand, US$1,800,000 co-financing from UNDP, and US$ 2,170,000 co-financing from the GoM

The M-CLIMES project was primarily funded by the Green Climate Fund (GCF), which provided substantial financial support to ensure the implementation of the project activities. The project's budget was carefully planned to cover various components, including the installation of early warning systems (EWS), capacity building for hydro-met staff, and community engagement activities.

The Government of Malawi (GoM) played a vital role in cofinancing the project, contributing both financial resources and in-kind support. This included the provision of staff time, office space, and logistical support for field activities. The involvement of national institutions like the Department of Disaster Management Affairs (DoDMA), the Department of Climate Change and Meteorological Services (DCCMS), and the Department of Water Resources (DWR) was crucial in leveraging additional resources and ensuring the alignment of project activities with national priorities.

The United Nations Development Programme (UNDP) provided essential technical and logistical support, which was crucial for the smooth implementation of the project. UNDP's contribution included expertise in project management, capacity building, and monitoring and evaluation, helping to refine project strategies and align them with global best practices in climate adaptation and disaster risk management.

The project faced several financial challenges, including high logistical costs associated with reaching remote areas. Poor infrastructure and the geographical spread of the project sites required substantial investment in transportation and material delivery, straining the project budget. Additionally, incidents of vandalism and theft of early warning systems (EWS) components, such as solar panels, resulted in unforeseen expenses, necessitating repairs and replacements that diverted funds from other planned activities. Limited institutional capacity at the local government level also led to inefficiencies and delays, impacting the financial management of certain interventions. Additional funds had to be allocated for capacity building and technical support to address these gaps.

Output	**Total Budget approved per FAA**	**GCF approved contribution**	**Total expenditure on 06/30/2024**	**GCF expenditures as of 06/30/2-24**	**Rate of Achievement against Final Target**
Output 1	4,074,000	3,660,000	3,944,631	3,530,631	97%
Output 2	6,132,075	5,087,625	6,136,936	5,092,486	100%
Output 3	3,196,310	2,457,360	3,411,597	2,672,647	107%
Project Management Cost	2,862,160	1,089,560	2,726,223	953,623	95%
TOTAL	**16,264,545**	**12,294,545**	**16,219,386**	**12,249,386**	100%

Table : Output level Expenditure

The project reflects efficient resource utilization, with total expenditures closely aligning with the approved budget, achieving 100% of the overall target. Output 3 exceeded expectations with an achievement rate of 107%, demonstrating strong implementation in this area. Output 2 fully met its budgeted target with a 100% achievement rate, while Output 1 achieved 97%, indicating a slightly lower but still commendable performance. Project management costs reached 95% of their target, highlighting effective cost control overall.

	Disbursement by GCF as per FAA schedule	**Date received/ planned**	**Expenditures (30/06/2024)**	**Commitment (30/06/2024)**	**TOTAL**
1	2,377,039	9/7/2017	37,408		37,408

2	3,332,276	12/18/2018	1,138,778		1,138,778
3	2,540,848	11/12/2019	3,780,721		3,780,721
4	1,379,029	10/15/2020	1,241,889		1,241,889
5	1,235,906	6/3/2022	2,262,970		2,262,970
6	1,429,447	12/22/2022	3,745,877	41,743	3,787,620
TOTAL	**12,294,545**		**12,207,644**	**41,743**	**12,249,386**

Table : Expenditure against Disbursements

Financing Source	FAA Approved Budget	Disbursed Funds	Expenditures and Commitments	Balance to disburse (if any)
Ministry of Water and Sanitation	400,000	400,000	0	0
Department of Climate Change and Meteorological Services	535,000	535,000	0	0
Department of Fisheries, Ministry of Forestry and Natural Resources	227,000	227,000	0	0
Department of Disaster Management Affairs	576,000	576,000	0	0
Directorate of Agricultural Extension Services, Ministry of Agriculture	432,000	432,000	0	0
UNDP	1,800,000	1,800,000	0	0
TOTAL AMOUNT USD	**3,970,000**	**3,970,000**	**0**	**0**

Table : Status of co-financing expenditures on DD/MM/YY

Coherence in climate finance delivery with other multilateral entities

The M-CLIMES project demonstrated a high level of coherence in climate finance delivery, particularly through its strategic collaboration with various multilateral entities. This integration of experiences and achievements from ongoing climate change adaptation projects has been instrumental in amplifying the project's impact and ensuring the efficient use of resources.

One of the key collaborations was with the World Food Programme (WFP) and the Food and Agriculture Organization (FAO), focusing on downscaling the national seasonal forecast for the 2019-2020 rainfall season at the district and sub-district levels. This partnership allowed for the alignment of activities across the UNDP, FAO, and WFP, ensuring complementary rather than duplicative interventions. By co-funding activities at the district level, the agencies maximized resource allocation and extended the reach and effectiveness of their climate adaptation initiatives.

The FAO played a significant role in supporting climate resilience efforts through its various projects, most notably the “Building Climate Change Resilience in the Fisheries Sector in Malawi,” which was funded by the Global Environment Facility (GEF)/Least Developed Countries Fund (LDCF) with a US$ 5.46 million grant. This project focused on developing an early warning system for Lake Malawi, which generated crit-

ical weather data, including wave height and wind direction. These weather products, developed in collaboration with the Department of Climate Change and Meteorological Services (DCCMS), were essential for strengthening the resilience of fishing communities, enhancing the sector's preparedness for climate-related challenges.

In addition to this, the FAO led the "Modelling System for Agricultural Impacts of Climate Change" project, which employed an interdisciplinary approach to assess climate change impacts at the national level. This initiative, incorporating components on climate, crops, hydrology, forests, and the economy, improved forecasting capabilities and produced weather and climate information products. The integration of these products into community-based activities, such as the Participatory Integrated Climate Services for Agriculture (PICSA) training, illustrates the synergy between FAO's initiatives and the M-CLIMES project.
Furthermore, the M-CLIMES project benefited from the expansion of the Operational Decision Support System (ODSS), which involved hydrological modeling for additional catchments in the Central region using improved meteorological data from the DCCMS. This enhancement significantly improved flood forecasting capabilities and facilitated the dissemination of early warning messages by DoDMA and DCCMS. The alignment of the project with ongoing efforts to enhance disaster risk management reflects a well-coordinated approach to climate resilience in Malawi.

Monitoring & Evaluation: design at entry (*), implementation (*), and overall assessment of M&E (*)

M&E design at entry
At the project design stage, the M&E framework was developed with a comprehensive approach to ensure rigorous monitoring and evaluation of project activities and outcomes. The **Inception Workshop (IW)**, held in September 2017, was instrumental in shaping the M&E framework. During this workshop, stakeholders thoroughly reviewed the project baseline, background, design, and management arrangements, including the Project Logical Framework (LF) and annual budget allocations. These elements were incorporated into the M&E plan, which included detailed provisions for tracking the progress of project activities and evaluating key performance indicators (KPIs).

The strengths of the M&E design at entry included a clear structure for oversight, with a core team comprising representatives from implementing partners, responsible parties, the Project Coordination Unit (PCU), and relevant ministries. This team was tasked with overseeing M&E activities and was scheduled to meet monthly to discuss project-related issues. The design also included an Annual Work Plan (AWP), which was integrated into the M&E framework and facilitated the systematic tracking of project milestones and achievements. Furthermore, the design incorporated risk assessments and mitigation strategies to address potential challenges that could impact project implementation.

However, the design phase also revealed some challenges. One of the primary limitations was the insufficient anticipation of institutional capacity gaps at the local government level. These gaps, which became apparent later in the project, affected the effective implementation of M&E activities and posed challenges in the collection and analysis of data. Moreover, the baseline data collection, while comprehensive, could have been more rigorous to establish a stronger foundation for future evaluations.

M&E design at entry is rated Satisfactory (S)

M&E Implementation Phase

As the project entered the implementation phase, the Monitoring and Evaluation (M&E) framework continued to be an essential tool for tracking progress and making necessary adjustments. The baseline assessment, conducted early in the project, played a crucial role in identifying key climate information needs among farmers, fishers, and flood-prone communities. This assessment informed the design and targeting of interventions, ensuring that they addressed the specific vulnerabilities and priorities of the project's beneficiaries. Regular monitoring efforts, as highlighted in the Project Completion Report (PCR) and the 2023 Annual Performance Report (APR), enabled early identification of challenges and the timely application of corrective measures to maintain project momentum.

The M&E system facilitated the systematic collection of data on project outcomes, such as food security and climate adaptation practices, using participatory methodologies, including the Participatory Integrated Climate Services for Agriculture (PICSA) approach. This participatory process incorporated valuable community feedback into the M&E activities, ensuring that project interventions remained relevant and responsive to local needs and conditions. The integration of farmer and fisher input through these methods ensured that climate information services were tailored to the specific challenges faced by vulnerable communities, particularly those living in flood-prone areas.

A key strength of the M&E implementation was its embrace of adaptive management practices. Regular monitoring insights allowed the project to adjust activities and address emerging challenges proactively. For instance, when capacity gaps were identified through M&E assessments, the project introduced additional training programs to enhance local capabilities. Moreover, the strong focus on participatory M&E, which actively involved community members—particularly women—in the monitoring process, strengthened local ownership of the project while improving accountability and transparency in decision-making.

One of the standout features of the M&E framework was the project's participation in the Learning-Oriented Real-Time Impact Assessment (LORTA) initiative, led by the Independent Evaluation Unit (IEU) of the Green Climate Fund (GCF). The selection of the M-CLIMES project for this initiative enabled the development of a robust impact evaluation framework, which further informed the design of the baseline survey. This real-time impact evaluation was particularly valuable in assessing the outcomes of the PICSA approach, concluding that the project had positive effects on food security and climate adaptation practices among the targeted beneficiaries.

In addition to regular monitoring, an interim evaluation was conducted midway through the project, providing a comprehensive review of progress and identifying areas requiring attention. This interim evaluation was critical in ensuring that the project remained aligned with its objectives and that corrective actions were implemented where necessary. Throughout the project, quarterly and annual reports, as well as the interim evaluation, were submitted to UNDP and other key stakeholders to ensure transparency and consistent oversight. The use of an achievement matrix further facilitated the tracking of Key Performance Indicators (KPIs), while ongoing updates to the gender action plan ensured that the project maintained its commitment to inclusivity and gender equity.

Despite these successes, the implementation of M&E activities faced several challenges. Coordination issues between institutions and capacity limitations at the local government level hindered the timely collection and analysis of M&E data. Fragmented coordination between local government offices and implementing partners occasionally caused delays in reporting. Additionally, logistical challenges, such as poor infrastructure in remote areas, made it difficult for M&E teams to access certain communities, affecting the timely delivery of resources needed for monitoring activities.

M&E plan implementation is rated Satisfactory (S)

Overall Assessment of M&E

The M&E framework of the M-CLIMES project was a key factor in its overall success, enabling the project to respond to challenges in a timely and effective manner. From the design phase, the framework was established with clear roles, responsibilities, and mechanisms for continuous oversight. Throughout the implementation phase, the M&E system provided critical insights that informed adaptive management decisions, leading to improved project outcomes.

The Project Coordination Unit (PCU) played a central role in facilitating annual work planning, monitoring the results framework, and implementing risk management strategies. Regular risk monitoring and mitigation were embedded in the M&E system, allowing for proactive management of social and environmental risks, including compliance with UNDP Social and Environmental Standards (Safeguards). This ensured that the project adhered to global standards while addressing local needs.

The project's success in integrating stakeholder feedback into the M&E framework was another strength, as it allowed for adjustments based on the evolving needs of beneficiaries. The inclusion of gender-sensitive indicators and the regular review of the gender action plan further enhanced the project's commitment to inclusivity, particularly in ensuring that women benefited equitably from the interventions.

Nevertheless, some persistent challenges limited the full effectiveness of the M&E system. The institutional capacity gaps at the local level, identified at the design phase, continued to impact M&E activities throughout the project's lifecycle. Additionally, logistical difficulties, particularly in accessing remote areas, remained a significant barrier to the effective collection and dissemination of M&E data. These challenges highlighted the need for stronger capacity-building efforts at the local level and more robust logistical planning to support M&E operations.

The Overall quality of M&E is rated Satisfactory (S)

UNDP implementation/oversight (*) and Implementing Partner execution (*), overall project implementation/execution (*), coordination, and operational issues

UNDP implementation and oversight

The role of UNDP in implementing and overseeing the M-CLIMES project was pivotal, ensuring the project's adherence to international standards in climate adaptation and disaster risk management. Leveraging its extensive experience, UNDP provided technical and logistical support, which was critical in refining project strategies and ensuring effective management throughout the project lifecycle. Additionally, UNDP facilitated alignment with global standards, particularly by coordinating efforts with other multilateral entities such as the Food and Agriculture Organization (FAO) and the World Food Programme (WFP). This collaboration ensured that the M-CLIMES project was coherent with and integrated into other ongoing climate initiatives, thereby maximizing resource utilization and impact.

However, the early stages of the project presented significant coordination challenges. Initial issues arose from logistical coordination and resource allocation among the implementing partners, resulting in delays and inefficiencies in the project's rollout. These challenges were progressively addressed by implementing

improved communication mechanisms, which enhanced collaboration and ensured better alignment of efforts. Nevertheless, a persistent challenge was the adaptation to the institutional capacity gaps at the local level, which sometimes hindered the timely execution of project activities. These gaps necessitated continued oversight and adjustments to ensure that project milestones were met.

The quality of UNDP implementing/Oversight is rated Satisfactory (S)

Implementing partner execution

The Senior Beneficiary and Implementing Partner for the project was the Department of Disaster Management Affairs (DoDMA). DoDMA was responsible for managing the project on behalf of UNDP, ensuring efficient and effective implementation, monitoring and evaluation of interventions, achievement of project outcomes, and proper utilization of UNDP resources in compliance with its rules, regulations, policies, and procedures under the National Implementation Modality (NIM).

To ensure the successful delivery of project outcomes, DoDMA entered into agreements with the following responsible parties, who were directly accountable to DoDMA as per their respective agreements:

- Department of Agricultural Extension Services (DAES)
- Department of Climate Change and Meteorological Services (DCCMS)
- Department of Fisheries (DoF)
- Department of Water Resources (DWR)
- National Smallholder Farmers Association of Malawi (NASFAM)

A core team, including representatives from the implementing partners, responsible parties, and UNDP, was established to provide regular oversight and to address project-related issues in a timely manner. This structure ensured that national ownership was emphasized and that the project's interventions were embedded within existing government frameworks. The execution of project activities, however, was significantly constrained by the limited technical capacity and resources available at the local government level. These capacity gaps hindered the effective implementation and maintenance of critical interventions, particularly with respect to early warning systems.

Moreover, fragmented coordination between government departments and project partners led to delays in the execution of certain activities. The logistical challenges presented by remote areas with poor infrastructure further compounded these issues, making it difficult to transport necessary materials and equipment. These operational bottlenecks not only delayed the execution of on-the-ground activities but also placed additional strain on project resources.

The Quality of Implementing Partner Execution is rated Moderately Satisfactory (MS)

Overall project implementation and execution

The overall implementation and execution of the M-CLIMES project were grounded in a robust framework established during the inception phase. The Annual Work Plan (AWP), discussed and endorsed during the Inception Workshop (IW), provided a clear roadmap for project activities and set a structured timeline for achieving project goals. The creation of project steering and technical committees, including the National Disaster Preparedness and Relief Committee (NDPRC) and the National Disaster Preparedness and Relief Technical Committee (NDPRTC), ensured that the project received consistent oversight and that its activities were aligned with Malawi's national disaster risk management frameworks.

Despite the strong foundational framework, the project encountered several challenges that affected both its scope and impact. Initial coordination issues, particularly among implementing partners and local governments, required ongoing adaptation. The project had to address the limited institutional capacity at the local level, which impeded the timely and effective execution of key interventions. Additionally, logistical challenges, particularly in remote areas, delayed the implementation of climate-resilient agricultural practices . These operational difficulties were further exacerbated by incidents of vandalism and theft of early warning system components, which necessitated the reallocation of resources for repairs and replacements, thereby straining the project's budget and timelines.

Coordination and operational issues

Coordination mechanisms improved significantly as the project progressed, largely due to UNDP's role in facilitating effective communication and collaboration among stakeholders. By integrating existing coordination structures for Disaster Risk Management (DRM) in Malawi, such as the NDPRC and NDPRTC, the project aligned itself more closely with national frameworks. This alignment ensured that project activities complemented ongoing national efforts and avoided duplication of resources. Monthly meetings of the core team provided a structured platform for addressing emerging challenges and aligning the project's progress with its strategic objectives. These meetings fostered a collaborative approach to problem-solving and helped to streamline the decision-making process.

Operational Issues posed significant challenges throughout the project's implementation. One of the most persistent issues was the high logistical costs associated with reaching remote areas, which negatively impacted the timely delivery of materials and the implementation of project activities. In addition to logistical challenges, institutional capacity gaps at the local government level were a recurring obstacle. These gaps affected not only the efficiency of project execution but also the ability to maintain the infrastructure and systems put in place by the project, such as early warning systems .

Another operational challenge stemmed from the insufficient engagement of local communities during the project's design phase. This lack of thorough community consultation led to issues such as the improper selection of caretakers for the early warning systems, which in turn resulted in poor ownership and maintenance of these systems. This highlighted the need for more robust and early-stage engagement strategies that could foster stronger community involvement and enhance the sustainability of project interventions.

Risk management, including social and environmental standards (Safeguards)

The M-CLIMES project implemented a comprehensive and structured risk management framework to address potential risks associated with climate change adaptation and disaster risk management activities. The project recognized the importance of identifying and mitigating risks from the outset, and key risks were flagged through detailed assessments conducted during the project design phase. These risks included political instability, natural disasters, logistical challenges, and social barriers that could impede community engagement.

Upon project approval, the risk categorization was determined to be low, and this classification remained unchanged throughout the implementation phase. Notably, no new risks were identified during the project's lifecycle, which indicated that the initial risk assessments were thorough and effectively captured the key issues that could arise. The risks that were originally identified continued to be relevant, requiring ongoing management and oversight. The low-risk categorization was further supported by the minimal

environmental impact of the project, primarily linked to the installation of hydro-meteorological equipment. These installations involved limited construction activities, which helped reduce the project's potential to affect the surrounding environment negatively.

To manage the identified risks, the project developed and implemented a robust Environmental and Social Management Plan (ESMP). This plan provided a structured approach to adhering to environmental and social safeguards, particularly in relation to the installation of hydro-meteorological equipment. The ESMP included detailed guidelines to mitigate any environmental and social impacts, ensuring compliance with UNDP's environmental and social standards. Continuous monitoring of compliance with these standards was integrated into the project's implementation process, which allowed the project team to address any emerging issues promptly.

A key component of the project's risk management framework was the establishment of a Grievance Redress Mechanism (GRM) at both the district and community levels. This mechanism provided a formalized structure through which community members could raise concerns or grievances related to the project's activities. Training was provided to the relevant committees and structures responsible for managing these grievances, ensuring they were equipped to handle any issues. Notably, no grievances were reported during the project's implementation, which suggested that the project's social and environmental management strategies effectively addressed community concerns and prevented conflict.

The social safeguards embedded in the project were particularly important, given the focus on engaging communities in the management and use of early warning systems (EWS) and other climate adaptation infrastructure. Continuous community engagement was emphasized through sensitization campaigns and awareness-raising meetings. These efforts aimed to foster local ownership of the installed hydro-meteorological equipment, which was seen as critical for preventing vandalism and ensuring the long-term sustainability of the infrastructure. By promoting community buy-in and accountability, the project sought to create an environment where the local population valued and protected the equipment and systems.

Despite the overall strength of the risk management framework, the project faced operational challenges during implementation. One of the primary challenges was related to logistical difficulties in accessing remote areas, which sometimes delayed the delivery of equipment and services. These logistical hurdles were compounded by poor infrastructure in some regions, which posed additional difficulties for the timely deployment of materials and installation of hydro-meteorological systems. Furthermore, ensuring continuous community engagement—particularly in maintaining social and environmental safeguards—required sustained effort and resources. The complexity of maintaining these engagements in remote and underserved areas was a challenge that required adaptive management strategies.

The absence of reported grievances suggests that community concerns were addressed effectively, yet this should not be taken as a sign that vigilance can be relaxed. Ongoing efforts to maintain community ownership of the infrastructure are essential for preventing future challenges, such as vandalism or neglect of the installed systems. Proactive measures, including continued community sensitization and engagement, will be necessary to ensure that the hydro-met equipment and EWS remain functional and protected over the long term.

The overall quality of implementation/Execution is rated Moderately Satisfactory (MS)

5. Project Results

Progress towards objective and expected outcomes (*)

The M-CLIMES project has demonstrated significant progress in achieving its overarching objectives of strengthening adaptive capacity and reducing exposure to climate risks for vulnerable communities in Malawi. The project has made strides in community engagement, capacity building, and the enhancement of climate information services, all of which contribute to improving resilience against climate-induced hazards.

Strengthening adaptive capacity
Strengthening adaptive capacity focuses on improving communities' ability to anticipate, prepare for, and respond to climate-related hazards. This goal has been pursued through a multifaceted approach, including community engagement, capacity building, and improved access to climate information.

Community engagement and capacity building:
The M-CLIMES project has made notable progress in engaging communities, fostering local ownership, and building their capacity to adapt to climate risks. Extensive community consultations and focus group discussions indicate that beneficiaries were actively involved in the project's planning and implementation phases. This involvement was particularly significant for women, who expressed appreciation for training on water conservation techniques and improved access to climate information. The emphasis on inclusive participation has been a critical factor in successfully disseminating climate adaptation practices within these communities.

Collaboration with FAO and WFP:
In collaboration with the FAO and the World Food Program (WFP), the project enhanced the accuracy and accessibility of climate information by downscaling national seasonal forecasts to district and sub-district levels. The coordination between UNDP, FAO, and WFP ensured that these organizations' activities were complementary and non-overlapping, thereby optimizing the reach and accuracy of climate forecasts. This collaboration was particularly beneficial in agriculture and fishing sectors, where improved access to location-specific climate information facilitated better decision-making.

Capacity enhancement for hydro-Met staff:
Another significant achievement has been enhancing capacity among hydro-meteorological (hydro-met) staff. Comprehensive training programs were provided, improving the ability of technical staff to generate timely and reliable climate and early warning information. This capacity-building effort has contributed to the project's overall sustainability by ensuring that local institutions can continue to provide accurate and actionable climate information beyond the project's duration.

Reducing exposure to climate risks
The second major objective of the M-CLIMES project is to reduce communities' exposure to climate risks by installing early warning systems (EWS) and developing community-based early warning systems (CBEWS). This project component aims to provide communities with timely and reliable information on climate hazards, enabling them to take preventive action.

Installation of early warning systems :

The project successfully installed hydro-met equipment in targeted areas with minimal environmental impact. The equipment installation process was designed to involve very little construction, thereby mitigating any potential environmental risks. These early warning systems now provide real-time climate data, essential for improving preparedness and response to climate-related disasters, such as floods and droughts.

Community-Based early flood warning systems (CBFEWS):
In addition to the national EWS infrastructure, the project has made significant progress in implementing community-based early warning systems. These systems are tailored to the specific needs of local communities and have been a key achievement in enhancing localized responses to climate risks. Despite challenges such as vandalism and equipment theft, the project addressed these issues through community sensitization and awareness-raising initiatives. These efforts fostered a sense of ownership and responsibility among community members, encouraging them to protect and maintain the installed equipment.

Progress towards expected outcomes

The M-CLIMES project has made considerable progress towards achieving its expected outcomes, which focus on increasing the resilience of vulnerable communities, improving livelihoods, and enhancing climate information services.

Increased resilience of vulnerable communities:
The collaboration with FAO to develop early warning systems and promote sustainable practices in agriculture and fisheries has contributed to greater resilience among vulnerable communities. The FAO's "Building Climate Change Resilience in the Fisheries Sector in Malawi" project, funded by **GEF/LDCF**, was instrumental in providing fishing communities with critical early warning information. This allowed communities to anticipate and respond to severe weather conditions, reducing their vulnerability to climate-related shocks.

Improved climate information services:
The M-CLIMES project significantly improved climate information services by partnering with FAO on the "Modelling System for Agricultural Impacts of Climate Change." This initiative, supported by the Department of Climate Change and Meteorological Services (DCCMS), improved Malawi's forecasting capabilities and enabled the development of location-specific agro-advisories. The Department of Agricultural Extension Services (DAES) and the National Smallholder Farmers Association (NASFAM) disseminated these advisories through SMS, providing farmers with critical, real-time information for making informed agricultural decisions. This advancement in climate services has been pivotal in enhancing agricultural productivity and resilience in targeted regions.

Improved livelihoods of vulnerable populations:
The project has empowered communities to make informed decisions that improve their agricultural productivity and sustainably manage fisheries by providing reliable climate information and training on adaptive practices. The introduction of sustainable agricultural practices, informed by accurate climate information, has led to increased crop yields, better management of natural resources, and overall economic stability for many vulnerable populations. These agricultural and fisheries productivity improvements have had direct social and economic benefits, contributing to enhanced livelihoods and greater resilience against climate-related risks.

M-CLIMES project has made significant progress towards strengthening adaptive capacity and reducing exposure to climate risks. Through its integrated approach of community engagement, capacity building, and the installation of early warning systems, the project has enhanced the resilience of vulnerable populations in Malawi. The collaboration with FAO, WFP, and other partners has been particularly effective in improving access to climate information and promoting sustainable practices in agriculture and fisheries. Despite logistics and equipment security challenges, the project's efforts in community sensitization and capacity building have fostered local ownership and accountability, which are critical for the sustainability of the interventions.

Impact of participation in PICSA

The GCF evaluation highlighted the success of PICSA in improving maize yields among participating farmers, with an estimated 60% increase in productivity. However, this likely underrepresents PICSA's broader impact. The evaluation primarily measured maize, but qualitative and participatory findings indicate that PICSA influenced decisions across multiple crops and livestock management practices.
The participatory nature of PICSA encouraged farmers to independently evaluate climate information, leading to the adoption of various climate-resilient practices tailored to their specific contexts. This included changes in planting dates, diversification of crops, improved irrigation, and shifts in livestock management. The holistic approach of PICSA ensures that its impact extends beyond a single crop, contributing to diversified, resilient agricultural systems.

The project's achievements in increasing resilience, improving livelihoods, and enhancing climate information services represent substantial progress towards the expected outcomes. The continued focus on monitoring, community engagement, and technical capacity will be essential for maintaining these gains and ensuring the project's long-term success.

Relevance (*)

The M-CLIMES project is highly relevant at global, national, and local levels, aligning with Malawi's national climate adaptation strategies while directly supporting the Green Climate Fund's (GCF) eight result areas and investment criteria. By strengthening climate information services and early warning systems (EWS), the project advances Malawi's efforts in disaster preparedness and climate adaptation while addressing key GCF priorities, including livelihoods, food security, infrastructure resilience, and climate information systems.
At the national level, the project contributes to Malawi's National Adaptation Plan (NAP) (2020), National Climate Change Management Policy (2016), and National Resilience Strategy (NRS) (2018-2030). These frameworks emphasize disaster preparedness, climate-smart agriculture, and institutional strengthening—all of which are core components of the project. The expansion of community-based EWS and climate advisories for farmers and fishers strengthens Malawi's capacity to anticipate and mitigate climate-related risks. Furthermore, the project supports the Malawi Growth and Development Strategy (MGDS III) (2017-2022) by enhancing the resilience of climate-dependent sectors and promoting sustainable livelihoods for vulnerable populations.
The project aligns with several GCF investment criteria, particularly in impact potential, paradigm shift, and sustainable development. Through the installation of 31 Automated Weather Stations (AWS) and 15 hydrological stations, Malawi's national meteorological capacity has improved, leading to more accurate climate forecasting and data-driven decision-making. The project's promotion of drought-tolerant crops, conservation agriculture, and Participatory Integrated Climate Services for Agriculture (PICSA) has

strengthened food security while fostering more sustainable farming practices. These interventions directly contribute to the GCF result areas of food security, livelihoods, and resilience of ecosystems and communities.

A major innovation of the project is its shift from centralized early warning dissemination to a decentralized, community-owned approach. The establishment of Community-Based Flood Early Warning Systems (CBFEWS) in 21 districts has helped over 325,000 people prepare for climate hazards, exceeding the initial target of 115,000 beneficiaries. Additionally, by integrating climate information into mobile platforms and community radio networks, the project has made vital weather and agricultural advisories accessible to remote populations. This localization of climate resilience measures represents a paradigm shift in how early warning systems are implemented and sustained.

The country ownership and efficiency of the project are evident in its implementation through national agencies such as DoDMA, DCCMS, and DWR, ensuring alignment with government priorities. The project leveraged existing institutional frameworks to minimize administrative costs while maximizing impact. However, long-term sustainability remains a challenge. While the project successfully strengthened climate services, maintaining EWS infrastructure and climate information dissemination will require additional financing beyond GCF and UNDP support. Public-private partnerships and national budget allocations will be critical to ensuring continued functionality.

At the community level, the project has significantly empowered smallholder farmers, fishers, and women, ensuring that vulnerable groups have access to climate information tailored to their needs. Women, who make up 55% of the project beneficiaries, received targeted training in climate-resilient agriculture and water conservation, improving their economic security and decision-making power. By ensuring equitable access to climate adaptation resources, the project contributes to gender-responsive resilience building, a critical factor in long-term sustainability.

The M-CLIMES project is highly relevant to both Malawi's climate adaptation agenda and GCF's investment priorities. It has strengthened disaster preparedness, food security, and climate information systems, providing a scalable and replicable model for climate resilience. While the project has made remarkable progress in reducing climate vulnerability, its continued success will depend on securing long-term financial mechanisms and institutionalizing local ownership of early warning systems.

Relevance is rated Highly Satisfactory (HS)

Effectiveness (*)

Timeliness and alignment with the TOC

The M-CLIMES project demonstrated commendable progress in delivering its outputs, with many components achieved promptly, though delays were encountered in specific areas. The project's delivery of key outputs, such as installing early warning systems (EWS) and disseminating climate information, aligned well with the Theory of Change (ToC). The ToC envisioned enhancing adaptive capacity and reducing exposure to climate risks, and the project's timely actions in these areas supported the pathways identified. For example, establishing Community-Based Flood Early Warning Systems (CBFEWS) in 21 sites across 8 flood-prone districts surpassed initial expectations, covering more than 325,000 people. This exceeded the planned target of 115,000 beneficiaries, reinforcing the project's alignment with the ToC and its goal of improving disaster preparedness.

However, some delays occurred in installing infrastructure in remote regions, which limited the reach of early warning messages. These logistical challenges did not critically undermine the overall effectiveness of the project but did restrict the timely rollout of interventions in certain areas. Despite these constraints, the project met or exceeded most of its planned outputs, including expanding hydro-meteorological infrastructure and disseminating tailored climate information. The progress made in these areas was crucial

in advancing the project's overall objectives and ensuring that communities were better equipped to manage climate risks.

Demonstrated changes against baseline and GCF investment criteria

The M-CLIMES project delivered significant improvements relative to the baseline established in the approved funding proposal and exceeded several key indicators. One of the most notable successes was the substantial increase in the number of direct and indirect beneficiaries reached by the project. Initially, the target was set at 3 million beneficiaries, of which 1.6 million were expected to benefit from climate-related early warning systems and other risk reduction measures. The project, however, far exceeded this target, reaching a total of 4.86 million beneficiaries, with 55% female participation. This outcome represents a 62% increase over the planned target, reflecting the effectiveness of the project's outreach, particularly through mass media, community radios, and SMS dissemination systems.

The project also contributed significantly to the Green Climate Fund (GCF) investment criteria. The percentage of the population reached by tailored climate information rose from a baseline of 2% to an impressive 18%, far surpassing the planned target of 6%. This was due to expanding communication channels, particularly the upscaling of Participatory Integrated Climate Services for Agriculture (PICSA) training, which reached farmers in 14 food-insecure districts. The establishment of Community Emergency Operation Centres (EOCs) and the Telemetry-based CBEWS further supported these gains by improving real-time disaster response capacities.

The project also enhanced the national climate monitoring network, with 31 Automated Weather Stations (AWS) and 15 hydrological stations installed, increasing the national coverage to 38.5% and 65%, respectively. This was a significant achievement, especially when compared to the baseline national coverage of 21% for AWS and 28% for hydrological stations. These expansions were crucial for generating more accurate and timely climate data, which directly contributed to improved climate forecasting and early warning services across the country.

Contribution to national and international development priorities

The M-CLIMES project contributed substantially to Malawi's national development priorities, the Sustainable Development Goals (SDGs), the UNDP Strategic Plan, and the GCF's priorities. By aligning closely with Malawi's National Adaptation Plan (NAP) Framework (2020) and National Resilience Strategy (NRS) (2018-2030), the project addressed critical gaps in disaster risk reduction and climate adaptation. Its focus on enhancing climate information services and community-based disaster preparedness systems supported national goals of building resilience to climate change impacts, especially in rural and vulnerable communities.

The project also significantly contributed to the SDGs, particularly SDG 13 (Climate Action) and SDG 2 (Zero Hunger). The project's efforts to improve agricultural practices by disseminating agro-advisories and climate-smart farming techniques directly impacted food security outcomes, which are essential for Malawi's development. The project's success in reaching a total of 2.15 million direct beneficiaries through climate-related early warning systems and risk reduction measures, with 55% of those beneficiaries being women, is a testament to its alignment with global and national development priorities.

At the international level, the M-CLIMES project contributed to the UNDP Strategic Plan and the GCF's strategic priorities by promoting climate resilience, environmental sustainability, and disaster risk management. The collaboration with FAO and WFP was instrumental in enhancing the project's alignment with UN priorities, particularly in improving forecasting capabilities and disseminating tailored climate

information products for agriculture, fisheries, and flood risk management. These contributions have had a lasting impact on the communities involved, providing them with the tools and knowledge to better adapt to and mitigate the impacts of climate change.

Constraints and overcoming challenges

The M-CLIMES project encountered several constraints, including socio-economic, political, and environmental challenges, that affected the timely implementation of some activities. Logistical issues, such as poor road infrastructure in remote areas, delayed the installation of early warning systems infrastructure. Additionally, socio-economic barriers, such as limited financial resources for accessing climate-resilient technologies, posed challenges in adopting climate-smart agricultural practices by local farmers.

Despite these challenges, the project employed adaptive management strategies to overcome many barriers. For instance, community radios and SMS dissemination systems proved to be highly effective in reaching remote populations with timely climate information, even when physical infrastructure was delayed. Furthermore, the project leveraged partnerships with local and international stakeholders, including national disaster management institutions, to enhance coordination and ensure that resources were efficiently allocated to high-priority areas.

Alternative strategies and effectiveness

Although the project achieved its primary objectives, alternative strategies in certain areas might have further enhanced its effectiveness. For instance, greater emphasis on post-training follow-up could have ensured farmers' more sustained application of climate-smart practices. While the training programs were generally well-received, feedback from some communities indicated that ongoing mentorship and support would have improved their ability to implement the practices effectively. A more robust mentorship model, where trainers periodically revisited communities to provide hands-on guidance, could have ensured more lasting impacts on agricultural productivity.

Additionally, greater investment in agricultural infrastructure, particularly in regions with limited access to climate-resilient seeds, would have amplified the project’s impact on food security. By addressing these technological gaps, the project could have further increased the adoption of climate-resilient farming practices, which is essential for sustaining food production in a changing climate.

Gender equality, empowerment of women, and human rights-based approach

The M-CLIMES project made substantial contributions to gender equality and women's empowerment, adopting a human rights-based approach in both its design and implementation. Women were actively involved in all project phases, from community consultations to climate information dissemination. Women constituted a significant portion of the project’s beneficiaries, representing 55% of the total individuals reached, which underscores the project's success in promoting gender-inclusive climate adaptation strategies.

The M-CLIMES project made substantial progress in expanding early warning systems, particularly in flood-prone districts, where the installation of hydro-meteorological equipment improved climate risk monitoring. A key success was the establishment of 31 automated weather stations (AWS) and 15 hydrological monitoring stations, significantly enhancing data collection and analysis for early warning dissemination. These improvements enabled national meteorological agencies and local communities to better anticipate extreme weather events, reducing losses from floods and droughts.

Additionally, the project exceeded its target in climate information dissemination, reaching over 325,000 people with tailored advisories on climate risks and adaptation strategies. The use of SMS alerts, community radio broadcasts, and agricultural extension services ensured that smallholder farmers and fishers received timely and context-specific weather information, improving decision-making in agriculture and disaster preparedness. Field data and beneficiary feedback confirm that access to climate information directly improved farming yields, with an estimated 20-30% increase in productivity due to climate-resilient practices.

Despite these successes, some delays in infrastructure deployment limited the project's early impact. Procurement bottlenecks and logistical challenges affected the timely installation of hydro-meteorological equipment, particularly in remote regions. In some cases, delays in training sessions for local government agencies and communities meant that new systems were underutilized in the first phases of implementation. While the project effectively enhanced technical capacity in climate services, the continuity of these efforts remains dependent on institutional commitment and resource allocation.

The project's focus on gender-responsive interventions, such as water conservation training and climate-smart agricultural practices, empowered women to lead in managing natural resources and mitigating climate risks. The establishment of gender-responsive early warning systems and the involvement of women in managing these systems further contributed to their empowerment and the resilience of their communities. The project's use of a Grievance Redress Mechanism (GRM) also demonstrated its commitment to a human rights-based approach, ensuring that the voices of marginalized and vulnerable groups were heard and addressed throughout the project's implementation.

Effectiveness is rated Satisfactory (S)

Efficiency (*)

The M-CLIMES project demonstrated moderate efficiency in cost-effectiveness, resource allocation, and coordination mechanisms. While several positive measures were implemented to maximize value for money, the project faced notable challenges related to delayed fund disbursements, staff turnover, and reliance on subscription-based ICT platforms. This analysis provides a comprehensive evaluation of the project's efficiency, examining whether resources were utilized in the most economical, effective, and equitable ways and the functioning of the project's governance mechanisms.

Resource utilization and cost-effectiveness

One of the key strengths of the M-CLIMES project was its focus on cost-effective implementation strategies. The project significantly reduced administrative costs by leveraging existing Ministries, Departments, and Agencies (MDAs) as primary implementation partners. This strategy allowed the project to benefit from established institutional knowledge and existing networks, which enhanced overall efficiency and ensured smoother integration with national systems. The use of MDAs also contributed to the absorption rate of financial resources, as these institutions had the necessary experience and capacity to manage project activities effectively.

Moreover, the project employed a lean project support team, which minimized administrative overhead and allocated more financial resources directly to core project activities. This approach was instrumental in maintaining the project's cost-effectiveness, especially given the extensive scope of interventions across various sectors, including agriculture, fisheries, and disaster risk management. The decision to rely on community-based trainers for capacity-building activities also reduced costs. By tapping into local expertise, the project minimized the need for external consultants, which would have significantly increased training expenses. This strategy maximized resource utilization and fostered local ownership and sustainability of the project's interventions.

However, the project faced challenges regarding the timeliness of fund disbursement, which affected the efficient execution of key activities. Delays in disbursing funds between January and March negatively impacted the setup of early warning systems (EWS). These delays in financial flows disrupted the project timeline and hindered the timely implementation of critical interventions, reducing the overall resource utilization efficiency. Although the project recovered from these delays, the impact on the timely achievement of outputs was evident in certain regions where EWS infrastructure was not deployed as planned.

Governance and coordination mechanisms

The governance mechanisms of the M-CLIMES project demonstrated moderate efficiency but faced coordination challenges, particularly in the early stages. The project adhered to international and national standards, including guidelines from the Green Climate Fund (GCF) and Malawi's National Adaptation Plan (NAP) and National Disaster Risk Management Policy. By aligning its governance structure with these frameworks, the project ensured compliance with best practices for climate adaptation and disaster risk reduction. The Project Steering Committee (PSC) and Technical Committees, established to guide the project, functioned as intended but were occasionally hindered by coordination difficulties between different government institutions.

One of the primary challenges in the governance structure was high staff turnover in key government institutions, which affected the continuity and efficiency of project activities. Staff turnover led to delays in decision-making and the implementation of activities in some districts, as new personnel needed to be trained and integrated into the project. This turnover and coordination gaps between MDAs and local governments slowed the initiation and completion of certain project outputs. While cost-effective, reliance on government institutions highlighted the need for stronger coordination mechanisms and retention strategies to ensure the smooth implementation of activities.

Despite these challenges, the project's coordination with local NGOs and other stakeholders improved over time, contributing to enhanced service delivery, particularly in remote areas. Initially, coordination issues posed a significant challenge to the efficient implementation of activities, but as the project matured, these relationships became more effective, leading to improved outcomes. While not flawless, the governance mechanisms provided the necessary oversight and adaptability to address issues as they arose.

Challenges and areas for improvement

Several challenges impacted the overall efficiency of the M-CLIMES project, including delayed fund disbursement, high staff turnover, and the reliance on subscription-based ICT platforms for disseminating advisory and early warning information. The delayed disbursement of funds during critical periods disrupted the project's timeline and led to the postponement of essential activities, such as installing early warning systems. These delays underscore the need for improved financial management systems that

ensure timely allocation and disbursement of project funds to prevent bottlenecks in project implementation.

The reliance on subscription-based ICT platforms also posed a challenge to cost-efficiency. These platforms, used for disseminating climate information and early warnings, incurred ongoing costs that could have been reduced by adopting open-source platforms. While the subscription-based systems effectively delivered timely information to communities, the additional costs associated with these platforms reduced the potential for greater cost-efficiency. A transition to open-source solutions could have provided the same level of service without incurring high recurring expenses, further optimizing resource use.

Furthermore, high staff turnover in government institutions weakened the project's continuity and impacted efficiency. The frequent departure of key personnel required additional training and onboarding efforts, which slowed the execution of planned activities. This issue was particularly pronounced in certain districts, where new staff had to be integrated into the project, delaying critical interventions. The project could have benefited from a stronger retention strategy, ensuring that trained personnel remained in their roles throughout the project's lifecycle to maintain continuity and efficiency.

Positive aspects of efficiency

Despite the aforementioned challenges, the M-CLIMES project exhibited several positive efficiency aspects. The use of existing MDAs as implementation partners allowed for the efficient use of resources by leveraging existing structures, expertise, and networks. This approach not only reduced administrative costs but also enhanced the equitable distribution of resources, as local institutions were able to tailor interventions to the specific needs of the communities they served. Additionally, the lean project support team ensured that resources were directed toward on-the-ground activities, rather than being absorbed by administrative overheads, which significantly contributed to the project's overall efficiency.

The project's collaboration with local NGOs and government agencies also played a critical role in overcoming logistical challenges, particularly in reaching remote areas. These partnerships enabled the project to extend its reach and deliver services to communities that would have otherwise been difficult to access due to infrastructure limitations. While early coordination issues affected the speed of delivery, the relationships between these entities improved over time, contributing to the project's success in meeting its intended outcomes.

Efficiency and Coordination: Overcoming Logistical Challenges

The evaluation identified efficiency challenges related to fund disbursement and procurement processes. While the project delivered high-impact results, slow financial approval procedures and bureaucratic delays impacted the timely deployment of hydro-meteorological equipment and climate advisories. Remote districts were particularly affected, with some EWS installations delayed due to logistical constraints and inefficient supply chain management.

While UNDP and government agencies maintained strong coordination throughout the project, the complex nature of multi-agency implementation led to occasional overlaps and inefficiencies. In some cases, project responsibilities between DoDMA, DCCMS, and implementing partners were not clearly delineated, resulting in delays in decision-making and resource allocation. Strengthening inter-agency coordination frameworks and streamlining financial disbursement mechanisms will be critical for future climate adaptation initiatives.

Relevance is rated Moderately Satisfactory (MS)

Overall outcome (*)

The M-CLIMES project achieved significant positive outcomes, contributing to the climate-resilient sustainable development of Malawi. The promotion of climate-resilient agriculture, establishment of early

warning systems, and strong community engagement were notable successes. However, challenges related to resource allocation, logistical difficulties, and ensuring sustainability highlight areas for improvement. Key achievements included:

- ***Increased crop yields:*** The Quantitative PICSA Impact Evaluation conducted under the project recorded an average yield increase of 20-30% amongst supported farmers through the adoption of climate-resilient agricultural practices, mitigating the impacts of droughts and erratic rainfall.
- ***Effective Early Warning Systems:*** Community-based early warning systems (EWS) were established in several districts, successfully preventing losses from climate-related disasters, particularly benefiting fishers on Lake Malawi.
- ***Strong community engagement:*** The participatory approach fostered a sense of ownership among community members, with women appreciating training on water conservation and climate information access.
- ***Capacity building:*** Extensive training programs enhanced community preparedness and empowered them to make informed decisions based on developed climate information products.

The overall project outcome is rated Satisfactory (S)

Comprehensive assessment of impact of COVID-19 on project implementation

The COVID-19 pandemic had a profound impact on implementing the M-CLIMES project in Malawi, disrupting nearly all aspects of the project, from timelines and resource allocation to community engagement and logistical coordination. As with many development initiatives globally, the pandemic introduced significant challenges that forced the project to adapt quickly, often with limited resources and under conditions of uncertainty. This analysis details the multifaceted effects of COVID-19 on the M-CLIMES project, with a focus on the key disruptions it caused and the adaptive strategies employed to mitigate these impacts.

The most immediate consequence of the pandemic was a series of delays that affected nearly all project activities. The implementation timeline, which had been carefully planned to ensure the timely execution of tasks such as the installation of early warning systems (EWS) and the roll-out of community training programs, was severely disrupted. Lockdowns and travel restrictions imposed to control the spread of the virus made it difficult for project staff to access remote sites and communities. These restrictions meant that physical infrastructure projects, such as the setup of hydro-meteorological stations and the construction of community-based early warning systems, were postponed. Supply chain issues exacerbated these delays, as global disruptions in manufacturing and shipping further delayed the delivery of essential equipment needed for these installations.

In addition to delays in physical infrastructure, the pandemic also hindered the delivery of critical training and capacity-building programs. The project had originally planned to conduct a series of in-person workshops and training sessions aimed at equipping farmers, fishers, and local officials with the knowledge and skills needed to implement climate-resilient practices. These training sessions were essential to the project's objectives, particularly in enhancing community preparedness for climate risks.

However, with restrictions on public gatherings and concerns over public health, these sessions had to be postponed or cancelled. This significantly slowed the process of knowledge transfer, reducing the communities' capacity to respond to climate risks in the short term.

The pandemic's impact on resource allocation was another major challenge for the M-CLIMES project. The global health crisis led to a reallocation of both national and international funds, as governments and

donor organizations shifted resources to address the immediate public health emergency. This reallocation created funding gaps in the project, delaying the disbursement of financial resources and slowing the procurement of essential supplies. Additionally, the project faced rising operational costs as a result of the pandemic. The need to implement health and safety protocols, such as providing personal protective equipment (PPE) for project staff and participants, holding smaller and more frequent meetings to maintain social distancing, and transitioning to remote working arrangements, all added unplanned expenses to the project's budget. These increased costs strained the already limited resources, further complicating the project's ability to deliver on its original targets.

Another key challenge introduced by the pandemic was the disruption of logistical operations. The global nature of the pandemic affected both international and domestic supply chains, delaying the procurement of equipment and materials necessary for the implementation of project activities. Equipment for early warning systems and climate monitoring infrastructure, much of which had to be imported, faced long delays due to interruptions in international shipping. On a local level, travel restrictions and lockdowns made it difficult for project personnel to reach remote and often vulnerable communities where the project's interventions were most needed. These logistical barriers further delayed the completion of project activities, particularly in areas where infrastructure was already limited, making access difficult under normal circumstances.

Community engagement, a cornerstone of the M-CLIMES project's approach, was also significantly impacted by the pandemic. The project was designed to engage communities in a participatory process, ensuring that the interventions were locally relevant and that community members felt a sense of ownership over the outcomes. However, the pandemic made it difficult to sustain the level of community involvement that had been planned. Social distancing measures, restrictions on public gatherings, and fears about the spread of the virus reduced participation in community meetings and workshops. Many community members were understandably reluctant to engage in group activities, which limited the project's ability to build strong local partnerships and secure the buy-in needed for long-term sustainability.

In response to these challenges, the project had to quickly adapt its methods of community engagement. One of the most effective strategies was the increased use of radio broadcasts, SMS alerts, and virtual meetings to continue disseminating climate information and engaging with communities. These methods allowed the project to maintain some level of communication and ensure that critical climate information continued to reach vulnerable populations, even during periods of restricted movement. However, the effectiveness of these remote communication strategies was limited by several factors, including inconsistent mobile network coverage in rural areas, limited access to technology, and low levels of digital literacy among the target populations. These constraints meant that while remote engagement strategies provided a temporary solution, they could not fully replace the depth and effectiveness of in-person interactions.

The pandemic also markedly affected the project's ability to deliver training and capacity-building programs. Much of the training planned under the M-CLIMES project was designed to be delivered through hands-on, practical workshops that required in-person participation. These sessions aimed to teach farmers and fishers how to adopt climate-resilient agricultural techniques and disaster preparedness strategies. With the onset of the pandemic, these sessions had to be suspended, and while some efforts were made to transition to virtual training platforms, the effectiveness of these online alternatives was limited. Rural communities, in particular, faced significant barriers to participating in virtual training due

to limited access to the internet and poor digital infrastructure. Additionally, the hands-on nature of much of the training made it difficult to replicate in an online format, reducing the overall impact of these efforts.

Innovativeness in results areas

The M-CLIMES project demonstrated a range of innovative approaches across its various result areas, contributing meaningfully to climate resilience and adaptation efforts in Malawi. Through its focus on climate-resilient agriculture, the implementation of community-based early warning systems (EWS), and the development of localized climate information services, the project introduced new strategies tailored to the local vulnerabilities of the country. This analysis highlights key innovations and their impact on climate resilience in Malawi.

One of the most significant innovations of the M-CLIMES project was its emphasis on climate-resilient agriculture. The project promoted the adoption of drought-tolerant crops and conservation agriculture techniques, which were crucial in helping farmers adapt to increasingly unpredictable weather patterns. These practices led to tangible benefits for participating farmers, who reported a 20-30% increase in crop yields. By introducing more sustainable land management practices, the project mitigated the impacts of droughts and erratic rainfall, enhancing agricultural productivity despite the challenges posed by climate variability.

This focus on sustainable farming practices marked a departure from traditional methods ill-suited to the changing climate. The project's introduction of climate-resilient agriculture reflected a broader understanding of the need for innovative solutions that address both short-term and long-term risks. By promoting the use of drought-resistant varieties and techniques like mulching and minimal tillage, the project improved crop yields and fostered the long-term sustainability of agricultural production in a climate-affected region.

The community-based early warning systems (EWS) introduced by the project were another key area of innovation. Traditional disaster warning systems tend to be centralized, often leaving vulnerable communities without timely information. By shifting to a community-driven model, the M-CLIMES project ensured that local populations had direct access to life-saving information about climate-related risks, such as floods and extreme weather events. These systems were particularly valuable for communities around Lake Malawi, where sudden storms pose a severe threat to the livelihoods of fishers.

The community-based approach to EWS emphasized local engagement in the systems' design and operation. This fostered a strong sense of local ownership and trust in the warning messages, leading to quicker responses and reduced losses during climate emergencies. For example, fishers benefitted from timely alerts about dangerous weather conditions, which helped to reduce accidents and property damage. The real-time weather data provided by these systems played a crucial role in reducing the impact of extreme weather events, particularly in areas prone to flooding.

However, the implementation of these systems faced some challenges. Delays in infrastructure setup, particularly in remote regions, limited the reach of early warning messages in some areas. Logistical barriers, including difficult terrain and restricted access to necessary materials, slowed the rollout of the EWS in isolated districts. Despite these delays, the community-driven design remained a key innovation, ensuring that once established, the systems were responsive to the specific needs and risks of each community.

In the area of climate information dissemination, the M-CLIMES project introduced several innovative practices. By collaborating with partners such as FAO and WFP, the project was able to downscale national climate forecasts to the district and sub-district levels, offering localized and actionable climate information to farmers and fishers. This approach addressed the need for context-specific data, which was crucial for making informed decisions about agricultural and fishing activities. The agro-advisories generated through this process provided farmers with valuable guidance on planting and harvesting, enabling them to anticipate and respond to climate risks more effectively.

A particularly innovative component of the MCLIMES project was the implementation of the PICSA approach. PICSA empowered farmers to integrate scientific climate information with their local knowledge, enabling informed decision-making tailored to their unique farming conditions. This participatory process represents a departure from conventional top-down extension approaches, fostering farmer autonomy and ownership of solutions.

The success of PICSA is evident in the high uptake of conservation agriculture (CA) and adoption of improved crop varieties among participating farmers. Instead of prescribing practices, PICSA facilitated farmer-led decisions, where farmers identified and implemented climate-resilient measures best suited to their farms. This resulted in measurable increases in agricultural productivity, with 20–30% yield improvements widely reported, surpassing benchmarks for typical climate services projects.

The success of PICSA underscores its replicability and potential for further scaling. The introduction of tools like the E-PICSA app, which provides updated training materials and climate data, further enhances the sustainability of this approach by ensuring extension officers and lead farmers have continued access to essential resources.

The project's innovations in communication tools for climate information dissemination were equally critical. SMS alerts, community radio, and mobile platforms enabled the project to reach a broader and more diverse audience, particularly in rural and remote areas. Given the limited access to formal information channels in these regions, the use of modern ICT tools was a forward-thinking solution that allowed the project to overcome traditional barriers to communication. By leveraging these technologies, the M-CLIMES project provided timely and relevant information to populations often excluded from formal early warning systems and agricultural advisories.

The use of community radio was particularly innovative in reaching populations with lower literacy levels and those without access to mobile phones. The project disseminated seasonal climate forecasts and agricultural advisories through radio broadcasts, ensuring that information was widely accessible even in areas with limited digital connectivity. This multi-channel communication strategy ensured no community was left behind, demonstrating an inclusive approach to dissemination of climate information.

The M-CLIMES project also introduced innovative multi-stakeholder collaboration models, engaging various partners from government agencies, NGOs, and international organizations like FAO and WFP. By fostering these partnerships, the project integrated its climate resilience initiatives into national development frameworks and ensured alignment with Malawi's climate adaptation priorities. This collaborative approach expanded the project's reach and enhanced the technical soundness of its interventions. The involvement of a broad range of stakeholders ensured that the project's innovations were well-supported and had the potential for scalability beyond the immediate project areas.

One standout example of this collaboration was the project's partnership with FAO to improve climate resilience in the fisheries sector. Fishers on Lake Malawi are highly vulnerable to unpredictable weather patterns, and introducing early warning systems specifically tailored to their needs was an innovative response to this risk. These systems provided real-time data on wave height and wind direction, which enabled fishers to make safer decisions about when to venture onto the lake. This targeted intervention demonstrated how multi-stakeholder collaboration could lead to tailored solutions for highly vulnerable sectors.

Additionally, the project introduced gender-sensitive interventions, recognizing the disproportionate impact of climate change on women and ensuring their active involvement in the project's activities. Women were provided with targeted training on water conservation, climate-resilient farming techniques, and disaster preparedness, addressing the specific vulnerabilities they face in climate change. The project's inclusive approach ensured that gender equality was embedded in its climate resilience strategies, contributing to women's empowerment and enhancing the resilience of entire communities.

The project's innovations also extended to risk management, where it adopted a risk-based approach to its interventions. The community-based flood early warning systems, designed to be low-cost and easily maintained, were built on existing community structures and local knowledge. This focus on sustainability and community ownership ensured that the systems could be maintained long after the project's completion, further strengthening the resilience of vulnerable communities to climate risks.

Unexpected results, both positive and negative

The M-CLIMES project yielded several unexpected results, both positive and negative, which had significant implications for its overall outcomes. These unforeseen developments were not fully anticipated during the project's design phase but emerged as critical factors influencing its implementation and impact.

On the positive side, one of the most surprising outcomes was local farmers' higher-than-anticipated adoption of climate-resilient agricultural practices. While the project aimed to promote techniques such as the use of drought-tolerant crops and conservation agriculture, the speed and scale of adoption exceeded initial expectations. Farmers reported an average increase of 20-30% in crop yields, demonstrating the effectiveness of these practices in mitigating the impacts of droughts and erratic rainfall. This uptake was particularly noticeable in previously highly dependent areas on traditional farming methods. The combination of capacity-building activities and the dissemination of tailored climate information through SMS alerts and community radio played a key role in accelerating this adoption. Farmers responded well to the localized information provided, which allowed them to make timely decisions regarding planting, and harvesting, improving their productivity and resilience to climate risks.

Another unexpected positive outcome was the increased engagement of women in climate resilience activities. Although gender inclusion was a core focus of the project, the extent to which women became involved in decision-making and community-based interventions exceeded expectations. The training programs on water conservation, climate-smart agriculture, and early warning systems were particularly well-received by women, who had previously been less involved in formal agricultural decision-making processes. Women's participation in project activities empowered them to take on leadership roles within their communities and enhanced the interventions' effectiveness, as their involvement ensured that climate-resilient practices were integrated into daily household and community activities. This unanticipated level of engagement highlights the importance of gender-sensitive approaches in climate

adaptation projects. It suggests that future initiatives could benefit from further emphasizing women's roles in resilience-building efforts.

Moreover, the CBEWS implemented by the project led to an unexpected increase in local governance capacity. As communities took greater ownership of the systems, local governance structures, such as village committees and traditional leadership roles, were strengthened. These local entities became more active in coordinating disaster preparedness activities, ensuring that early warning messages were effectively disseminated, and organizing community responses to impending weather events. This enhancement of local governance was an unanticipated benefit of the project, as it provided communities with more autonomy and improved their capacity to manage climate-related risks independently. The project's focus on community-driven approaches to EWS thus not only enhanced disaster preparedness but also contributed to institutional strengthening at the local level, a critical factor for long-term sustainability.

However, the project also encountered some unexpected negative results, primarily related to logistical challenges and resource constraints. One significant issue was the delays in infrastructure development, particularly in remote areas. Although the project had initially planned to establish hydro-meteorological stations and install early warning systems in key vulnerable regions, logistical difficulties and limited access to materials resulted in delays in the setup of these critical systems. This was particularly problematic in areas that were most prone to climate-induced disasters, such as flood-prone regions. The delays limited the reach of early warning messages and reduced the overall effectiveness of the EWS, particularly during the initial phases of the project. Additionally, the global supply chain disruptions caused by the COVID-19 pandemic further exacerbated these delays, as key materials and equipment were either unavailable or took much longer to arrive at the project sites.

Another negative and unforeseen outcome was the issue of vandalism and theft of early warning system components, such as solar panels and weather monitoring equipment. In some communities, the lack of sufficient community consultation and engagement during the early stages of implementation led to inadequate awareness about the value and purpose of the equipment being installed. As a result, some systems were tampered with or stolen, which disrupted the functionality of the EWS and required the project team to divert resources to replace or repair the damaged components. This issue highlighted the need for stronger community ownership and more comprehensive sensitization efforts to ensure that local populations fully understood the importance of the systems and were motivated to protect them.
Another unanticipated challenge was the high turnover of trained personnel, particularly among hydro-met staff and local government officials. The project's success relied heavily on building local capacity through training programs, but the attrition of trained individuals posed a significant obstacle to sustaining project outcomes. As key personnel left their positions, either due to professional mobility or financial constraints, newly trained individuals were often not readily available to take their place. This turnover created gaps in knowledge and skills, particularly in the operation and maintenance of early warning systems and climate monitoring equipment. While the project made efforts to provide follow-up training and build institutional knowledge within local governments, the high turnover rate remained a challenge that impacted the consistency and sustainability of project activities.

Country ownership

The project's design was deeply rooted in Malawi's national climate resilience strategies, such as the National Adaptation Plan (NAP) and the National Resilience Strategy (NRS), ensuring its relevance to the country's priorities. However, a closer look reveals some misalignments and gaps in execution, particularly

regarding the depth of local engagement, the sustainability of outcomes, and the resilience of national systems to sustain the project post-implementation.

The alignment with national strategies, including contributions to Sustainable Development Goals (SDGs) and the GCF Results Management Framework (RMF), is evident. The project's focus on early warning systems (EWS), climate information services, and capacity building was well-suited to address Malawi's vulnerability to climate change. However, the project's alignment on paper did not always translate into equally strong performance on the ground. While the Government of Malawi (GoM), through the National Designated Authority (NDA) and the Department of Disaster Management Affairs (DoDMA), led the project, the operationalization of this leadership revealed several weaknesses, particularly in coordination, staff retention, and logistics.

One of the more significant gaps in country ownership was the disconnect between national-level leadership and local-level engagement. The project's stakeholder consultations were designed to be inclusive, with involvement from government agencies, NGOs, and CSOs, but the implementation phase did not fully capitalize on this. The limited engagement of local communities and beneficiaries during implementation weakened the project's long-term impact. While there was solid high-level coordination among agencies such as DCCMS and DoDMA, translating this coordination into effective on-the-ground implementation proved difficult. This gap suggests that while the top-down governance model was effective in aligning with national priorities, it did not sufficiently incorporate bottom-up engagement essential for sustaining outcomes in vulnerable communities.

Further, staff turnover in key technical positions posed a significant challenge to the continuity and sustainability of the project's initiatives. While capacity-building efforts were intended to ensure that local staff could manage and maintain EWS and other project outcomes, the attrition of trained personnel weakened this effort. The project's dependency on individuals rather than institutions meant that the loss of key personnel in agencies like DCCMS affected the operational capacity of these systems. This issue raises questions about the sustainability of the project's outcomes, as training alone does not guarantee institutional capacity building unless it is retained and reinforced within the institutions themselves.

In terms of project management and monitoring and evaluation (M&E), the M-CLIMES project did integrate national systems to a significant degree, which enhanced national ownership of progress tracking and ensured alignment with broader development indicators. However, the actual use of these systems for adaptive management—adjusting strategies in response to ongoing challenges—was inconsistent. Logistical delays in remote areas, for example, were not fully mitigated, leading to significant delays in the rollout of infrastructure, including the installation of early warning systems in critical regions. The inability to quickly adjust these logistical plans reflects a lack of agility in the project's management systems, despite the high-level coordination.

Moreover, while the project was designed to be responsive to local challenges, particularly in areas prone to flooding and droughts, its modes of delivery sometimes failed to meet the realities of implementation. The reliance on community-based trainers and the use of SMS and radio broadcasts for climate information dissemination were intended to promote cost-effectiveness and local ownership, but these methods had limited reach in some regions due to infrastructure gaps and low levels of digital literacy. The effectiveness of these delivery mechanisms was, therefore, variable, suggesting that more tailored approaches were needed to fully engage the most vulnerable communities and ensure the project's accessibility.

A critical factor that also impacted the project's efficiency and sustainability was the logistical difficulties encountered during implementation. The delays in setting up early warning systems and installing critical hydro-meteorological equipment in remote areas highlight the project's struggle to adapt to local conditions. These delays not only impacted the timely delivery of outputs but also limited the effectiveness of early warning systems at crucial moments, reducing the potential impact on disaster preparedness. The project's governance structure, while robust in design, lacked the flexibility to address these emerging challenges swiftly, leading to operational inefficiencies.

Despite these shortcomings, the project demonstrated some positive outcomes in terms of capacity building and inter-agency collaboration. The coordination among national stakeholders and the leadership of DoDMA facilitated the achievement of certain key milestones, such as the dissemination of climate information to farmers and fishers. The project's efforts to downscale national forecasts to district and sub-district levels were particularly beneficial, enabling more localized decision-making. However, these gains risk being short-lived unless further attention is given to institutionalizing the knowledge and practices promoted by the project, ensuring that national agencies and local institutions can carry the work forward independently.

Gender equality and women's empowerment

One of the strengths of the project was its explicit focus on reaching women. The project aimed to benefit over 50% of women farmers, or approximately 97,000 women, through targeted interventions such as gender-differentiated vulnerability analysis and capacity-building activities. This shows a clear intention to ensure women's participation and empowerment. However, it is important to note that while sex-disaggregated data was collected, it is unclear if this data went beyond basic statistics to inform more context-specific gender interventions that would have addressed systemic barriers that women face in climate adaptation efforts.

Financial resources were indeed allocated to benefit women directly, especially through training programs on water conservation and climate-resilient agriculture, which provided women with crucial skills and knowledge to adapt to climate risks. Women who participated in these training sessions reported increased confidence in their roles within both their households and communities, enhancing their decision-making capabilities. Nevertheless, there were variations in the effectiveness of these training programs across different regions, with some women indicating a lack of follow-up support to apply the skills they had learned. This suggests that while financial resources were dedicated to women's empowerment, the long-term impact may have been diluted by insufficient post-training support.

The project also emphasized a participatory approach, actively involving women in planning and implementation phases. Women reported that their voices were heard and valued through focus group discussions, which contributed to a sense of ownership and increased participation in climate adaptation activities. However, participation alone does not necessarily equate to empowerment. The decision-making processes, while inclusive, did not always translate into equal influence between men and women in some communities, as the local gender dynamics and traditional power structures continued to pose challenges.

The establishment of Grievance Redress Mechanisms at both the district and community levels provided an important platform for women to raise concerns. This was a positive step toward ensuring that women could hold the project accountable and that their needs were addressed. However, it remains unclear whether all women—especially those in more marginalized or rural areas—were fully aware of their rights

and benefits from project interventions. Ensuring that women understood and could leverage their rights would have strengthened this mechanism's impact.

In terms of results, the impact on women compared to men appears to have been generally positive, particularly in terms of confidence-building and skill development in agricultural practices. However, systemic barriers such as access to resources and local gender dynamics were not sufficiently addressed, meaning that the gains for women may not have been as robust or sustainable as intended. The project's reliance on short-term interventions, such as training sessions, without deeper engagement to transform gender relations in the long run, limited the extent of its impact on gender equality.

Community Engagement and Gender Inclusion: Progress and Gaps

The project demonstrated strong community engagement, particularly through village disaster preparedness committees (VDPCs) and local governance structures. These community-led initiatives improved disaster preparedness, enabling faster responses to climate shocks and increasing local ownership of climate resilience efforts. The introduction of Community-Based Early Warning Systems (CBEWS) in 21 districts was a major success, empowering communities to monitor local climate risks and take preventive action before disasters occurred.

However, challenges in community ownership of EWS infrastructure remain a concern. In some areas, cases of vandalism, equipment theft, and poor maintenance were reported, indicating limited local accountability and weak co-management structures. While the project successfully raised awareness about climate risks, it did not fully institutionalize mechanisms for communities to manage and protect EWS assets. Strengthening local bylaws, training VDPCs in infrastructure maintenance, and establishing community-based financing models could improve long-term sustainability.

The project also made notable progress in gender inclusion, ensuring that 55% of beneficiaries were women. Women participated in climate-smart agricultural training, community resilience planning, and early warning system management, contributing to greater economic security and decision-making power. However, despite these successes, structural barriers to women's access to land, financial resources, and decision-making positions persist. While the project empowered women at the community level, policy-level interventions to institutionalize gender-responsive climate adaptation remain limited. Future initiatives must prioritize financial inclusion strategies for women, such as targeted microfinance schemes for female-led climate resilience initiatives

Other cross-cutting Issues

The M-CLIMES project in Malawi effectively addressed several cross-cutting issues that significantly contributed to its overall effectiveness and sustainability, both in terms of environmental impact and the social well-being of local populations. Through its focus on climate-resilient agricultural practices, community engagement, and capacity building, the project positively impacted a range of environmental and socio-economic outcomes. However, the project's outcomes must be critically examined to assess both the strengths and areas for improvement in its approach to cross-cutting issues.

One of the most prominent cross-cutting impacts of the project was its positive effect on local populations. The promotion of drought-tolerant crops and conservation agriculture not only aimed to increase agricultural productivity but also had the dual benefit of promoting environmental sustainability. These practices helped mitigate the degradation of soil and water resources, which is crucial for the long-term regeneration of natural resources and the sustainability of agricultural livelihoods in Malawi. By increasing crop yields, the project contributed to income generation and job creation for smallholder farmers, which is critical in a country where agriculture is the backbone of the economy. The project's focus on climate-resilient agriculture also directly addressed the poverty-environment nexus, as sustainable farming practices reduced the vulnerability of poor and marginalized groups to the negative impacts of climate change, thereby enhancing their livelihood security.

In terms of environmental sustainability, the installation of hydro-meteorological equipment was carefully managed to ensure minimal environmental impact. The project deliberately limited the construction footprint associated with setting up these systems, reflecting its commitment to reducing the environmental footprint of infrastructure development. This careful consideration of environmental impacts underscores the project's alignment with broader environmental conservation goals, contributing to long-term resource management and the protection of ecosystems.

The project also had a significant impact on local governance and policy frameworks. Through its participatory approach, the project encouraged the involvement of local communities in natural resource management, ensuring that local knowledge and perspectives were incorporated into the planning and implementation phases. This bottom-up approach to resource management strengthened local capacities and fostered community ownership of climate resilience initiatives. Furthermore, the project contributed to policy frameworks related to climate information dissemination and disaster risk management, improving the allocation of resources for these initiatives at both the national and local levels.

Despite these positive outcomes, some challenges remain, particularly concerning the sustainability of the results achieved. While the project was adaptable and flexible, demonstrating adaptive management in response to emerging challenges, the effectiveness of capacity-building efforts varied across regions. In some areas, participants reported insufficient follow-up to ensure that the skills and knowledge gained were fully applied, raising concerns about the long-term sustainability of these efforts. Furthermore, addressing systemic barriers, such as unequal access to resources, remains critical to achieving gender equality and empowering marginalized groups in a sustained manner.

Replication and scalability

The M-CLIMES project demonstrated potential for both replication and scalability, particularly in its approaches to climate-resilient agriculture, community-based early warning systems (EWS), and stakeholder engagement. However, while the project's models were largely effective, several challenges arose regarding the long-term sustainability and adaptability of these approaches in other contexts.

In terms of replication, the project successfully implemented drought-tolerant crops and conservation agriculture techniques that led to increased crop yields and improved food security. These agricultural practices were adaptable to other regions facing similar climate challenges, both within Malawi and beyond. However, the success of these practices depended heavily on local conditions, such as access to agricultural inputs and ongoing support from local agricultural extension services. For replication in other contexts, ensuring that these elements were in place was critical. The reliance on external inputs and training meant that without sustained local infrastructure and institutional support, replication efforts might face significant barriers.

The project's community-based approaches to stakeholder engagement were another aspect that held promise for replication. The inclusion of women and marginalized groups in both the planning and implementation of activities fostered community ownership and contributed to more context-appropriate solutions. This participatory approach could be replicated in other settings, though its success was highly dependent on the capacity of local institutions to meaningfully involve stakeholders. In some instances, local engagement was more superficial, with limited follow-through, highlighting the need for strong, sustained local governance to ensure the long-term success of these approaches.

The collaborative framework among government agencies, NGOs, and local communities also provided a replicable model. The project effectively coordinated between these groups, but the success of this model depended on the existing capacity and commitment of the institutions involved. While the framework worked well within the context of Malawi's national disaster management structures, in areas with weaker institutional frameworks, replication would require more robust capacity-building efforts and stronger inter-agency coordination from the outset.

Regarding scalability, the project was well-positioned for integration into national policies, such as Malawi's National Adaptation Plan (NAP) and National Disaster Risk Management Policy. The alignment of project outcomes with these national strategies indicated potential for scaling up early warning systems (EWS) and climate information services to other districts. However, the scalability of these systems required careful attention to logistical challenges, especially in remote areas where the project faced significant delays. Expanding the reach of EWS would necessitate additional investment in infrastructure and ongoing technical support, both of which were contingent on continued funding and government commitment.

The capacity-building programs developed under the project, particularly the use of community-based trainers, offered a scalable model for enhancing local knowledge. However, the success of these programs was inconsistent, with some areas reporting insufficient follow-up and challenges in retaining trained personnel. Scalability, therefore, depended on ensuring that training programs were not just one-off interventions but were followed by ongoing support and monitoring to guarantee that newly acquired skills were being applied effectively.

A critical aspect that required more focus was the exit strategy. While the project established foundational systems, there were concerns about whether these systems could be sustained once external support was withdrawn. Key dependencies on donor funding for the maintenance of EWS infrastructure and for the supply of agricultural inputs suggested that a more robust exit strategy was needed. The project's sustainability hinged on local institutions being able to independently manage these systems, yet gaps in institutional capacity indicated that further capacity building and financial planning were necessary to phase out external assistance without jeopardizing the project's gains.

Additionally, several factors affecting the scalability and replication of the project's outcomes were contingent on the local context. For example, local governance structures and community engagement varied significantly across different regions, affecting how well interventions were adopted and maintained. In areas where community leadership was strong, project activities were more likely to be sustained, whereas regions with weaker local governance faced greater challenges. For scaling efforts, a thorough assessment of local governance capacities and community dynamics would be essential to tailor interventions to each context.regions. The adoption of drought-tolerant crops and conservation agriculture techniques has shown tangible benefits, such as increased crop yields and improved food security. These practices, backed by positive outcomes, provide a template that can be adapted and implemented in similar agricultural contexts across Malawi and beyond.

Sustainability: financial (*), socio-economic (*), institutional framework and governance (*), environmental (*), and overall likelihood (*)

The M-CLIMES project demonstrated promising progress across various dimensions of sustainability, but several challenges and risks could hinder the long-term viability of its outcomes.

Financial sustainability

The long-term financial sustainability of the M-CLIMES project presents some concerns. While the project built local capacity for managing early warning systems (EWS), its reliance on external funding raises questions about the availability of financial resources once Green Climate Fund (GCF) assistance ends. Without continuous funding, critical components, such as the maintenance of hydro-meteorological equipment, are at risk of deteriorating.

Opportunities for financial sustainability do exist, particularly through public-private partnerships and the involvement of local governments and NGOs. Establishing cost-sharing mechanisms with project beneficiaries could help generate revenue for maintaining key infrastructure. Additionally, tapping into market-based approaches—such as involving the private sector in providing climate services—could create a revenue stream that reduces reliance on external donors. However, there is currently no evidence that these mechanisms have been fully developed or implemented, signaling the need for additional efforts to create an enabling environment for sustained financing.

Key factors for continued financing would include greater investment from national and local government budgets, as well as the development of financial instruments such as climate adaptation funds that could support ongoing operations. Local revenue generation, especially from income-generating activities linked to climate resilience, could further support the financial sustainability of project outcomes. However, these strategies need to be solidified and actively promoted to ensure long-term viability.

The sustainability of financial resources is rated Moderately Unlikely (MU)

Socio-political sustainability

In terms of socio-political sustainability, the project effectively fostered community ownership by engaging local stakeholders, particularly women and marginalized groups, in planning and implementation. Farmers have reported adopting climate-resilient agricultural practices, which suggests a level of societal buy-in that is critical for sustaining project benefits. This community-level ownership is a positive indicator that project benefits, such as increased agricultural productivity and improved resource management, may persist after project closure.

However, there are potential social and political risks that could undermine the longevity of the project outcomes. For example, the project operates in a context where political instability or changes in local governance priorities could deprioritize climate resilience activities. Additionally, while community engagement has been strong, there are concerns that stakeholder ownership, especially at the government level, may not be sufficient to ensure that project outcomes are fully integrated into long-term planning frameworks. Without continued political will and public support, project benefits could diminish over time.

Stakeholder awareness of the project's objectives has been adequately built through ongoing engagement, but more effort is needed to ensure that the lessons learned are systematically documented and transferred to other parties for replication or scaling up. Ensuring the continuity of documentation and sharing successful outcomes with potential future beneficiaries will be critical for maintaining socio-political momentum.

The sustainability of the socio-politicial/economic is rated Moderately Likely (ML)

Institutional framework and governance sustainability

The project's institutional sustainability is a critical area of concern. While the M-CLIMES project has integrated some of its interventions, such as EWS, into local government structures, questions remain about the ability of these institutions to maintain the systems without continued financial and technical support. The lack of a robust post-project support framework poses a threat to the long-term functionality of EWS and other infrastructure. Strengthening local government capacity emerges as a pivotal element to ensure the resilience and independence of these systems. Local governments play a crucial role in embedding disaster preparedness into community-rooted processes and sustaining early warning systems (EWS) over time.

The project made significant progress in capacity building, particularly among local government staff and community leaders. However, the sustainability of these gains will depend on the continuation of training programs and equipping local institutions to independently manage these systems. A deeper focus on building local governments' skills, fostering institutional resilience, and enhancing coordination with other stakeholders, including NGOs and community groups, could have amplified the project's impact. Ongoing training and technical support remain necessary to address institutional capacity gaps and prevent these systems from becoming obsolete.

One area of success was the establishment of governance frameworks that promote accountability and transparency, such as the use of Grievance Redress Mechanisms and the involvement of local champions in government and civil society to promote sustainability. These frameworks need further strengthening to ensure they remain functional post-project. Ensuring that the project's strategies are mainstreamed into future planning efforts and that institutional frameworks developed under the project can adapt to governance changes is critical for sustained impact.

Moreover, the role of local governments in fostering cross-sectoral collaboration with community stakeholders, NGOs, and other entities is crucial for building a holistic disaster management framework. Such partnerships promote transparency, trust, and community engagement, which are essential for sustaining EWS and disaster preparedness systems.

A significant issue that must be addressed is whether the institutional changes made during the project's lifespan will be conducive to systematically addressing gender equality and human rights concerns. While the project promoted gender-responsive approaches, institutionalizing these concerns into long-term governance structures remains uncertain. Strengthening these aspects is vital to ensure they persist beyond the project's duration.

Another major milestone of the M-CLIMES project is the successful integration of PICSA into Malawi's national agricultural extension policy. PICSA is now a formal component of the extension framework, reflecting strong government buy-in. This policy sets a clear target of reaching over one million households by 2030, ensuring scalability and institutionalization of the approach. The integration underscores the government's commitment to sustaining and expanding PICSA's impact beyond the project lifecycle. The involvement of the DAES in multiple districts and the continued technical support provided by the DCCMS further solidify the foundation for long-term sustainability.

The project's focus on empowering local governments and fostering institutional collaboration lays a strong foundation for future resilience-building efforts. However, ensuring adequate financial resources and ongoing capacity development remains a priority. Addressing these challenges will be critical for maintaining the progress achieved and ensuring the long-term sustainability of project interventions.

The sustainability of the institutional framework and governance is rated Moderately Likely (ML)

Sustainability: Challenges in Financial and Institutional Commitment

One of the most critical concerns for the M-CLIMES project is long-term financial and institutional sustainability. The reliance on external funding, primarily from the Green Climate Fund (GCF) and UNDP, raises concerns about the ability of national institutions to sustain project interventions beyond the funding cycle. While Malawi's Department of Disaster Management Affairs (DoDMA) and Department of Climate Change and Meteorological Services (DCCMS) played active roles in implementation, there is no dedicated budget for maintaining installed EWS infrastructure. Without long-term financial mechanisms, the continued functionality of hydro-meteorological equipment, data processing centers, and community-based EWS remains uncertain.

Private sector engagement in climate service financing was limited, representing a missed opportunity for public-private partnerships (PPPs) to co-finance EWS maintenance and data-driven agricultural advisories. Climate services, such as tailored weather forecasts for agribusinesses and insurance firms, could be monetized to generate revenue for system upkeep, ensuring long-term functionality. However, the project lacked a structured business model or incentive structure to attract private sector investment.

Institutional challenges also threaten sustainability. High staff turnover within government agencies such as DoDMA, DCCMS, and the Department of Water Resources (DWR) resulted in knowledge gaps and inconsistent service delivery. Several government officials trained under the project were transferred or left their positions, leaving critical expertise gaps that have not been systematically addressed. While capacity-building efforts were comprehensive, no structured follow-up mechanisms were established to retain institutional knowledge and ensure continuity in EWS operations and climate information dissemination.

Environmental sustainability

The M-CLIMES project's environmental sustainability is relatively strong, as it promoted climate-resilient agricultural practices that contribute positively to the local ecosystem and long-term resilience to climate change. By encouraging sustainable land and water management techniques, the project mitigated the effects of climate change and helped improve natural resource management at the community level. These interventions will likely continue delivering environmental benefits, provided that the established systems are well maintained and not undermined by external environmental factors.

However, there are potential environmental risks that could threaten the sustainability of the project outcomes. Climate variability, including increasing extreme weather events, could affect the viability of certain agricultural practices or damage infrastructure, particularly in flood-prone regions. Additionally, if local communities engage in unsustainable practices due to economic pressures or lack of ongoing support, the long-term environmental benefits of the project could be compromised. Ensuring that environmental monitoring and adaptation strategies are in place will be critical to mitigating these risks.

The environmental sustainability is rated Likely (L)

Overall likelihood of sustainability

Overall, the likelihood of sustaining the project's results is moderate but depends on addressing the key risks identified. Financial dependencies on external funding remain a significant challenge, and without mechanisms for ongoing financial support, some interventions—particularly EWS infrastructure—may falter. On the socio-political front, while there is community ownership, broader government buy-in and continued stakeholder engagement will be crucial for maintaining project momentum.

The project's institutional sustainability shows promise, but continued capacity building and stronger governance frameworks are needed to ensure that local institutions can independently manage the systems introduced by the project. Promoting sustainable agricultural practices well supports environmental sustainability, but ongoing environmental challenges must be managed to preserve the gains made.

To enhance the long-term sustainability of the M-CLIMES project, more focus should be placed on developing financial mechanisms, maintaining political and stakeholder ownership, strengthening institutional capacities, and ensuring that environmental factors are continuously monitored and mitigated.

The overall likelihood of sustainability is rated Moderately Unlikely (MU)

Progress to impact

The M-CLIMES project has made significant progress in reducing environmental stress and improving Malawi's ecological status. However, challenges must be addressed to ensure the long-term sustainability of these impacts.

The project introduced climate-resilient agricultural practices that contributed to the reduction of environmental stress. Farmers who adopted drought-tolerant crops and conservation agriculture techniques reported increased yields, particularly in District X, where maize and sorghum production saw substantial gains. These practices helped mitigate the negative environmental impacts associated with traditional farming methods, such as soil degradation and over-reliance on chemical inputs. By reducing the use of environmentally harmful agricultural techniques, the project contributed to more sustainable land use, which has positive implications for GHG emissions reduction at the local level.

The implementation of early warning systems (EWS) for disaster risk management played a key role in improving ecological resilience. In District Y, timely warnings of impending floods enabled communities to evacuate early, reducing losses of lives and property while helping to preserve natural ecosystems that unmanaged floodwaters might otherwise degrade. However, the full potential of these systems was not fully realized in more remote areas due to limited coverage, leaving certain vulnerable communities still exposed to climate risks.

The project's emphasis on improving natural resource management practices also contributed to environmental sustainability. Through promoting sustainable land and water management, the project supported better water retention in previously degraded lands, helping improve soil fertility and agricultural productivity. While these improvements are positive, more data is required to fully quantify the extent of long-term environmental benefits, such as improvements in forest stock or the condition of water resources.

The project generated positive socio-economic changes in target communities, particularly by enhancing agricultural productivity and food security. Many farmers reported increased incomes from improved crop yields, especially during the lean season. This boost in productivity has contributed to improved well-being and reduced hunger, particularly among smallholder farmers. Moreover, the project’s gender-responsive approaches empowered women, particularly those involved in water management and climate-resilient agriculture training, leading to increased decision-making power in both household and community settings. This shift in gender dynamics not only enhanced women’s roles in resource management but also strengthened community cohesion.

At the policy level, the project contributed to improved governance by integrating early warning systems into local government structures. The establishment of monitoring systems, improved capacity-building programs, and information-sharing platforms enhanced the ability of communities and local institutions to manage climate risks. Although these efforts were positive, the long-term sustainability of these systems is uncertain, as they are reliant on continued external funding and ongoing institutional support.

While the project has made tangible progress, there are significant challenges in measuring the long-term financial impacts on household income and broader socio-economic benefits. Data gaps exist, particularly regarding the sustainability of certain project outputs. Without a well-defined exit strategy or budgetary provisions for continued maintenance, the sustainability of these systems remains at risk. For example, incidents of theft of solar panels for community-based early warning systems (CBFEWS) have already compromised their functionality in some areas, demonstrating the fragility of these interventions.

Several factors contributed to the success of the project. Community training on the operation and maintenance of systems empowered local groups to manage infrastructure more effectively. Additionally, the involvement of government bodies, such as the Department of Water Resources (DWR) and the Department of Climate Change and Meteorological Services (DCCMS), ensured that project interventions were integrated into existing government frameworks, fostering better coordination and long-term planning.

However, negative factors also impacted the project's progress toward long-term impact. The lack of a comprehensive exit strategy, limited budget for continued ICT advisory dissemination, and the reliance on external resources for maintenance created significant risks. Resource constraints for Beach Village Committees hindered their ability to replace damaged or lost equipment, which affected their ability to access vital climate information, further compromising the sustainability of these systems.

The major barriers to ensuring long-term sustainability of the project include the continued reliance on external financial support for infrastructure maintenance, the theft and degradation of critical equipment, and the absence of a robust financial plan for post-project operations. The capacity of local institutions to maintain these systems independently is still underdeveloped, and insufficient resources threaten the long-term viability of key interventions, such as the early warning systems.

Moreover, while the project empowered women and enhanced their access to decision-making processes, the gender results achieved remain fragile. Continued support will be necessary to ensure that the empowerment of women is maintained and deepened beyond the project’s lifespan.

The M-CLIMES project has made significant progress in reducing environmental stress and improving ecological resilience in Malawi. Its success in promoting climate-resilient agricultural practices, enhancing early warning systems, and fostering community ownership has contributed positively to both socio-economic and environmental outcomes. However, the sustainability of these impacts remains in question, particularly in the absence of robust financial and institutional mechanisms to support long-term maintenance and adaptation. Addressing these challenges will require continued engagement from both local stakeholders and international partners to ensure that the project’s achievements can be sustained and scaled in the future.

6. Main Findings, conclusions, recommendations & lessons learned

Main findings

Project design and formulation

The M-CLIMES project was designed with a clear objective to enhance the adaptive capacity of vulnerable communities in Malawi to climate-induced risks, particularly in the agriculture and fisheries sectors. The

project was strategically aligned with national and international priorities, including Malawi's National Adaptation Plan (NAP), the National Resilience Strategy (NRS), and the Green Climate Fund (GCF) focal area objectives. The design integrated lessons from previous projects, such as the critical need for early warning systems (EWS) to mitigate the impacts of extreme weather events and the importance of stakeholder engagement and capacity building.

The project's Theory of Change (ToC) provided a logical framework for achieving its long-term goals, which included reducing human and economic losses from climate-related disasters by improving access to climate information. The ToC was built on key assumptions, such as the institutional capacity to maintain hydro-meteorological systems and the willingness of communities to engage with climate information services. However, some assumptions, particularly regarding institutional capacity and community engagement, were overly optimistic, leading to challenges during implementation.

The design phase identified key risks, including economic shocks and climate shocks that could affect project outcomes. However, the risk assessment did not fully account for challenges such as foreign exchange shortages, high inflation, and fuel shortages, which frequently affect Malawi's economy. These risks, when realized, significantly impacted project implementation, leading to increased costs and delays in certain activities.

Project implementation

The implementation of the M-CLIMES project demonstrated significant achievements, particularly in the establishment of EWS and the dissemination of climate information. However, the project faced several challenges related to logistical delays, institutional capacity, and stakeholder coordination. The project adhered to adaptive management practices, making strategic adjustments in response to emerging challenges, which helped to keep the project on track despite these difficulties.

The project's governance structure, which included the Project Steering Committee (PSC) and Technical Committees, provided oversight and ensured alignment with national frameworks. However, high staff turnover in key government institutions, such as the Department of Climate Change and Meteorological Services (DCCMS), affected the continuity and efficiency of project activities. This turnover, combined with fragmented coordination between implementing partners, led to delays in certain outputs, such as the installation of hydro-meteorological equipment in remote areas.

The use of community-based trainers and the reliance on local knowledge contributed to the successful implementation of capacity-building activities, particularly in climate-resilient agriculture. However, the project faced challenges in scaling these interventions across all targeted areas due to logistical constraints and insufficient follow-up support for trainees.

Project results

The M-CLIMES project made significant progress in achieving its objectives of enhancing adaptive capacity and reducing exposure to climate risks. Key achievements included the installation of EWS in 21 flood-prone districts, surpassing the initial target of 115,000 beneficiaries and reaching over 325,000 people. The project also improved access to climate information services, with the percentage of the population receiving tailored climate information rising from 2% to 18%, well above the planned target of 6%.

The project's contributions to climate-resilient agriculture were notable, with farmers reporting a 20-30% increase in crop yields due to the adoption of drought-tolerant crops and conservation agriculture techniques. These practices helped mitigate the impacts of erratic rainfall and droughts, improving food security in vulnerable communities.

Despite these successes, the project encountered challenges in maintaining the functionality of installed systems. Vandalism and theft of equipment, such as solar panels for early warning systems, disrupted the effectiveness of the EWS in some areas. The project responded by increasing community sensitization efforts, but these incidents highlighted the need for stronger community engagement and ownership during the early stages of implementation.

Relevance

The M-CLIMES project was highly relevant to both global and national climate adaptation priorities. Its alignment with the GCF's focus on building resilience among vulnerable populations and its support for Malawi's national development goals, such as the NAP and NRS, underscored its importance. The project's focus on improving climate information services, enhancing disaster preparedness, and promoting climate-resilient agricultural practices addressed critical needs in Malawi's climate-vulnerable regions.

At the community level, the project's relevance was demonstrated through its engagement with local populations, particularly women, in training and capacity-building activities. Women's involvement in water conservation and climate-smart agriculture was a key factor in the project's success in promoting sustainable practices. However, the project's reliance on digital communication platforms, such as SMS alerts, limited its reach in areas with poor mobile network coverage and low digital literacy, reducing its effectiveness in some remote regions.

Effectiveness

The M-CLIMES project was generally effective in delivering its outputs, although some delays were encountered. The establishment of community-based early warning systems (CBEWS) exceeded expectations, covering more beneficiaries than initially planned. The project also enhanced Malawi's national climate monitoring network, with the installation of 31 automated weather stations (AWS) and 15 hydrological stations, increasing national coverage to 38.5% for AWS and 65% for hydrological stations.

The project's effectiveness in reaching vulnerable populations, particularly women, was a significant achievement. Women represented 55% of the total beneficiaries, and their participation in climate resilience activities, such as water conservation and agricultural training, contributed to improved livelihoods and food security in target communities.

However, the effectiveness of some interventions was hindered by logistical challenges and resource constraints. Delays in the installation of infrastructure, particularly in remote areas, limited the timely dissemination of early warning messages. The project's reliance on subscription-based ICT platforms for climate information dissemination also posed challenges in terms of cost-efficiency and accessibility.

Efficiency

The efficiency of the M-CLIMES project was moderate. The project implemented several cost-effective strategies, such as leveraging existing government institutions and using community-based trainers to reduce administrative costs. These measures helped maximize the use of available resources, particularly in capacity-building activities.

However, the project faced inefficiencies due to delayed fund disbursements, high staff turnover, and logistical challenges in remote areas. These delays affected the timely implementation of key activities, such as the installation of EWS, and led to increased costs for replacing stolen or vandalized equipment. The reliance on subscription-based ICT platforms also reduced cost-efficiency, as these systems incurred ongoing costs that could have been minimized through the use of open-source alternatives.

Gender equality and women's empowerment

The M-CLIMES project made significant contributions to gender equality and women's empowerment. Women were actively involved in project activities, representing 55% of the total beneficiaries. The project's gender-responsive approaches, such as targeted training on water conservation and climate-resilient agriculture, empowered women to take on leadership roles in resource management and decision-making processes.

The project's use of Grievance Redress Mechanisms provided a platform for women to raise concerns and hold the project accountable. However, the long-term sustainability of the project's gender-related outcomes remains uncertain, as systemic barriers to women's access to resources and decision-making power were not fully addressed. While the project promoted gender-inclusive participation, deeper engagement with local gender dynamics is needed to ensure that these gains are sustained beyond the project's lifespan.

Sustainability

The sustainability of the M-CLIMES project is uncertain, with several key risks that could undermine the long-term viability of its outcomes. The financial sustainability of the project is a significant concern, as many of the installed systems, rely on external funding for maintenance. The project has not yet developed robust financial mechanisms, such as public-private partnerships or market-based approaches, to ensure continued financing after the project's closure.

Institutional sustainability is also at risk, as local institutions' capacity to maintain and manage the systems introduced by the project remains limited. While the project made progress in building local capacity, the high turnover of trained personnel and the lack of a post-project support framework pose challenges to the long-term functionality of these systems.

Social sustainability is more promising, as the project fostered community ownership of climate resilience initiatives, particularly through the involvement of women and marginalized groups. However, the project's reliance on external resources for ongoing support, such as agricultural inputs and technical assistance, raises concerns about whether local communities can maintain these gains independently.

Replication and scalability

The M-CLIMES project demonstrated potential for replication and scalability, particularly in its approaches to climate-resilient agriculture and community-based early warning systems. The adoption of drought-tolerant crops and conservation agriculture techniques proved effective in increasing crop yields and improving food security, making these practices adaptable to other regions facing similar climate challenges.

However, the scalability of these interventions depends on the availability of local infrastructure, institutional support, and financial resources. The project's reliance on external inputs and funding poses a challenge to scaling these interventions without significant investment in local capacity-building and financial mechanisms.

The project's community-based approaches to stakeholder engagement, which emphasized the inclusion of women and marginalized groups, provide a replicable model for other climate adaptation initiatives. However, the success of these approaches depends on the capacity of local institutions to involve stakeholders and provide ongoing support for community-driven initiatives meaningfully.

Conclusions

The M-CLIMES project was highly relevant to global and national climate change adaptation priorities. At the global level, the project's alignment with the GCF's focus on building resilience among the most vulnerable populations demonstrated a clear commitment to addressing critical issues related to climate risks. The project's focus on early warning systems (EWS) and climate information services directly supported global efforts to mitigate climate change's impacts by enhancing communities' preparedness to respond to extreme weather events.

At the national level, the project was well-aligned with Malawi's climate adaptation frameworks, such as the National Adaptation Plan (NAP) and the National Resilience Strategy (NRS). The project addressed key vulnerabilities in Malawi's agricultural and fisheries sectors by focusing on improving climate-resilient agricultural practices, strengthening early warning systems, and enhancing community-level capacity. This alignment ensured that the project was relevant to national development goals, particularly in improving food security and disaster risk management.

The project's relevance to local communities, particularly women and marginalized groups, was also notable. The emphasis on community engagement and capacity-building activities tailored to the specific needs of women in agriculture contributed to the project's overall success. However, the reliance on digital platforms for disseminating climate information, while innovative, was less effective in remote areas with limited infrastructure and low digital literacy, which somewhat limited the project's reach and inclusivity.

The M-CLIMES project achieved many of its intended outcomes, particularly in enhancing the adaptive capacity of vulnerable communities to climate risks. The project exceeded its initial target for reaching beneficiaries, particularly through installing community-based early warning systems (CBEWS) in 21 flood-prone districts, covering over 325,000 people compared to the target of 115,000. This significant overachievement highlights the effectiveness of the project in increasing the coverage of early warning systems and improving disaster preparedness.

Another key area of effectiveness was in promoting climate-resilient agricultural practices. Farmers who adopted drought-tolerant crops and conservation agriculture techniques reported notable increases in crop yields, contributing to improved food security in targeted regions. These practices also had environmental benefits by reducing soil degradation and promoting more sustainable land management.

However, the project faced some challenges in achieving its full potential in certain areas. Delays in the installation of infrastructure, particularly in remote areas, hindered the timely rollout of early warning

systems and climate information services. Logistical barriers, such as difficult terrain and poor road infrastructure, compounded these delays, reducing the effectiveness of early warning systems in some of the most vulnerable areas. Additionally, incidents of theft and vandalism of key equipment, such as solar panels for EWS, further disrupted the functionality of these systems.

Despite these challenges, the project's adaptive management approach allowed for adjustments that mitigated some of the negative impacts. For example, increased community sensitization efforts helped foster local ownership of the systems, improving infrastructure security and maintenance in several areas.

The M-CLIMES project's efficiency was moderate, with both strengths and weaknesses identified in the use of resources. The project implemented several cost-effective strategies, such as leveraging existing government institutions and using community-based trainers to reduce administrative costs. These measures helped ensure that resources were directed toward core project activities, particularly capacity-building efforts.

However, the project encountered inefficiencies related to delayed fund disbursements, high staff turnover, and logistical challenges. Delays in the flow of funds, particularly in the early phases of the project, disrupted the timely implementation of key activities, such as the procurement and installation of hydrometeorological equipment. These delays not only affected the project's timeline but also led to increased costs, as additional resources were needed to replace stolen or vandalized equipment. High staff turnover in key government institutions further weakened the continuity of project activities, as new personnel required training and onboarding, which slowed down the implementation of certain outputs.

The reliance on subscription-based ICT platforms for climate information dissemination also posed challenges to the project's cost-efficiency. While these platforms were effective in delivering timely information to farmers and fishers, they incurred ongoing costs that could have been reduced through the use of open-source alternatives. The project's efficiency could have been improved by exploring more cost-effective options for digital communication and by ensuring more timely and predictable disbursement of funds.

One of the critical challenges identified in the TE was the sustainability of the M-CLIMES project's outcomes, particularly in relation to financial and institutional sustainability. While the project made significant progress in building local capacity for managing climate-resilient agriculture and early warning systems, the long-term sustainability of these systems remains uncertain.

The financial sustainability of the project is a major concern. Many of the key systems and infrastructure established by the project rely on external funding for maintenance. Without continued financial support from donors or the development of local revenue generation mechanisms, these systems are at risk of deteriorating. The project has not yet developed robust financial mechanisms, such as public-private partnerships or market-based approaches, to ensure the continued financing of critical infrastructure after the project ends. This raises questions about the long-term viability of the project's outcomes.

Institutional sustainability is also at risk due to the high turnover of trained personnel in key government institutions, such as the Department of Climate Change and Meteorological Services (DCCMS) and the Department of Water Resources (DWR). While the project made progress in building the capacity of local government staff and community leaders, the sustainability of these gains depends on the continuation of training programs and the retention of skilled personnel. Without ongoing support and investment in

capacity building, there is a risk that the knowledge and skills gained through the project will be lost, weakening the institutional capacity to manage the systems introduced by the project.

Social sustainability is more promising, as the project fostered strong community ownership of climate resilience initiatives. The involvement of women and marginalized groups in planning and implementing project activities contributed to a sense of ownership and increased the likelihood that these communities will continue to benefit from the project's outcomes. However, the reliance on external resources, such as agricultural inputs and technical assistance, raises concerns about whether these gains can be sustained independently by local communities.

The M-CLIMES project made substantial progress in promoting gender equality and women's empowerment. The project was designed to ensure that women, who represent a significant portion of the agricultural workforce in Malawi, were actively involved in all phases of the project. Women accounted for 55% of the total beneficiaries, and the project's gender-responsive approaches, such as targeted training on water conservation and climate-resilient agriculture, empowered women to take on leadership roles in resource management and decision-making processes.

The project's emphasis on gender equality was evident in its efforts to include women in the management of early warning systems and to provide them with the skills needed to adapt to climate risks. Women who participated in the project's training programs reported increased confidence in their roles within both their households and communities, which contributed to improved decision-making power and enhanced their ability to manage climate-related challenges.

However, while the project achieved significant progress in promoting gender equality, there are concerns about the long-term sustainability of these outcomes. The project's reliance on short-term interventions, such as training sessions, without deeper engagement to transform gender relations in the long run, may limit the lasting impact of its gender-related achievements. Systemic barriers, such as unequal access to resources and decision-making power, were not fully addressed, meaning that the gains for women may not be as robust or sustainable as intended. To ensure that the empowerment of women is maintained beyond the project's lifespan, more effort is needed to address these systemic issues and to provide ongoing support for women's participation in climate adaptation activities.

Recommendations

M-CLIMES Final Evaluation provides a detailed analysis of project performance, assessing the project's effectiveness, efficiency, sustainability, and impact. However, to ensure that findings translate into practical and implementable actions, this revised section enhances the direct linkages between findings and recommendations, ensuring that stakeholders can act on the insights provided.

1. Finding: Financial Sustainability Remains a Key Risk
   The project successfully installed early warning systems (EWS) and improved climate information services, but long-term financing remains uncertain. Government budgets currently lack dedicated allocations for maintaining hydro-meteorological equipment, and the private sector's role in financing climate services remains limited.

Recommendation: UNDP and the Government of Malawi should develop a financial sustainability strategy, integrating public-private partnerships (PPPs) and exploring user-fee models for climate advisories. The private sector, particularly agribusinesses and financial institutions, should be engaged to co-finance

climate information platforms through corporate social responsibility (CSR) initiatives or pay-for-service models.

2. Finding: Institutional Capacity Constraints Limit Project Continuity
   The evaluation identified high staff turnover in key government institutions such as DoDMA, DCCMS, and DWR, leading to gaps in knowledge retention and technical expertise. Training efforts were effective during implementation but lacked structured follow-up mechanisms to ensure long-term institutional capacity building.

Recommendation: The Government of Malawi, in collaboration with UNDP, should establish a Climate Resilience Training & Knowledge Hub within DoDMA and DCCMS. This hub would provide continuous capacity-building programs, reducing reliance on short-term training sessions. Embedding climate resilience training into civil service development plans can help ensure that technical expertise is institutionalized rather than dependent on individual staff members.

3. Finding: Community Ownership of EWS Infrastructure Remains Weak
   While the project introduced Community-Based Early Warning Systems (CBEWS) in 21 flood-prone districts, instances of vandalism and theft of equipment were reported. Limited community involvement in infrastructure planning contributed to weak local ownership, reducing the effectiveness of long-term maintenance efforts.

Recommendation: Future projects should integrate community co-management models, where village disaster preparedness committees (VDPCs) and local governance structures take an active role in securing and maintaining EWS infrastructure. Establishing local bylaws for equipment protection and involving traditional leaders and local businesses in co-financing maintenance costs can help sustain these systems beyond project timelines.

4. Finding: Gender Mainstreaming Efforts Were Effective but Require Structural Reinforcement
   The project successfully ensured that 55% of beneficiaries were women, providing training in climate-resilient agriculture and water conservation techniques. However, the structural barriers to women's access to resources and decision-making roles remain a challenge, particularly in rural areas where cultural norms influence land ownership and resource allocation.

Recommendation: The Ministry of Gender, with support from UNDP and civil society organizations, should expand gender-responsive policies by ensuring that women-led farmer groups and cooperatives receive targeted financial and technical support. Future initiatives should also implement mentorship programs connecting experienced female farmers with younger women to foster long-term empowerment and leadership in climate adaptation.

5. Finding: Logistical and Coordination Challenges Delayed Implementation in Some Areas
   The evaluation found that remote project sites experienced delays in receiving hydro-meteorological equipment, largely due to procurement bottlenecks and inefficient fund disbursement mechanisms. These delays affected the early functionality of some EWS, reducing their effectiveness in the project's early stages.

Recommendation: UNDP and the Government of Malawi should establish a fast-track procurement and fund disbursement framework for future climate adaptation projects. Streamlining financial approval processes and pre-identifying local suppliers for hydro-meteorological equipment will minimize future logistical delays, ensuring that infrastructure is deployed on schedule and at optimal cost.

6. Finding: Climate Information Dissemination Needs to be Expanded and Diversified

While the project leveraged SMS alerts, community radios, and agricultural extension officers to disseminate climate information, coverage gaps persist in areas with low mobile penetration and poor radio reception. Additionally, literacy barriers prevented some community members from fully understanding technical advisories.

Recommendation: Future climate information strategies should adopt a multi-channel approach, integrating visual-based messaging (e.g., pictorial advisories for low-literacy communities), voice-based automated alerts, and interactive radio call-in programs to ensure widespread accessibility. Expanding partnerships with telecommunications companies and local media outlets will enhance outreach and engagement, particularly in rural and underserved regions.

Recommendation	Intended Responsible Party	Roles and Responsibilities	Priority
Develop long-term financial mechanisms for EWS sustainability	**UNDP, Government of Malawi, Private Sector**	- UNDP: Conduct feasibility studies for sustainable financing models. - Government of Malawi: Integrate climate services into national budgets. - Private Sector: Support financing through PPPs and CSR investments.	**High**
Establish a Climate Resilience Training & Knowledge Hub	**Government of Malawi (DoDMA, DCCMS), UNDP**	- Government: Institutionalize climate training into public sector development plans. - UNDP: Provide technical expertise and resource mobilization for ongoing capacity-building.	**High**
Strengthen community ownership of EWS infrastructure	**Local Governments, Traditional Leaders, Community-Based Organizations**	- Local Governments: Formally engage VDPCs in EWS maintenance. - Traditional Leaders: Introduce local bylaws for infrastructure protection. - CBOs: Facilitate co-financing mechanisms for maintenance.	**High**
Expand gender-responsive policies and financial inclusion for women farmers	**Ministry of Gender, UNDP, Civil Society Organizations**	- Ministry of Gender: Strengthen policies that improve women's access to agricultural resources. - UNDP: Support mentorship and financial inclusion programs. - CSOs: Advocate for structural reforms supporting women in climate adaptation.	**Medium**
Improve procurement and financial disbursement processes	**Government of Malawi (Ministry of Finance, DoDMA), UNDP**	- Government: Establish pre-approved supplier lists for rapid procurement. - UNDP: Streamline approval processes for faster fund disbursement.	**Medium**
Enhance climate information dissemination channels	**UNDP, Telecommunication Companies, Media Partners**	- UNDP: Develop **pictorial and voice-based advisories** for low-literacy communities. - Telcos: Expand mobile-based climate alert systems. - Media Partners: Scale up **interactive community radio programming**.	**Medium**

Lessons learned

The M-CLIMES project offers several key lessons based on its implementation, successes, and challenges. These lessons reflect critical insights that can inform the design and execution of future climate resilience projects in Malawi and similar contexts. Below are the seven most important lessons learned from the project:

1. **Community ownership enhances sustainability**: The success of community-led EWS and localized climate adaptation activities in areas like Chikwawa and Nsanje was closely tied to community participation in planning and management. Actively involving communities in the design, implementation, and management of climate resilience initiatives fosters ownership and accountability. This engagement enhances the sustainability of project interventions, as communities are more likely to protect and maintain systems they helped establish. Early sensitization campaigns, clear communication of project goals, and participatory governance frameworks are essential for fostering trust, minimizing risks like vandalism, and ensuring local adoption of project outcomes.
2. **Tailored capacity building is critical**: While training programs effectively improved skills among local stakeholders, the lack of consistent follow-up and variability in skill application reduced the long-term effectiveness of capacity-building efforts. Capacity-building programs must go beyond one-off training sessions to include ongoing support and tailored strategies for diverse stakeholder groups. Continuous engagement through refresher training, mentoring, and monitoring is vital to reinforce skills and ensure practical application. By focusing on the specific needs of beneficiaries, capacity-building efforts can create a long-lasting impact, enabling communities to independently manage climate resilience activities.
3. **Infrastructure sustainability requires long-term financial planning**: Key project infrastructure, such as meteorological stations and EWS, faced sustainability risks due to reliance on external funding, with no comprehensive financial mechanisms in place. The sustainability of critical infrastructure hinges on the establishment of reliable, long-term financial mechanisms. Public-private partnerships, cost-sharing models, and market-based solutions are effective strategies to reduce dependency on donor funding. Integrating financial sustainability into the project design ensures that essential systems, such as irrigation facilities or early warning tools, remain functional and impactful beyond the project's lifecycle.
4. **Gender mainstreaming needs structural support:** Despite significant participation by women (55% of beneficiaries), systemic barriers such as unequal resource access and limited decision-making power hindered the long-term impact of gender-responsive approaches. Addressing gender inequality requires structural changes that go beyond empowering women through project activities. Gender-responsive policies at both community and institutional levels must ensure equitable access to resources, decision-making roles, and leadership opportunities. Long-term empowerment initiatives, such as creating women-led resource management committees or promoting policy advocacy, can drive meaningful and sustained progress toward gender equality.
5. **Adaptive management is essential in crisis contexts**: The project's flexibility in responding to COVID-19 disruptions—through alternative communication channels like radio broadcasts and SMS alerts—allowed continued engagement with beneficiaries despite restrictions. Building adaptive management strategies into project design is critical for addressing unforeseen challenges, such as pandemics or natural disasters. By incorporating flexible communication methods and alternative implementation pathways, projects can sustain their activities and achieve objectives even in unpredictable contexts. Adaptive management ensures resilience in project delivery and provides valuable lessons for future crisis preparedness.

Dissemination and knowledge management plan

The M-CLIMES final evaluation will be disseminated through a structured knowledge management plan that ensures key findings, lessons learned, and recommendations reach all relevant stakeholders in a targeted and actionable manner. The evaluation findings will be formally presented to the UNDP Malawi Country Office, the DoDMA, the Green Climate Fund (GCF), and other key national and local institutions, ensuring that decision-makers at multiple levels have access to the insights needed for future planning.

The primary dissemination audiences include government agencies responsible for climate resilience and disaster risk reduction (DoDMA, DCCMS, DWR, and DAES), implementing partners, CBOs, international donors, and private sector entities interested in financing or supporting climate information services. To enhance accessibility and usability, the evaluation report will be summarized into policy briefs, which will highlight key recommendations for different stakeholders and be distributed to national policymakers, development partners, and climate resilience practitioners.

At the community level, findings will be translated into local languages and shared through district councils, agricultural extension officers, and local media platforms such as community radio stations. This will ensure that the lessons learned from the project reach those directly affected by climate risks, reinforcing community ownership of climate resilience initiatives. Additionally, knowledge-sharing workshops and stakeholder forums will be organized to discuss the practical implications of the findings and recommendations, enabling an interactive exchange between decision-makers, implementing partners, and beneficiaries.

The knowledge management plan will also leverage UNDP's digital platforms, including the Malawi Climate Information Portal, UNDP country office website, and regional climate adaptation networks, ensuring that the evaluation findings contribute to broader regional and global dialogues on climate resilience. Furthermore, findings will be presented at relevant climate adaptation forums, such as Malawi's National Climate Change Technical Committee and the SADC climate platforms, enabling cross-country learning and potential replication of successful approaches.

7. Annexes

Evaluation matrix

Evaluative Criteria	Questions	Indicators	Sources	Methodology
Relevance	How does the project relate to the main objectives of the GCF focal area, and to the environment and development priorities at the local, regional, and national level?	- Relationships established - Level of coherence between project design and implementation approach - Specific activities conducted - Quality of risk mitigation strategies	- Project documentation - National policies or strategies - Websites - Project staff - Project partners - Data collected throughout the TE mission	- Document analysis - Data analysis - Interviews with project staff - Interviews with stakeholders
	How well does the project align with national climate change adaptation and disaster risk reduction strategies?	- Alignment with national policies - Contribution to national strategic goals	- National climate adaptation policies - Project documentation	- Document review - Interviews with national policymakers
	How does the project integrate with other national or regional climate resilience initiatives?	- Collaboration with other initiatives - Synergies created	- Reports from other initiatives - Project documentation	- Document review - Interviews with project partners
	Are the project's goals and activities relevant to the needs and priorities of the target communities?	- Community needs evaluations - Stakeholder feedback	- Community surveys - Project reports	- Surveys - Focus group discussions
Effectiveness	To what extent have the expected outcomes and objectives of the project been achieved?	- Achievement of key objectives - Delivery of outputs - Stakeholder satisfaction	- Project reports - Monitoring data - Stakeholder interviews	- Data analysis - Interviews - Field visits

Evaluative Criteria	Questions	Indicators	Sources	Methodology
	What progress has been made towards expanding and modernizing observation networks?	- Number and functionality of observation stations - Data quality improvements	- Project progress reports - Technical specifications	- Site inspections - Technical evaluations
	How effective has the project been in developing and disseminating climate information products?	- Number and type of products developed - User feedback on products	- Product samples - User surveys - Dissemination records	- Product review - User interviews
	What impact have training sessions and capacity-building activities had on community preparedness?	- Number of trainings conducted - Knowledge and skills improvement - Community feedback	- Training reports - Participant feedback forms	- Surveys - Focus group discussions
Efficiency	Was the project implemented efficiently, in line with international and national norms and standards?	- Resource utilization - Budget adherence - Timeliness of activities	- Financial reports - Project timelines - Norms and standards documentation	- Financial analysis - Timeline review - Interviews with project staff
	How effective were the project's management and coordination mechanisms?	- Management structure efficiency - Coordination meeting frequency and outcomes	- Meeting minutes - Management reports	- Document review - Interviews with management
	What measures were taken to ensure cost-effectiveness in project implementation?	- Cost-saving strategies - Comparison with similar projects	- Financial records - Benchmarking reports	- Financial analysis - Comparative analysis
Sustainability	To what extent are there financial, institutional, socio-political, and/or environmental risks to sustaining long-term project results?	- Long-term funding plans - Institutional support - Socio-political stability - Environmental impacts	- Sustainability plans - Institutional agreements - Risk evaluations	- Document review - Risk analysis - Stakeholder interviews

Evaluative Criteria	Questions	Indicators	Sources	Methodology
	What mechanisms are in place to ensure the sustainability of the project's outcomes?	- Sustainability strategies - Community ownership	- Project documentation - Community feedback	- Document review - Community interviews
	How has the project built the capacity of local institutions and communities to sustain its benefits?	- Capacity-building activities - Institutional capacity evaluations	- Training records - Institutional reports	- Interviews - Focus group discussions
Gender Equality and Women's Empowerment	How did the project contribute to gender equality and women's empowerment?	- Gender-specific activities - Participation rates of women - Impact on women's empowerment	- Gender action plans - Participation records - Beneficiary feedback	- Document review - Surveys - Focus group discussions
	To what extent have women and marginalized groups benefited from the project's interventions?	- Benefits received by women and marginalized groups - Changes in gender dynamics	- Beneficiary surveys - Gender impact evaluations	- Surveys - Interviews
Impact	Are there indications that the project has contributed to, or enabled progress toward reduced environmental stress and/or improved ecological status?	- Environmental stress indicators - Ecological status reports	- Environmental monitoring data - Ecological surveys	- Data analysis - Field visits
	What long-term impacts has the project had on target communities and the environment?	- Long-term outcome indicators - Community feedback	- Long-term monitoring reports - Community surveys	- Data analysis - Surveys
Monitoring & Evaluation	How effective was the project's M&E system in tracking progress and informing decision-making?	- Quality of the M&E plan - Implementation of M&E activities - Utilization of M&E data in decision-making	- M&E reports - Decision-making records - Project documentation	- Document review - Data analysis - Interviews with project staff
	How regularly were M&E activities conducted and reported?	- Frequency of M&E activities - Timeliness of reports	- M&E activity logs - Reporting schedules	- Document review - Interviews with M&E personnel

Evaluative Criteria	Questions	Indicators	Sources	Methodology
	Were the indicators and targets set in the M&E plan appropriate and achievable?	- Relevance and realism of indicators - Achievement of targets	- M&E plan - Progress reports	- Document review - Interviews
UNDP Oversight/Implementation	How effective was UNDP's oversight and support during project implementation?	- Frequency and quality of oversight visits - Type and effectiveness of technical assistance provided	- Oversight visit reports - Feedback from implementing partners - Project documentation	- Document review - Interviews with UNDP staff and partners
	How well did UNDP facilitate coordination among stakeholders?	- Effectiveness of coordination meetings - Stakeholder feedback	- Meeting minutes - Stakeholder surveys	- Document review - Surveys - Interviews
	What challenges were encountered in UNDP's oversight role, and how were they addressed?	- Identified challenges - Mitigation strategies implemented	- Oversight reports - Feedback from project staff	- Document review - Interviews
Implementing Partner Execution	How effective was the performance of the implementing partner in executing project activities?	- Adherence to work plans - Management of resources - Responsiveness to challenges and issues	- Progress reports - Feedback from stakeholders - Project documentation	- Document review - Interviews with project staff and stakeholders
	How efficiently were project resources utilized by the implementing partner?	- Resource allocation and usage - Cost management	- Financial reports - Audit reports	- Financial analysis - Document review
	How well did the implementing partner manage stakeholder relationships?	- Stakeholder engagement activities - Feedback from stakeholders	- Engagement logs - Stakeholder surveys	- Document review - Interviews
Cross-Cutting Issues	How well were cross-cutting issues such as environmental sustainability, social inclusion, and innovation integrated into the project?	- Integration of environmental sustainability practices - Inclusion of marginalized groups - Adoption of innovative approaches	- Project documentation - Stakeholder feedback - Field observations	- Document review - Surveys - Focus group discussions - Field visits
	How effectively did the project address social inclusion?	- Activities targeting marginalized groups - Beneficiary feedback	- Project reports - Surveys of beneficiaries	- Document review - Interviews - Surveys

Evaluative Criteria	Questions	Indicators	Sources	Methodology
	What innovative approaches were introduced and how effective were they?	- Description and impact of innovative practices - Stakeholder feedback	- Innovation logs - Feedback from project staff and beneficiaries	- Document review - Interviews

Interview guides

Interview Guide 1: Project Management Team

1. Can you provide an overview of your role in the M-CLIMES project?
2. What were the main objectives of the project from your perspective?
3. How well did the project align with national climate change adaptation and disaster risk reduction strategies?
4. How did the project adapt to any significant changes in national priorities during its implementation?
5. What were the key achievements of the project?
6. What specific activities were undertaken to expand and modernize observation networks?
7. How successful were the efforts to develop and disseminate climate information products?
8. Can you discuss any significant challenges encountered during implementation and how they were addressed?
9. How did the project integrate with other national or regional climate resilience initiatives?
10. How was the M&E system designed and implemented?
11. Were the indicators and targets set in the M&E plan appropriate and achievable?
12. How effectively did the M&E system track project progress and inform decision-making?
13. How regularly were M&E activities conducted and reported?
14. Was the project implemented within the planned budget and timeline?
15. What measures were taken to ensure cost-effectiveness in project implementation?
16. How did the project engage with stakeholders throughout its implementation?
17. What mechanisms are in place to ensure the sustainability of the project's outcomes?
18. How has the project built the capacity of local institutions and communities to sustain its benefits?
19. What long-term impacts has the project had on target communities and the environment?
20. Can you share any success stories or notable achievements?
21. What are the key lessons learned from the project that could inform future interventions?
22. Do you have any additional comments or suggestions for improving similar projects in the future?

Interview Guide 2: Government Officials

1. Can you describe your role and involvement in the M-CLIMES project?
2. How did the project align with national priorities and policies?
3. How relevant was the project to the needs of the target communities?
4. Were there any gaps or areas for improvement in the project design?
5. How effective was the coordination between different government departments involved in the project?
6. What challenges did you encounter in implementing project activities, and how were they addressed?
7. To what extent were the project's objectives and expected outcomes achieved?
8. How effective was the project in improving climate information systems and early warning mechanisms?
9. How well was the M&E system integrated into project activities?
10. Did the M&E system help in making informed decisions during the project?
11. What measures have been taken to ensure the sustainability of project outcomes?
12. How has the project contributed to building the capacity of your department or institution?
13. What long-term impacts has the project had on your sector or area of work?
14. What lessons have you learned from this project that could be applied to future initiatives?
15. Do you have any recommendations for enhancing the effectiveness of similar projects?

Interview Guide 3: Local Community Leaders

1. Can you describe your role in your community and your involvement with the M-CLIMES project?
2. What were the main benefits of the project for your community?
3. How well did the project address the specific needs and priorities of your community?
4. Were community members involved in the design and planning of the project?
5. How were community members engaged throughout the project implementation?
6. What challenges did the community face during the project, and how were they resolved?
7. How effective were the project's early warning systems and climate information products for your community?
8. Can you provide examples of how these tools were used by community members?
9. What training or capacity-building activities were provided to your community?

10. How prepared is your community to sustain the benefits of the project after its completion?
11. How did the project address gender equity and social inclusion in your community?
12. Were there specific activities or programs targeted at women and marginalized groups?
13. What long-term impacts has the project had on your community?
14. What lessons have you learned from this project that could benefit future initiatives?
15. Do you have any suggestions for improving similar projects in the future?

Interview Guide 4: Project Beneficiaries (Farmers/Fishers)

1. Can you describe how you were involved in the M-CLIMES project?
2. What were the main benefits you received from the project?
3. How relevant were the project activities to your specific needs?
4. How were you informed about the project and its objectives?
5. How were you and other beneficiaries engaged in the project activities?
6. Did you face any challenges during the project, and how were they addressed?
7. How effective were the climate information products and early warning systems provided by the project?
8. Can you give examples of how you used the information and tools provided by the project?
9. What training or support did you receive from the project?
10. How prepared are you to continue using the tools and knowledge gained from the project?
11. How did the project address the needs of women and marginalized groups?
12. Were there specific activities or support targeted at these groups?
13. What long-term impacts has the project had on your livelihood and community?
14. What lessons have you learned from this project that could help future projects?
15. Do you have any additional comments or suggestions for improving similar projects?

Interview Guide 5: Implementing Partners

1. Can you describe your role in the implementation of the M-CLIMES project?
2. What were the main objectives you aimed to achieve through your involvement?
3. How well did the project align with your organization’s mission and objectives?
4. Were there any gaps or areas for improvement in the project design from your perspective?
5. How effective was the coordination between your organization and other stakeholders?

6. What challenges did you encounter during implementation, and how were they addressed?
7. To what extent were the project's objectives and expected outcomes achieved?
8. How effective were the activities you implemented in achieving project goals?
9. How did you contribute to the project's M&E activities?
10. How effectively did the M&E system help in tracking progress and making decisions?
11. What measures did your organization take to ensure the sustainability of project outcomes?
12. How has the project contributed to building capacity within your organization?
13. What long-term impacts has the project had from your organization's perspective?
14. What lessons have you learned from this project that could be applied to future initiatives?
15. Do you have any recommendations for enhancing the effectiveness of similar projects?

Interview Guide 6: UNDP Staff

1. Can you describe your role in overseeing the M-CLIMES project?
2.
3. What were the main objectives of the project from UNDP's perspective?
4. How well did the project align with UNDP's strategic objectives and the GCF's goals?
5. Were there any significant changes in priorities during the project, and how did the project adapt?
6. How effective was UNDP's oversight and support during the project implementation?
7. What challenges did you encounter in providing oversight, and how were they addressed?
8. To what extent were the project's objectives and expected outcomes achieved?
9. How effective were the coordination mechanisms between UNDP and the implementing partners?
10. How well was the M&E system integrated into the project activities?
11. Did the M&E system provide timely and accurate information to inform decision-making?
12. What measures were taken to ensure the sustainability of project outcomes?
13. How has the project contributed to building capacity within UNDP and its partners?
14. What long-term impacts has the project had on the target communities and the environment?
15. What lessons have you learned from this project that could inform future UNDP initiatives?

16. Do you have any recommendations for enhancing the effectiveness of similar projects?

Interview Guide 7: Community-Based Organizations (CBOs)

1. Can you describe your role in the M-CLIMES project?
2. How did your organization contribute to the project's objectives?
3. How relevant was the project to the needs and priorities of the communities you work with?
4. Were there any areas for improvement in the project design?
5. How were community members engaged in the project activities?
6. What challenges did you encounter during the project, and how were they addressed?
7. How effective were the climate information products and early warning systems for the communities you serve?
8. Can you provide examples of how these tools were used by community members?
9. What training or capacity-building activities were provided to your organization?
10. How prepared is your organization to sustain the benefits of the project after its completion?
11. How did the project address gender equity and social inclusion in the communities you serve?
12. Were there specific activities or programs targeted at women and marginalized groups?
13. What long-term impacts has the project had on the communities you work with?
14. What lessons have you learned from this project that could benefit future initiatives?
15. Do you have any suggestions for improving similar projects in the future?

Interview Guide 8: Technical Experts

1. Can you describe your role and involvement in the M-CLIMES project?
2. What were the main technical objectives of the project?
3. How well did the project align with the latest scientific and technical standards in climate information and early warning systems?
4. Were there any gaps or areas for improvement in the project design?
5. How effective were the technical components of the project in achieving its objectives?
6. What challenges did you encounter during the technical implementation, and how were they addressed?
7. How did the technical M&E system contribute to tracking progress and informing decision-making?
8. Were the technical indicators and targets set in the M&E plan appropriate and achievable?

9. What measures were taken to ensure the sustainability of the technical outcomes of the project?
10. How has the project contributed to building technical capacity within the implementing institutions?
11. What innovative approaches or technologies were introduced by the project?
12. How effective were these innovations in achieving project goals?
13. What long-term technical impacts has the project had on climate information systems and early warning mechanisms in Malawi?
14. What lessons have you learned from this project that could inform future technical initiatives?
15. Do you have any recommendations for enhancing the technical effectiveness of similar projects?

Interview Guide 9: Donors and Funding Agencies

1. Can you describe your role and involvement with the M-CLIMES project?
2. What were the main objectives of the project from your organization's perspective?
3. How well did the project align with your funding priorities and strategic objectives?
4. Were there any areas for improvement in the project design?
5. How effective was the coordination between your organization and the implementing partners?
6. What challenges did you encounter during the project, and how were they addressed?
7. To what extent were the project's objectives and expected outcomes achieved?
8. How effective were the project's resource utilization and management practices?
9. How did you assess the effectiveness of the project's M&E system?
10. Did the M&E system provide timely and accurate information to inform your decision-making?
11. What measures were taken to ensure the sustainability of project outcomes?
12. How has the project contributed to building capacity within the recipient institutions?
13. What long-term impacts has the project had from your organization's perspective?
14. What lessons have you learned from this project that could inform future funding initiatives?
15. Do you have any recommendations for enhancing the effectiveness of similar projects?

Interview Guide 10: Gender Specialists

1. Can you describe your role and involvement in the M-CLIMES project?
2. What were the main gender-related objectives of the project?
3. How well did the project address gender equity and social inclusion?

4. Were there any gaps or areas for improvement in the project's gender strategy?
5. How were gender considerations integrated into the project activities?
6. What challenges did you encounter in promoting gender equity, and how were they addressed?
7. To what extent did the project achieve its gender-related objectives?
8. How effective were the gender-specific activities and programs?
9. How did the M&E system track gender-related indicators and outcomes?
10. Did the M&E data provide useful insights for improving gender equity during the project?
11. What measures were taken to ensure the sustainability of gender equity outcomes?
12. How has the project contributed to building capacity for gender equity within the implementing institutions and communities?
13. What long-term impacts has the project had on gender equity and women's empowerment?
14. What lessons have you learned from this project that could inform future gender-related initiatives?
15. Do you have any recommendations for enhancing the gender equity aspects of similar projects?

Evaluation terms of reference

Assignment Title	Final Evaluation (FE) of the UNDP supported GCF financed M-CLIMES project
Project	Saving Lives and Protecting Agriculture-based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning Systems (M-CLIMES)
Supervisor	Malawi CO Programme Specialist-M&E
Location	Lilongwe, with the possibility of travelling within country
Country	Malawi
Reference Number	IC/MWI/008-2024

BACKGROUND

1. Introduction

This Terms of Reference (ToR) sets out the expectations for the Final Evaluation (FE) of the project titled Project Title ***Saving Lives and Protecting Agriculture-based Livelihoods in Malawi: Scaling Up the Use of Modernized Climate Information and Early Warning systems (M-CLIMES***) (FP 002, PIMS 5710) implemented through the Department of Disaster Management Affairs in Malawi. The project started on 28th June 2017 and is in its last year of implementation. In line with GCF and UNDP project evaluation requirements, the project is due for a Final Evaluation.

2. Project Description

The Government of Malawi (GoM), with support from UNDP, secured funding from the Green Climate Fund to scale up the use of modernized early warning systems (EWS) and climate information (CI) in the country. The project has been upgrading and installing new systems for monitoring and forecasting droughts, floods and extreme weather in Malawi, as well as working with farmers, fishers and communities in disaster-prone and food-insecure districts to co-develop tailored weather and climate products and advisories to be disseminated through ICT/mobile, print and radio channels. The project is also scaling up best practices in community readiness to respond to disasters and mitigate key risks.

The project is being implemented in 21 districts by the Department of Disaster Management Affairs (DODMA), in collaboration with the Department of Climate Change and Meteorological Services (DCCMS), Department of Water Resources (DWR), Department of Agricultural Extension Services (DAES), Department of Fisheries (DoF), and the National Smallholder Farmers Association of Malawi (NASFAM).

The project has three expected outputs.

i. Expansion of observation networks that generate climate-related data to save lives and safeguard livelihoods from extreme climate events
ii. Development and dissemination of products and platforms for climate-related information/services for vulnerable communities and livelihoods
iii. Strengthening communities' capacities for the use of EWS/CI in preparedness for response to climate-related disaster

The project is financed through a grant of US$12,294,545 from the Green Climate Fund (GCF), US$1,800,000 from UNDP TRAC resources and US$2,170,000 in-kind contribution from the Government of Malawi. The project commenced implementation on 28th June 2017 and is due to close at the end of 2023.

3. FE Purpose

The FE report will assess the achievement of project results against what was expected to be achieved, and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP and GCF programming. The FE report promotes accountability and transparency and assesses the extent of project accomplishments.

The project is entering the final phase of implementation. The project end date is on 31 December 2023. The Implementing Partner Disaster Management Affairs, Project Steering Committee, and UNDP Malawi Country Office will use the project's evaluation results to ensure the effectiveness of exit strategies and project sustainability plans.
In assessing implementation of the project and its alignment with FAA obligations and the UNDP project document, the FE will take into consideration evaluation of the project in line with the following evaluation criteria from the UNDP Evaluation Guidelines, GCF IEU TOR (GCF/B.06/06) and GCF Evaluation Policy, along with guidance provided by the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), and the UNDP Evaluation Guidelines. Additional evaluation criteria can be assessed, as applicable.

1. Relevance, effectiveness and efficiency, including contribution of the project results towards the relevant outcome and output of the Country Programme Document for Malawi (2019-2023)
2. Adaptive management
3. Stakeholder Participation
4. Monitoring & Evaluation
5. Accredited Entity (AE) oversight and Executing Entity (EE) execution
6. Risk Management, including Social and Environmental Standards
7. Coherence in climate finance delivery with other multilateral entities
8. Gender equity
9. Sustainability
10. Country ownership
11. Innovativeness in results areas - extent to which interventions may lead to paradigm shift towards low-emission and climate resilient development pathways
12. Replication and scalability – the extent to which the activities can be scaled up in other locations within the country or replicated in other countries (this criterion, which is considered in document GCF/B.05/03 in the context of measuring performance could also be incorporated in independent evaluations)
13. Unexpected results, both positive and negative.
14. Progress to Impact

4. Final Evaluation approach and methodology

The FE will be aligned with the principles established in GCF's Evaluation Policy and GCF guidance on conflicts of interest in evaluation, UNDP Evaluation Guidelines, and UNEG Code of Conduct for Evaluations, that include but are not limited to: impartiality, objectivity, independence; relevance, utility, credibility, measurability, transparency, ethics, and partnerships.

The FE report must provide evidence-based information that is credible, reliable, and useful.
The consultant is expected to follow an inclusive, collaborative and participatory approach[2] ensuring close engagement with the Project Team, implementing partner, NDA focal point, government counterparts, the UNDP Country Office, UNDP Regional Technical Advisors, and other key stakeholders.

During the FE process, the FE team is expected to apply the following approaches for data collection, analysis and triangulation of evidence for validation:

- Desk review of relevant documents, including but not limited to:
    - Funding proposal submitted to the GCF, FAA, UNDP Project Document, project reports including Annual Performance Reports, Quarterly Progress Reports, MCLIME Baseline survey report, MCLIMES Interim Evaluation Report, MCLIMES Impact Evaluation Report (PICSA), UNDP Environmental & Social Safeguard Policy, project budget revisions, Indicators Tracking Tools, national strategic and legal documents, co-financing letters, and any other materials that the team considers useful for this evidence-based review).

- Survey/Questionnaires, focus groups and/or key informative interviews with relevant stakeholders, beneficiaries, EE's, possibly national and or local Governments, and where relevant other development partners;
    - Engagement of stakeholders is vital to a successful Final Evaluation. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to i) Department of Disaster Management Affairs ii) Department of Water Resources iii) Department of Fishers iv) Department of Agricultural extension services v) Department of Climate Change and Meteorlogical Services v) NASFAM and UNDP, executing agencies,executing agencies, the Project Steering committee, National Technical Committee on Climate Change, senior officials and task team/component leaders, key experts and consultants in the subject area, stakeholders, local government, CSOs, project beneficiaries, etc. Fisheries iv) Department of Agricultural extension services v) Department of Climate Change and Meteorological Services v) NASFAM and UNDP. Additionally, the TE team is expected to conduct field missions to project sites including a sample of the following districts: Chikwawa, Phalombe, Chiradzulu, Zomba, Ntcheu, Dedza, Salima, Lilongwe, Dowa, Ntchisi, Nkhatabay, Rumphi, Mzimba and Karonga; and in Blantyre.

- Data collection as needed (government data/records, field observation visits, CDM verifications, public expenditure reporting, GIS data, etc.) to validate evidence of results and evaluations (including but not limited to: evaluation of TOC, activities delivery, and results/changes occurred

The specific design and methodology for the FE should emerge from consultations between the FE team and the above-mentioned parties regarding what is appropriate and feasible for meeting the FE purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The FE team must, however, use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the FE report

The final methodological approach including interview schedule, field visits and data to be used in the evaluation should be clearly outlined in the inception report and be fully discussed and agreed upon between UNDP, stakeholders, and the TE team. The final FE report must describe the full evaluation approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses of the methods and approach of the evaluation.

5. Detailed Scope of the FE

The FE will assess project performance against expectations set out in the project's Logical Framework/Results Framework (see ToR Annex A). The FE will assess results according to the criteria outlined in this Terms of References.

A full outline of the FE report's content is provided in ToR Annex C. ToR Annex D provides topics to be covered in the FE report's Findings section, including proposed questions for the FE team to address. The FE report will include Evaluation Ratings Table, as shown below;

[2] For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results, 05 Nov 2013.

Table 1 : Evaluation Table for ' MCLIMES Project'

Monitoring & Evaluation (M&E)	Rating[3]
M&E design at entry	
M&E Plan Implementation	
Overall Quality of M&E	
Implementation & Execution Rating	Rating
Quality of UNDP Implementation/Oversight	
Quality of Implementing Partner Execution	
Overall quality of Implementation/Execution	
Evaluation of Outcomes Rating	Rating
Relevance	
Effectiveness	
Efficiency	
Overall Project Outcome Rating	
Sustainability Rating	Rating
Financial resources	
Socio-political/economic	
Institutional framework and governance	
Environmental	
Overall Likelihood of Sustainability	

6. Final Evaluation deliverables

Deliverable	**Description**	**Responsibilities**
FE Inception report	Proposed evaluation methodology, work plan, structure, and objectives of the Final Evaluation, and site visits	Consultant submits to UNDP Malawi and project management
Presentation	Initial findings	Consultant presents to project management. Project stakeholders and the UNDP Malawi
Draft FE report #1	Full draft report (using guidelines on content outlined in Annex B), with annexes	Sent to the UNDP Malawi, reviewed by RTA, Project Coordinating Unit, NDA focal point
Draft FE report #2	Full report (using guidelines on content outlined in Annex B) with annexes, incorporating comments received on draft #1	FE team sends draft to the Commissioning Unit, reviewed by NCE RTA, Project Coordinating Unit, NDA focal point, other stakeholders *(Draft #2 will also be shared with the GCF Secretariat for comments)*
Final report* + Audit Trail	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final report	Sent to the UNDP Malawi
Concluding Stakeholder Workshop (optional; strongly encouraged)	Meeting to present and discuss key findings and recommendations of the evaluation report, and key actions in response to the report	Led by FE team or Project Team and Commissioning Unit

[3] Outcomes, Effectiveness, Efficiency, M&E, I&E Execution, Relevance are rated on a 6-point rating scale: 6 = Highly Satisfactory (HS), 5 = Satisfactory (S), 4 = Moderately Satisfactory (MS), 3 = Moderately Unsatisfactory (MU), 2 = Unsatisfactory (U), 1 = Highly Unsatisfactory (HU). Sustainability is rated on a 4-point scale: 4 = Likely (L), 3 = Moderately Likely (ML), 2 = Moderately Unlikely (MU), 1 = Unlikely (U)

*All final FE reports will be quality assessed by the UNDP Independent Evaluation Office (IEO). Details of the IEO's quality evaluation of decentralized evaluations can be found in Section 6 of the UNDP Evaluation Guidelines.[4]

7. Timeframe

The total duration of the consultancy will be approximately 45 working days. The tentative evaluation of the timeframe is as follows:

No.	Activity	Number of working days	Expected completion date
	Desk review and Inception Report		
1	Document review and preparation of FE Inception Report; Submission of FE Inception Report (TE Inception Report due no later than 2 weeks before the TE mission)	*5 days*	
	Mission and Data Collection		
2	FE mission: stakeholder meetings, interviews, field visits	*15 days*	
3	Meeting with PCU, internal presentation on preliminary findings, preparation presentation	*1 day*	
4	Workshop presentation – debriefing/handout key findings presented to stakeholders	*1 day*	
III. Report Writing			
5	Preparation and submission of draft report #1	*6 days*	
	Incorporation of comments on draft report #1; preparation and submission of draft report #2		
6	Finalization of TE report/ Incorporating audit trail from feedback on draft report #2 (due within 1 week of receiving UNDP comments on the draft) *(note: 2 weeks' time delay accommodated for circulation and review of the draft report)*	*4 days*	

8. Final Evaluation Institutional arrangements

The principal responsibility for managing this FE resides with the Commissioning Unit. The Commissioning Unit for this project's FE is the UNDP Malawi Country Office. The evaluator will report to the CO's M&E Focal Point. The Commissioning Unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the consultant. The Project Team will be responsible for liaising with the consultant to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

REQUIRED SKILLS AND EXPERIENCE

9. FE Team Composition and Required Qualifications

A team of ***two independent evaluators will conduct the FE – one international team leader (with experience and exposure to projects and evaluations in the region) and one national expert from Malawi*** . The international consultant will be designated as the team leader and will be responsible for the overall design and writing of the FE report.

The national consultant will work closely with the International Consultant in supporting any work that needs to be undertaken as laid out in this ToR, and other tasks, as required.In the case of international travel restriction and the mission is not possible, the TE team will use alternative means of interviewing stakeholders and data collection (i.e. Zoom , Teams, mobile questionnaires, etc.) including the field visit by the National Consultant under the International Consultant's guidance. The evaluator(s) cannot have participated in the project preparation, formulation and/or implementation (including the writing of the project document), must not have conducted this project's Mid-Term Review and should not have a conflict of interest with the project's related activities.

[4] Access at: http://web.undp.org/evaluation/guideline/section-6.shtml

The selection of evaluators will be aimed at maximizing the overall "team" qualities in the following areas:

Education:

- At least a master's degree in economics, environment, climate change, environmental science, sustainable development, or related fields.

Experience:

- Minimum 7 years at the national or international level, related to environmental and/or energy planning, climate change, climate information, Early Warning Systems.
- Proven experience in conducting evaluations of national development programmes supported by the UN or other similar international organizations. Must have conducted at least three such evaluations in the capacity of team leader.
- Knowledge of UNDP or GCF/GEF Monitoring and Evaluation Policy will be an advantage.
- Familiarity with climate change issues in Africa an advantage.
- Demonstrated understanding of issues related to gender, gender-sensitive evaluations, youth, and interlinkages with the Sustainable Development Goals.

Language:

- Fluency in written and spoken English both writing and speaking.

Competencies:

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards.
- Promotes the vision, mission, and strategic goals of UNDP.
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability.
- Treats all people fairly without favouritism.

Technical Competencies:

- Analytic capacity and demonstrated the ability to process, analyze and synthesize complex technical information.
- Proven ability to support the development of high-quality knowledge and training materials, and to train technical teams.
- Proven experience in the developing country context and working in different cultural settings.

Communication:

- Communicate effectively in writing to a varied and broad audience simply and concisely.

Professionalism:

- Capable of working in a high-pressure environment with sharp and frequent deadlines, managing many tasks simultaneously.
- Excellent analytical and organizational skills.
- Ability to write reports, make presentations

10. Evaluator Ethics

The FE team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This evaluation will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The evaluators must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The evaluators must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered

in the evaluation process must also be solely used for the evaluation and not for other uses without the express authorization of UNDP and partners.

11. Scope of Price Proposal and Schedule of Payments

A *Lump Sum Amount* payable modality is envisaged upon submission of deliverables and acceptance/approval by UNDP CO for each identified task reflected in the agreed and signed specific TOR. The lump-sum amount is inclusive of all the costs related to the assignment. Payments are based upon output, i.e. upon delivery of the services specified in the TOR. All planned costs related to this consultancy must be specified in the proposal by the contractor for this assignment. The contract will be paid in US$.

% of Payment	Deliverable
20%	Upon submission and approval by Commissioning Unit of final TE Inception Report
40%	Upon submission and approval by Commissioning Unit of draft TE report
40%	Upon submission and approval of final TE report (TE Report Clearance form must be signed by Commissioning Unit and UNDP-GCF RTA) and TE Audit Trail

12. Recommended Presentation of Offer

Interested and qualified consultant are invited to apply. The consultants must submit the following documents/information to demonstrate their qualifications:

1. **Letter of Confirmation of Interest and Availability** using the template[5] provided by UNDP;
2. **CV** and a **Personal History Form** (P11 form[6]);
3. **Brief description of the approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)
4. **Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel-related costs (such as flight ticket, per diem, etc), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

All application materials should be submitted to the address (fill address) in a sealed envelope indicating the following reference "Consultant for MCLIMES Project Terminal Evaluation" or by email at the following address ONLY: (fill email) by **(time and date).** Incomplete applications will be excluded from further consideration.

13 Criteria for Selection of the Best Offer

The award of the contract shall be made to the consultant who has received the highest score out of pre-determined technical and financial criteria specific to the solicitation.

Technical criteria weight – 70 %
Financial criteria weight – 30 %

Criteria	Weight	Max. Point
Technical (based on Technical proposal)	70%	70
Minimum educational background and work experience	20%	20
Understanding of the assignment from the ToRs	20%	20
Methodology and experience with similar assignments	30 %	30
Financial (based on the financial proposal)	30%	30

5 https://intranet.undp.org/unit/bom/pso/Support%20documents%20on%20IC%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx

6 http://www.undp.org/content/dam/undp/library/corporate/Careers/P11Personalhistory_form.doc

14. Approval

This TOR is approved by Rabi Gaudo, Portfolio Manager, Resilience and Sustainable Growth

Signature _____

Name and Designation _____

Date of Signing _____

LIST OF PEOPLE INTERVIEWED IN THE STUDY

	Name	Position	Organization
1		Portfolio Manager	UNDP
2	Ted Nyekanyeka	Programme Coordinator	MCLIMES PCU
3		M&E Specialist	MCLIMES PCU
4		Head of Finance	MCLIMES PCU
5	Caroline Munthali	Principal Fisheries Development Officer (Focal Point)	Department of Fisheries
6	Chikondi Mbemba	Chief (Focal Point)	Department of Water Resources
7	Rev Moses Chimphepo	Director Response and Recovery	Department of Disaster Management Affairs
8	Amos Mtonya	Chief Meteorologist (Focal Point)	Department of Climate Change and Meteorological Services
9	Natasha Mbengo	Principal Relief and Rehabilitation Officer	Department of Disaster Management Affairs
10	Frank Masankha	Farm Services Officer (Focal Point)	National Smallholder Farmer Association of Malawi
11	Chikumbutso Banda	NASFAM Association Manager-Thondwe	National Smallholder Farmer Association of Malawi
12	Geoffrey Chirombo	Agricultural Communications Officer (Focal Point)	Department of Agricultural Extension Services
13	Sam Kamanga	Chairperson	Kera Beach Village Committee
14	Tido Alick	Chairperson	Mpemba Beach Village Committee
15	Dyna Mapeto	Head	Community Outreach Unit
16	Alex Kabowa	Head - Ecology & Biology	Fisheries Research Unit
17	B Nkhoma	Assistant Fisheries Officer	Fisheries Research Unit
18	Cecilia Ligomeka	Fisheries Research Officer	Fisheries Research Unit
19	Albert Kaputa	Chief Agricultural Officer	Dowa District Council
20	Innocent Chidamtele	Chairperson for lead farmers	Kaphele Section Dowa District
21	Emmanuel Kayera	Agricultural Extension Development Officer	Dzoole EPA, Dowa District
22	Amos Chimbwira	Meteorogical Officer	Nkhata Bay District Council
23	Rachel Kamanga	District Risk Management Officer	Nkhata Bay District Council
24	Alex Mwakikunga	Community Water Officer	Nkhata Bay District Council
25	Mayeso Chiumya	Chairperson	Chenyentha VCPC
26	Ruth Nyirongo	Vice Charperson	Chenyentha VCPC
27	Nyoka Ngulube	Caretaker	Chenyentha
28	Judith Chitedze	Lead Farmer	Kaundu Village, Dowa
29	Rose Chimwaza	Lead Farmer	Chikosa Village, Dowa
30	Nesford Lupiya	Lead Farmer	Molande Village, Dowa
31	Joseph Samson	Lead Farmer	Kankhumba Village, Dowa
32	Maliko Kavala	Lead Farmer	Wasikoti Village, Dowa

33	Justin Chipale	Association Member	NASFAM, Zomba
34	Cecelia Pangani	Association Member	NASFAM, Zomba
35	Frank Kapile	Association Member	NASFAM, Zomba
36	Lucia Chilambe	Association Member	NASFAM, Zomba
37	Phalyce Beyadi	Association Member	NASFAM, Zomba
38	Mercy Alfred	Association Member	NASFAM, Zomba
39	Getrude Rabana	Association Member	NASFAM, Zomba
40	Grace Kasimu	Association Member	NASFAM, Zomba
41	Joyce Tchale	Association Member	NASFAM, Zomba

Terminal Evaluation mission itinerary

Date	Activities	Location	People/Institution to Visit	Role/Title
25-Aug	Arrival of Team Lead in Malawi	Lilongwe	-	-
26-Aug	Introductory Meeting with UNDP Evaluation Manager	Lilongwe	UNDP Evaluation Manager	- Deputy Res Rep & RSG Portfolio Manager
27-30 Aug	Interviews in Lilongwe	Lilongwe	DODMA National Staff	National coordination Director & Focal Persons
			DAES National Staff	National Coordination Director & Focal Persons
			DoF	National Coordination Director & Focal Persons
			NASFAM National Staff	National Coordination
			DWR National Staff	National Coordination Director & Focal Persons
			UNDP staff	Project staff / UNDP leadership
2-Sept	Field Visit to Chikwawa	Chikwawa		
	Key Informant Interview		MoA Frontline Staff AEDOs	
	FGD		Smallholder Farmers (Lead farmers, Farmer group)	Project Beneficiaries
3 Sept	DCCMS Meteorologist and other staff	Blantyre	DCCMS Meteorologist and other staff	Technical Specialist
			Programme Manager Blantyre ADD Staff	Subject Matter Specialist
			Chiradzulu District Agriculture Office	Director-Agriculture AEDOs
4 Sept	Field Visit to Zomba	Zomba	Zomba District Council	DoDM DRM Officer District Commissioner-

			Emergency Operation Centre	
			NASFAM Field Coordinator	Regional Coordinator
			Smallholder Farmers	Project Beneficiaries
			Community Based Flood Early Warning System (CBFEWS)	CPC/VCPC
5 sept	Field Visit to Salima	lima Mangochi	Malawi College of Fisheries - Community Outreach Unit	Principal Head- CoU
			Fisheries Research Unit - Boat & Lake Buoy	Head (Titus Phiri)
			Community Radio Station	
			Fishers/Beach Village Committees	Project beneficiaries
6 sept	Field Visit to Dowa	Dowa	Local Community Leaders	Community Chief, Youth Group Leader
			DAES AEDO	Frontline worker
			Smallholder Farmers	Project Beneficiaries
7 Sept	Field Visit to Nkhatabay	Nkhatabay	Local Community Leaders (Agriculture Office/ Smallholder farmers)	Community Chief, Women's Group Leader
			DoF Field Officer	Regional Coordinator
			Fishers	Project Beneficiaries
9 Sept	Debriefing with UNDP	Lilongwe	UNDP Evaluation Manager	-

Summary of field visits

1. Lilongwe (25–30 August)

Activities: Introductory meetings and interviews with UNDP staff, government ministries, and implementing partners.

Key Findings:

- Strong alignment of national-level coordination with project objectives, with active engagement from the Department of Climate Change and Meteorological Services (DCCMS) and other agencies like DODMA, DAES, and NASFAM.
- Effective collaboration noted between UNDP and government counterparts in overseeing the project.
- Stakeholders emphasized challenges in logistical coordination and financial sustainability of installed infrastructure.

2. Chikwawa (2 September)
Activities: Field visits, key informant interviews with MoA frontline staff, and focus group discussions with smallholder farmers.
Key Findings:

- Community members reported increased resilience through early warning systems and climate-resilient agriculture.
- Farmers highlighted the need for more consistent training and follow-up to sustain capacity-building efforts.
- Challenges included resource constraints for maintaining community-owned systems like irrigation infrastructure.

3. Blantyre (3 September)
Activities: Meetings with DCCMS meteorologists and Blantyre ADD staff, and visits to Chiradzulu District Agriculture Office.
Key Findings:

- Technical specialists noted the success of hydro-meteorological equipment but stressed the need for long-term maintenance plans.
- Frontline staff highlighted gaps in operational training for equipment and limited resources for continued support.

4. Zomba (4 September)
Activities: Visits to Zomba District Council, Emergency Operations Centre, NASFAM field staff, and community-based flood early warning systems (CBFEWS).
Key Findings:

- CBFEWS contributed significantly to disaster preparedness in vulnerable communities.
- District-level officers expressed the need for more decentralized resources to manage early warning systems effectively.
- Community members reported increased safety and preparedness during flood events.

5. Salima & Mangochi (5 September)
Activities: Visits to Malawi College of Fisheries, Fisheries Research Unit, community radio stations, and fishers.
Key Findings:

- The fisheries sector saw improvements through the installation of lake monitoring buoys and enhanced communication tools.
- Beach Village Committees (BVCs) played a critical role in climate adaptation efforts but required additional resources and technical support for long-term sustainability.

6. Dowa (6 September)
Activities: Interviews with local leaders, DAES frontline workers, and smallholder farmers.
Key Findings:

- Farmers successfully adopted drought-resistant crops and conservation techniques but emphasized the need for continuous training.
- Local leaders expressed concerns about the financial sustainability of early warning systems and other interventions.

7. Nkhatabay (7 September)
Activities: Meetings with local leaders, DoF field officers, and fishers.
Key Findings:

- Fishers benefited from community-led initiatives, but women's groups noted unequal access to decision-making roles.
- Regional coordinators highlighted challenges in integrating local needs into national frameworks for resource management.

List of documents reviewed

1. **Project Proposal Document (PPD)** – Initial project design and objectives.
2. **Funding Approval Agreement (FAA)** – Details on project funding from the GCF and co-financing arrangements.
3. **Project Logical Framework (Logframe)** – Outlining outputs, outcomes, indicators, and targets.
4. **Annual Performance Reports (APRs)** – Comprehensive yearly progress reports detailing key achievements, challenges, and financial performance.
5. **Quarterly Project Reports** – Updates on project implementation at quarterly intervals.
6. **Mid-Term Review (MTR) Report** – Evaluation of mid-project progress, achievements, and challenges.
7. **Project Steering Committee Meeting Notes** – Documentation of key discussions, decisions, and recommendations from project governance bodies.
8. **Monitoring and Evaluation Framework** – Details on indicators, data collection methods, and monitoring plans.
9. **Risk Management Plans** – Documents identifying and managing risks related to project implementation.
10. **Community Training Manuals** – Guides and materials used for capacity-building sessions with project stakeholders.
11. **Final Beneficiary Report** – A report summarizing the project's impact on targeted beneficiaries.
12. **Communication Strategy for the Project** – Framework for engaging stakeholders and disseminating project updates and results.
13. **Final Project Report** – A comprehensive document summarizing project achievements, challenges, and lessons learned.

UNDP-Specific Documents

1. **UNDP Country Programme Document (CPD) for Malawi** – Strategic document outlining UNDP's objectives and alignment with national priorities.
2. **UNDP Strategic Plan (2018-2021)** – Global framework for UNDP's focus areas during the project timeline.
3. **UNDP Environment and Climate Change Strategy** – Aligning the project with UNDP's environmental goals.
4. **Standard Operating Procedures (SOPs) for Project Implementation** – Guidelines for implementing UNDP-supported projects.
5. **UNDP Monitoring and Evaluation Policy** – Framework for conducting evaluations of UNDP projects.

6. **UNDP Financial and Administrative Rules and Regulations (FARs)** – Policies related to project funding and resource use.
7. **Gender Equality Strategy for UNDP Projects** – Framework for integrating gender considerations into programming.
8. **UNDP Risk Management Guidelines** – Approaches to identifying and mitigating risks.
9. **Partnership Framework Agreements** – Partnerships with local and international organizations.
10. **National Adaptation Plan (NAP) Support Programme Reports** – UNDP contributions to national climate adaptation.

National and Partner Organization Documents

1. **Malawi National Climate Change Management Policy (2016)** – Framework for addressing climate change at the national level.
2. **Malawi National Disaster Risk Management Policy (2015)** – Guidelines for managing disasters and risks.
3. **National Resilience Strategy (2018-2030)** – Long-term plan for building resilience to climate risks.

Co-financing table (available)

Table : Status of co-financing expenditures on 30/06/2024

Financing Source	FAA Approved Budget	Disbursed Funds	Expenditures and Commitments	Balance to disburse (if any)
Ministry of Water and Sanitation	400,000	400,000	0	0
Department of Climate Change and Meteorological Services	535,000	535,000	0	0
Department of Fisheries, Ministry of Forestry and Natural Resources	227,000	227,000	0	0
Department of Disaster Management Affairs	576,000	576,000	0	0
Directorate of Agricultural Extension Services, Ministry of Agriculture	432,000	432,000	0	0
UNDP	1,800,000	1,800,000	0	0
TOTAL AMOUNT USD	**3,970,000**	**3,970,000**	**0**	**0**

Signed UNEG code of conduct form

Evaluators/Consultants:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.
8. Must ensure that independence of judgement is maintained and that evaluation findings and recommendations are independently presented.
9. Must confirm that they have not been involved in designing, executing or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: _____Alexandre Diouf_____

Name of Consultancy Organization (where relevant): __UNDP_____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at _____Dakar_____ (Place) on ____Nov 28th 2024_____ (Date)

Signature: ____  _____

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Evaluators/Consultants:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
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9. Must confirm that they have not been involved in designing, executing or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Horace Happy Phiri

Name of Consultancy Organization (where relevant): MCLIME TERMINAL EVALUATION

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Lilongwe, Malawi (Place) on 28th November 2024 (Date)



Signature:

Terminal Evaluation Clearance Form

Audit Trail

On a separate file.

Green Climate Fund
Department of Monitoring,
Evaluation and Learning (DMEL)
OCSIO.DMEL@gcfund.org