Ex-Post Evaluation of Adaptation Fund Project ERI/MIE/Rural/2010/2 in Eritrea

Submitted to the Adaptation Fund Technical Evaluation Reference Group (AF-TERG)

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Acronyms

AF-TERG	Adaptation Fund Technical Evaluation Reference Group
AI	Artificial Intelligence
BS&E	Bureau of Standards and Evaluation
EE	Executing Entity
EQ	Evaluation Question
FCAS	Fragile and Conflict-Affected Situation
FGD	Focus Group Discussion
GIS	Geographic Information System
HAC	Hamelmalo Agricultural College
HDI	Human Development Index
KII	Key Informant Interview
M&E	Monitoring and Evaluation
MIHAP	Minimum Integrated Household Agricultural Package
mm	Millimeters
MoA	Ministry of Agriculture
MoLG	Ministry of Local Government
MoLWE	Ministry of Land, Water, and Environment
NARI	National Agricultural Research Institute
NUEW	National Union of Eritrean Women
NUEYS	National Union of Eritrean Youth and Students
PPR	Project Performance Report
SQ	Sub-Question
SWC	Soil and Water Conservation
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Contents

Tables

Figures

Appendices

1. Project General Information

The *Climate Change Adaptation Programme in Water and Agriculture In Anseba Region, Eritrea* project was a US$ 6.52 million project carried out with the support of the Adaptation Fund in two sub-zobas of the Anseba region, Habero and Hamelmalo, between 2012 and 2018. Ultimately, the total project cost was US$ 6.01 million with US$ 5.42 million for project implementation. The project received cofinancing of US$ 510,850 from the government of Eritrea and the community.[1] Ultimately, most of the financing was allocated to the first two of four project outcomes (US$ 3.06 million and US$ 1.25 million, respectively).[2] The project's international implementing entity was the United Nations Development Programme (UNDP), its national executing entity the Ministry of Land, Water, and Environment (MoLWE) of Eritrea, and national partners, namely the Ministry of Agriculture (MoA) and the Ministry of Local Government (MoLG).[3]

1.1 Project summary table

Summary information on the project is presented in Table 1.1.

Table 1.1 Project summary table

PROJECT INFORMATION	
Category	Regular Project
Country	Eritrea
Title	Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea
Adaptation Fund Project ID	00061576 (Output ID: 00078054)
UNDP Project ID	00061576 (PIMS ID 4540)
Implementing Entity	UNDP
Executing Entity / National Partners	MoLWE / MoA, Zoba Anseba Local Government
Adaptation Fund Financing	US$ 6,010,000
Government of Eritrea Co-financing	US$ 510,850
Project Start Date (Proposed/Actual)	March 2011/November 2012
Project Closing Date (Proposed/Revised/Actual)	March 2016/November 2018/September 2018
Project Final Evaluation Date	May 2019

Source: Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.

[1] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. 12.
[2] Ibid.
[3] Ibid.

1.2 Summary of project justification

The project responded to critical challenges of climate change vulnerability, low adaptive capacity, and high levels of food insecurity and malnutrition faced by Eritrea.[4] Key climate risk hazards identified for the country include increased climatic variability, drought, flash floods, and sea level rise. Climate change impacts are expected to exacerbate existing challenges around low agricultural productivity; the selection of Anseba region and the two sub-zobas was done taking into account criteria related to vulnerability to food insecurity and drought, as well as the presence of the seasonal Anseba river.[5] Both Hamelmalo and Habero have "particularly vulnerable livelihood systems (semi-sedentary livestock-based agro-pastoralism, and irrigation-based agro-pastoralism)".[6] These sub-zobas were selected by the Zoba Administration, which also noted that other vulnerable areas were being addressed by the government through different projects. Land degradation and low agricultural productivity are other challenges facing the zoba, with recurrent drought an important factor. There is migration of herdsmen between July and September, and November and March; though this practice has been disrupted by various factors.

Box 1. Overview of Anseba region

Rainy Season: mid-June to August, variable

Hazard (climatic): drought (recurrent), erratic rainfall distribution

Other features of the area (human/management/geographic): "cultivation of marginal land without fallowing and inappropriate land management, lack of investment in land improvement, inadequate animal feed, depletion of underground water and the natural limitations of the rugged topography"; inadequate agricultural extension services.[7]

Challenges: low agricultural productivity, land degradation, overgrazing

2. Objective and Scope of the Evaluation

This assignment is an Ex-Post Evaluation of the *Climate Change Adaptation Programme In Water and Agriculture In Anseba Region, Eritrea* project, aiming to provide insight into project impact and sustainability after completion. This is based on an understanding that results of adaptation activities may appear years after a project is completed. Per the Evaluation Policy of the Adaptation Fund, Ex-Post Evaluations are understood to take place three to five years after project administrative closure.[8] In this case, it is taking place about seven years after closure.[9]

[4] Adaptation Fund (n.d.). Climate Change Adaptation Programme In Water and Agriculture In Anseba Region, Eritrea.
[5] Ibid.
[6] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 4.
[7] Ibid.
[8] Adaptation Fund (2022). Evaluation Policy of the Adaptation Fund, p. 9-10.
[9] The TERG's methodology plans for Ex-Post evaluations to be conducted three to five years after project closure. It is the first time that such an evaluation is conducted seven years post closure, which may represent challenges in terms of data collection and information recall, but also opportunities for the TERG regarding whether this timeframe is appropriate. The evaluation will extract lessons learned on this approach and may propose recommendations to TERG to adjust its Ex-Post evaluation methodology accordingly.

This evaluation serves three primary purposes, which form the overarching evaluation questions for Ex-Post Evaluations, and are addressed sequentially:

- To assess changes in the project impacts from the time of the final evaluation to the time of the evaluation ex-post, that is, several years after the project's administrative closure.
- To identify conditions that contributed to sustaining the project's adaptation outcomes over time.
- To analyze ways through which the sustained outcomes are contributing to the system's resilience and adaptive capacity.

This is one of six planned Ex-Post Evaluations for the July 2024 to June 2027 period. These evaluations correspond to Phase 3 of the "Implementation and Learning: to continue Ex-Post Evaluations over time, informing approaches, methods, and systems within the Fund" of the Adaptation Fund Technical Evaluation Reference Group (AF-TERG). They represent an advance from the Phase 2 pilot evaluations in that they consider all project outcomes. While all outcomes are considered in this ex-post, one aim of the inception period was to determine the scope of which outcomes could be assessed.

The scope of the evaluation includes training of the evaluation team in the Ex-Post Evaluation process, framework, and related tools and methods, as appropriate. The evaluation team participated in a kick-off meeting, is carrying out deskwork in line with the agreed upon evaluation methodology, is designing and carrying out field work, as well as preparing an inception report, evaluation report, and evaluation summary, and presenting key findings.

To answer the evaluation questions, the evaluation team will assess data from September 2018 (project completion) to July 2025 (including Ex-Post field work and additional data collection). Due to limited data available for this period during the Inception process, this report relies significantly on publicly available documentation from the project's implementation, as well as additional information sourced online. This assessment will rely particularly on the planned one-week field visit to Eritrea, where the evaluation team aims to visit multiple project implementation sites in Habero and Hamelmalo (see **Section 4.3**). Sites have been determined with the support and validation of the UNDP, the MoLWE, and the Adaptation Fund.

3. Findings Based on Deskwork

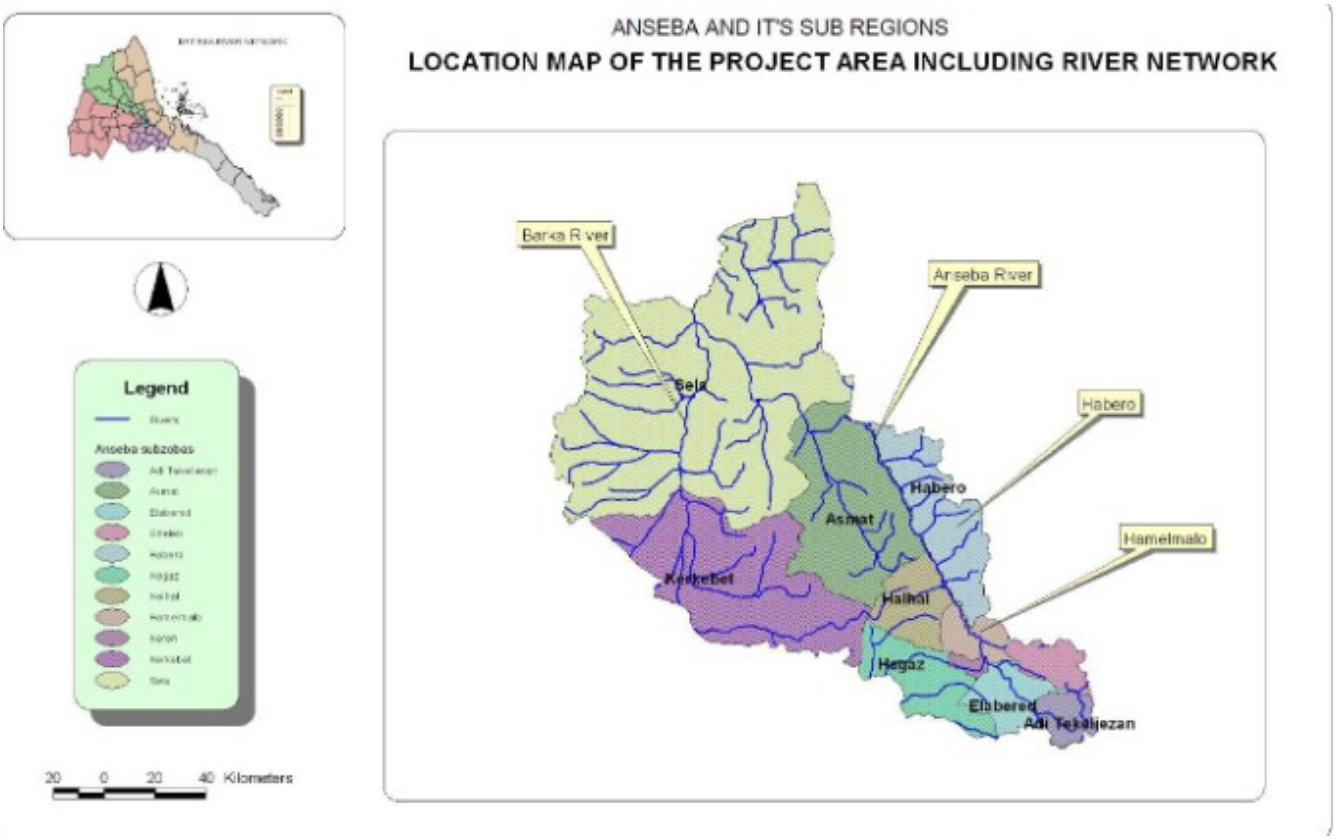
This section provides an overview of findings based on preliminary deskwork conducted in the Inception Phase [see Appendix V for the list of project documents and monitoring and evaluation (M&E) data available].

3.1 Sustainability assessment

3.1.1 Context analysis

This section provides context into the characteristics of the human and natural systems where the project was implemented (Figure 3.1). It assesses changes at the time of the project, as well as changes that have occurred following the final evaluation.

Figure 3.1 Project location



Source: Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 11.

Climate change

Located in the Horn of Africa, Eritrea is a highly drought prone country. As noted in Section 1.2, climate risk hazards identified for the country at proposal stage included increased climatic variability, drought, flash floods, and sea level rise. Precipitation occurs largely in July [67.97 millimeters (mm)] and August (76.34 mm), with the

rainy season falling between June and September across most of the country.[10] There has been a reported increase of 1.7 degrees Celsius in the mean annual temperature since 1960.[11]

Anseba is one of six regional administrations in Eritrea, located in the north-west of the country.[12] The Anseba region of Eritrea falls within Köppen-Geiger Climate Classification of "hot desert climate" (1991-2020), with Habero and Hamelmalo characterized by "hot and arid lowlands climate".[1314] The rainy season starts in mid-June and goes through August, with average annual rainfall of 190 mm in Habero and 367 mm in Hamelmalo.[15]. Eritrea's report to the United Nations Framework Convention on Climate Change (UNFCCC) stated that while climate change was impacting surface water and groundwater in dry regions, the Anseba River is an exception to decreasing streamflow.[16] This appears to be in contrast to what is described in the Project Document, notably that the base flow of the Anseba River had reduced from being a presence throughout the year to a couple of months of the year.[17]

According to Eritrea's 2021 Third National Communication Under the UNFCCC, key factors affecting vulnerability to climate change in the Anseba zoba include: "Loss of fertile soil due to erosion, cause pre-harvest losses in various crops, tsese fly in certain villages, livestock movement, dust storms, torrential rains, high temperature, flooding and land degradation, deforestation and loses (sic) of biodiversity".[18]

Of particular relevance to the assessment of Outcome 1 is the finding of 2021 Third National Communication Under the UNFCCC, which states that: "In Anseba, there are 34 dams whose water holding capacity varying greatly. The dam in Habero has a capacity of 90,000 m^3 is the smallest and the one Mesa-Shebah (Hamelmalo) the largest with a capacity of 600,000 m^3. At present these dams are either fully or partially filled with sedimentation. At a national level, an estimated 35,500 ha of land is under perennial irrigation using water from dams and wells."[19]

Agriculture

The population in the Anseba zoba relies predominantly on agriculture for their livelihood. Livelihood systems in the two sub-zobas include semi-sedentary livestock-based agro-pastoralism (located mainly in south-eastern and southern parts of Anseba zoba) and irrigation-based agro-pastoralism (located mainly in riverine areas – in the context of the project, primarily in Hamelmalo). In both sub-zobas, forest plays an important role in the livestock production system, as well as for wood and non-timber forest products.[20] Key crops produced and livestock in the zoba, as presented in the Project Document, are outlined in **Table 3.1**. Livestock serve multiple purposes in households; as food, as income generation, as draught animals, and for their manure.[21] In addition, there is some

[10] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 8.
[11] The State of Eritrea, Ministry of Land, Water and Environment Department of Environment (2021). Third National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC), p. 14.
[12] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 8.
[13] World Bank (n.d.). Eritrea – World Bank Climate Change Knowledge Portal.
[14] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 10.
[15] Ibid.
[16] The State of Eritrea, Ministry of Land, Water and Environment Department of Environment (2021). Third National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC), p. xxii.
[17] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 4.
[18] The State of Eritrea, Ministry of Land, Water and Environment Department of Environment (2021). Third National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC), p. 79.
[19] UNFCCC (2021) Third National Communication Under the United Nations Framework Convention on Climate Change, p.97.
[20] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 1.
[21] Ibid., 9.

production of fruit and vegetables close to riverbanks (e.g., tomato, onion, okra, pepper; guava, orange, lemon, mandarin).[22]

Table 3.1 Agriculture in Zoba Anseba

Key crops* *in order of importance	Livestock	
	Type	Estimated numbers (2010)
Sorghum	Cattle *(major)*	165,000
Pearl millet	Sheep *(major)*	-
Barley	Goats *(major)*	540,000
Maize	Pack animals (donkeys, horses, camels) *(major)*	90,000
Ground nut	Poultry	300,000
Wheat	Bee colonies	3,000
Finger millet	-	-

Source: Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 9.

Food security

Food security is a critical challenge facing the country, which is described in the Project Document as "the most food insecure in Africa".[23] Similarly, food security is a pressing challenge in the Anseba zoba, where the programme was implemented, with a major food production deficit. Per the Project Document, the selected sub-zobas were ranked as being in the top five of 11 sub-zobas affected by food insecurity, with drought as a major factor.[24]

Socio-economic and development context

As of 2023, Eritrea had a population of 3.47 million,[25,26] compared to the population of 3.66 million reported in the Project Document.[27] This discrepancy may be related to different data sources; the Project Document referenced a 2002 National Demographic Health Survey, whereas information available through the World Bank Group online data shows that population increased steadily from 2002 to 2023, from 2.39 to 3.47 million.[28] The Human Development Index (HDI)[29] for Eritrea has increased since project inception, from 0.472 in 2007 to 0.503 in 2023; its overall ranking has gone from 165 out of 182 countries to 178 out of 193 countries during this period.[3031]

Socio-economic development has been strongly hindered by border conflict with Ethiopia, as well as a recurring drought situation in the region.[32] Further, the country has limited communication and transportation infrastructure outside of its capital city. Potential social conflicts over water and land include "increasing

[22] Ibid.
[23] Ibid., 5.
[24] Ibid., 4.
[25] UNDP (2025). Eritrea - UNDP Human Development Reports.
[26] World Bank (n.d.). Eritrea – World Bank Climate Change Knowledge Portal.
[27] From Eritrea's National Demographic Health Survey, 2002, as cited in (Adaptation Fund, n.d.-b, 5)
[28] World Bank (n.d.). Eritrea – World Bank Climate Change Knowledge Portal.
[29] The HDI provides an assessment based on "three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living" (UNDP 2025).
[30] UNDP (2025). Eritrea - UNDP Human Development Reports.
[31] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 5.
[32] Ibid., 5.

conflicting land use pressures, land degradation, and newly established Government policies, for example on settling mobile people".[33]

Some key developments have occurred in the country since project closure. Notably, November 2018 saw United Nations (UN) sanctions on Eritrea lifted, signifying the country's emergence from a "decade of international isolation".[34] Further, the World Bank's Eritrea Outlook reports the country's re-engagement with international development partners as strengthening "some bilateral relations" following "an engagement hiatus in 2020"; noted here are the African Development Bank and China.[35]

As noted in **Section 1.2**, the selection of the two sub-zobas for programme implementation was done based on vulnerability criteria, including related to drought, climate variability and change, and levels of malnutrition.[36]

3.1.2 Strategy

This section provides insight into project design and strategy, as well as relevant changes during project implementation and performance and sustainability projections at Final Evaluation. A project exit strategy was not identified. As presented below, project sustainability at Final Evaluation was rated as "Moderately Likely" (corresponding to moderate risks) with specific ratings provided for sub-categories including financial and socio-economic risks (rated moderately likely/moderate risks), institutional and governance risks (rated likely, negligible risks), and environmental risks (rated moderately likely/moderate risks).

Project objectives and components

The project goal was to "promote increased food security in Eritrea through ecologically sustainable and climate-resilient improvements in agricultural production," and its objective was to "increase community resilience and adaptive capacity to climate change through an integrated water management and agricultural development approach".[37] The project had four core components focusing on: increasing water availability for farmers; enhancing climate-resilient agricultural and livestock production; improving climate risk information and community preparedness; and implementing a system for knowledge management and carrying out policy advocacy activities.[38]

Project intended impact

The project contributed to the overarching impact statement of the Adaptation Fund Strategic Results Framework, "Increased resiliency at the community, national, and regional levels to climate variability and change". It reported against seven outcome indicators as noted in **Table III.2** in **5.3Appendix III** , in addition to various output level indicators not described in the table.

Theory of Change

No Theory of Change was identified for the project. Based on available documentation, the evaluation team constructed a Theory of Change for the project (see **Figure 3.3**).

[33] Ibid., 4.
[34] World Bank (2025). Eritrea Outlook.
[35] Ibid.
[36] Adaptation Fund (n.d.). Request for Project/Programme Funding from Adaptation Fund, p. 4.
[37] Ibid., 5.
[38] Ibid., 2.

Several vulnerability drivers for the project were identified in the Project Document, notably: Water availability – reduced seasonal flows of the Anseba River and decrease in groundwater; Soil erosion, land and rangeland degradation; low agricultural productivity; Flooding caused by erratic and heavy rains and negatively affecting farming and pastoralism; Recurrent drought affecting crop and livestock production systems and livelihoods in general; High levels of food insecurity and malnutrition; Inadequate agricultural extension services; No early warning systems to help farmers and pastoralists reduce climate risks; Lack of information on climate change risks in the agricultural sector/ downscaled climate projections to the local level; Lack of lessons learned / sharing mechanisms (e.g., between projects and regions). These were addressed through the four main components of the project, and 11 associated outputs.

The construction of the Theory of Change drew on several assumptions, articulated below and linked to the different outcomes in the Theory of Change:

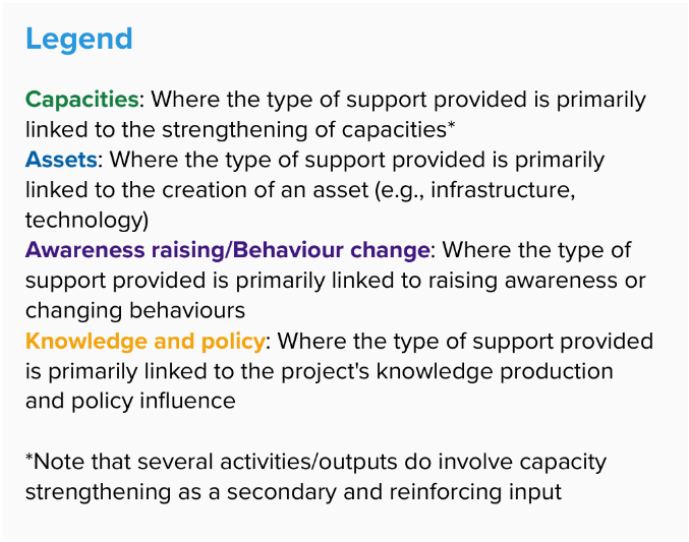
- A1. Communities have the resources, capacities, and willingness to implement and maintain the infrastructure; with technical backstopping and support from the government
- A2. Severe drought / other shocks do not impact project activities – groundwater levels do not drop to extreme levels before the implementation of activities supporting recharge
- A3. There is presence of community leaders who ensure replication of training to sustain stakeholder capacity over time
- A4. Communities have sufficient capacities to understand and use climate change information
- A5. Use of early warning systems and meteorological components is institutionalized
- A6. The Zoba Anseba administration has the resources, capacity, and willingness to implement and maintain a knowledge management system
- A7. Political relationships with neighboring Ethiopia remain stable
- A8. No major changes in socio-political dynamics

Further, key risks identified in the Project Document include:

- **High degree of risk**
    - Severe drought or other extreme weather events
    - Groundwater level dropping and salinization of wells leading to potential scarcity and competition, possibly leading to conflict
    - Low human and institutional capacity for the implementation of climate change-related interventions, especially at the zoba and sub-zoba level
    - Delays in project implementation, and particularly in the development of infrastructure interventions
- **Moderate degree of risk**
    - Price escalation and unavailability of commodities and materials
    - Failure of zoba administration to institutionalize early warning system and meteorological/ climate observation components
- **Low degree of risk**
    - Migration of human and livestock population under conditions of extreme severity to localities with a better natural resource base
    - Accessibility and communications in the project

- Potential country conflict with neighboring Ethiopia.[39]

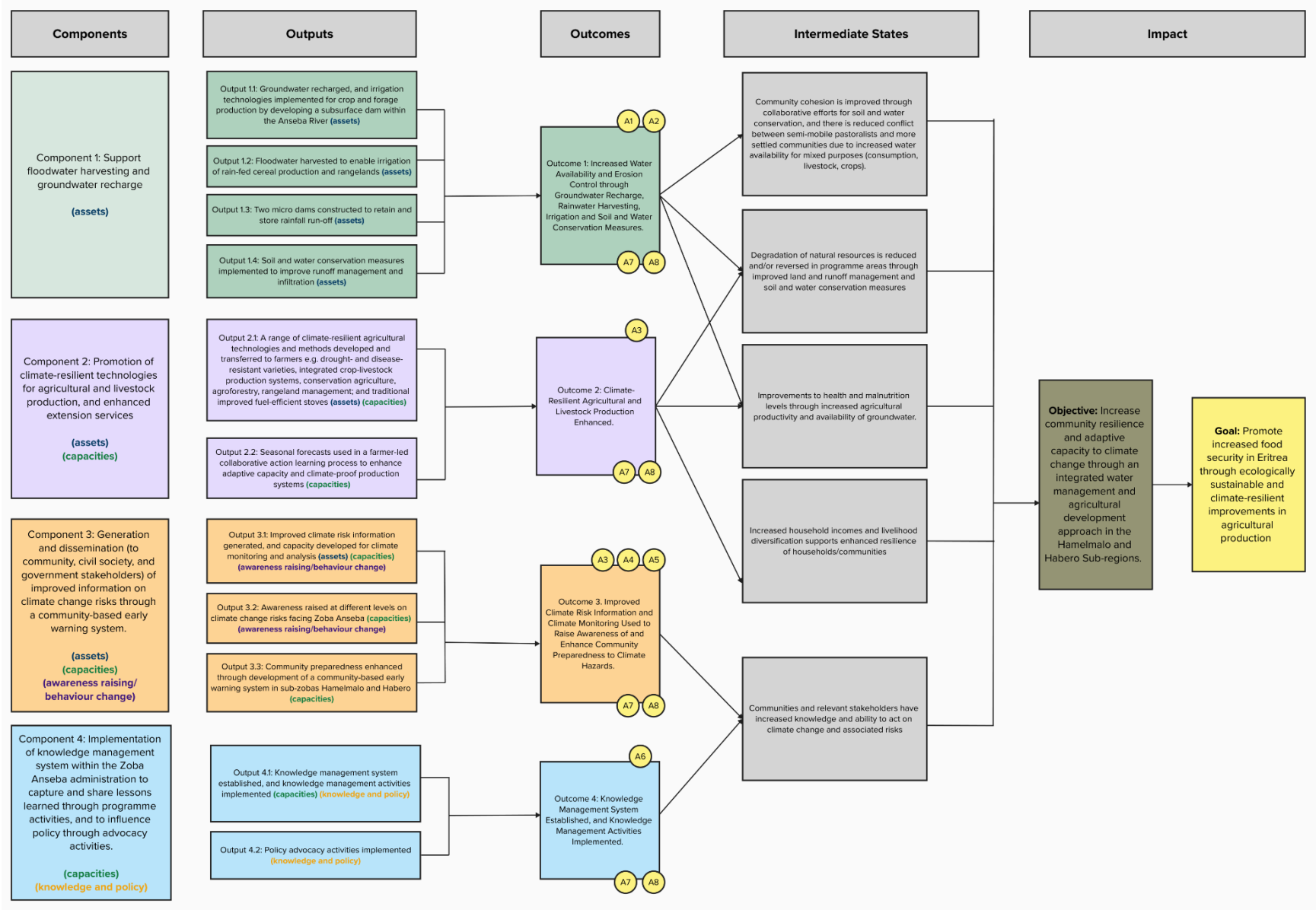
Figure 3.2 Legend for project Theory of Change



This legend refers to modalities of intervention. These have been included as bracketed indications in the Theory of Change.

[39] Ibid.

Figure 3.3 Project Theory of Change



Theory of Sustainability

Building from the Theory of Change, a Theory of Sustainability outlines the pathways through which the outcomes of the project are expected to deliver long-term benefits beyond the implementation period. It builds on the sustainability strategies articulated in the project design, as well as insights from the Mid-Term and Final Evaluations. It identifies the institutional, financial, technical, and social elements needed to maintain and build upon the project's achievements.

Outcome 1: Increased Water Availability and Erosion Control

Sustaining the gains under Outcome 1 requires that water infrastructure—such as micro-dams, subsurface dams, and diversion canals—remain functional and continue to serve their intended purposes of supporting crop and forage production, mitigating erosion, and enhancing groundwater recharge. In the envisioned sustainability pathway, community ownership plays a foundational role. Where farmers have formed strong associations or informal user groups, these collectives are expected to organize maintenance tasks, mobilize labor, and develop shared rules for water use. The continuation of these functions is assumed to be more likely where the project succeeded in fostering a sense of responsibility and where communities demonstrated initiative—such as repairing canals after flood damage.

At the same time, long-term sustainability depends on the integration of infrastructure oversight and technical backstopping into the routine operations of government institutions, particularly at sub-national levels. Local offices of the MoLWE are expected to provide periodic technical support, while regional administrations ensure coordination and resource mobilization. However, this chain of sustainability is vulnerable to inflation and fluctuating input prices—such as cement costs—which pose risks to timely repairs. In the absence of a clearly defined mechanism for financing maintenance, especially for larger structures beyond the capacity of communities, sustainability is likely to remain uneven. Further, extreme climate events and trends such as prolonged drought may impact the overall sustainability of this outcome.

Outcome 2: Climate-Resilient Agricultural and Livestock Production Enhanced

The sustainability of climate-resilient agriculture and livestock practices hinges on the continued use and spread of techniques introduced during the project—such as drought-resistant seeds, integrated crop-livestock systems, agroforestry, and improved rangeland management. A successful sustainability pathway envisions that farmers who adopted these innovations during the project will maintain them due to perceived economic and environmental benefits, and that these farmers will, in turn, influence others through local knowledge exchange and demonstration effects.

For these practices to expand and evolve, agricultural extension services must remain active and responsive. The role of trained extension agents—whose availability has been limited at the sub-zoba level according to the Final Evaluation—is crucial for reinforcing best practices, addressing emerging challenges, and introducing incremental innovations. Their continued presence ensures that the technical knowledge embedded in the project does not dissipate over time. Parallel to this, research institutions such as Hamelmalo Agricultural College (HAC) and the National Agricultural Research Institute (NARI) are expected to continue generating improved inputs and practices and to feed these into extension systems. The sustainability chain is therefore contingent on institutional commitment, stable staffing, and a feedback loop between research, practice, and learning. Without consistent investment in these systems, there is a risk that gains may stagnate or be reversed. Further,

risks such as pest and livestock disease, as well as prolonged drought have the potential to influence sustainability of this outcome.

Outcome 3: Improved Climate Risk Information and Community Preparedness

For Outcome 3, sustainability involves continued generation, dissemination, and use of climate risk information at the local level. The sustainability chain begins with the ongoing operation of the meteorological stations installed during the project, which form the backbone of the localized climate monitoring system. From there, seasonal forecasts and risk alerts must be translated into actionable information through early warning systems that are trusted and understood by communities. This pathway assumes institutional capacity within national meteorological services and sustained collaboration with regional actors. This also includes continued financial support, which is central to sustaining hardware and personnel.

To ensure the sustainability of the early warning system (EWS) introduced under Outcome 3, the project envisioned coordinated roles across national, regional, and local institutions. According to the project design, the Meteorological Services was expected to lead on the technical side—generating and disseminating climate forecasts and risk alerts using the six Class A meteorological stations installed through the project. The Anseba Regional Administration and relevant sub-zoba authorities were responsible for institutionalizing the EWS at local level, including through the proposed establishment of a Zoba-level Food Information Committee, which was to coordinate community-level preparedness and communication of warnings. At the community level, village councils and local leaders were expected to play a central role in embedding early warning messages into existing decision-making and communication practices.

However, a key bottleneck identified in both design and evaluation documents is the absence of climate specialists at the regional level who can act as intermediaries between national data producers and local users. Without such expertise embedded in the Zoba Anseba administration, the flow of climate information risks becoming a one-way transfer, disconnected from community realities. Sustained preparedness also depends on whether local institutions, such as village councils or development committees, internalize early warning functions into their decision-making processes. If awareness raising remains sporadic or disconnected from local governance, preparedness behaviors are unlikely to persist. Thus, this outcome's sustainability depends not only on hardware (stations and forecasts) but on embedded processes, trained personnel, and local institutional uptake.

Outcome 4: Knowledge Management and Policy Advocacy

Outcome 4 represents the most fragile link in the sustainability chain, as knowledge management activities were only partially implemented during the project. Nonetheless, for the outcome to be sustained, it would require that lessons learned—whether in infrastructure design, agricultural practices, or community engagement—be systematically documented, shared, and used to inform future policy and programming.

A robust sustainability pathway would see institutions such as the MoLWE and HAC serve as repositories and promoters of knowledge products, including manuals, policy briefs, and training curricula. These would need to be integrated into ongoing government programming and educational curricula to maintain relevance. At the same time, sustained policy influence would require that project learnings be brought into national and regional development planning through formal coordination platforms or working groups. However, the Final Evaluation noted that this outcome remained underdeveloped, and no clear institutional mechanism for knowledge management was established. The assumption here is that with renewed support—possibly through future

programming—these latent capacities could be activated, but in the absence of such investment, this outcome is the least likely to be sustained.

Project effectiveness and sustainability ratings

The overall project objective was assessed to be effectively met, despite encountering some delays in project start-up and a 12-month extension.[40] Table 3.2 presents project outcomes and the status of these outcomes as reported in the Final Evaluation. The Final Evaluation found integration of additional and new activities [including the integration of a Minimum Integrated Household Agricultural Package (MIHAP) and solar lighting], demonstrating adaptive measures. Outcomes 1 and 2 (increased water availability and erosion control, and enhanced climate-resilient agricultural and livestock production) had satisfactory performance, while outcomes 3 and 4 had marginally satisfactory performance. 10,968 households benefitted from project activities (compared to the 6,131 households targeted), and food and livestock productivity (and therefore food security) were reportedly increased.[41]

Table 3.2 Project outcomes and status at Final Evaluation

OUTCOME	OUTCOME TARGET	STATUS AT TE	DESCRIPTION
Outcome 1: Increased Water Availability and Erosion Control through Groundwater Recharge, Rainwater Harvesting, Irrigation and Soil and Water Conservation Measures.	By 2018, 5.3 million cubic meters of water resources used in project area (increase of 4.3 million m^3)	**Satisfactory.**	Almost all planned activities implemented, and water availability increased from 1 to 2 million m^3 (less than target of 4.3 million m^3).
Outcome 2: Climate-Resilient Agricultural and Livestock Production Enhanced.	By 2018, 70% of project beneficiaries have sufficient food for at least an additional 3 months	**Highly Satisfactory.**	Farmers provided with climate-resilient agricultural technologies, methods, and trainings. MIHAP, along with fuel efficient stoves and solar panels "provided resources to improve climate adaptive capacities and resilience of many vulnerable farming households through diverse livelihood options and opportunities." Increasing adaptive capacity of farmers and production systems reported alongside increasing crop and livestock productivity and sales.
Outcome 3. Improved Climate Risk Information and Climate Monitoring Used to Raise Awareness of and	By 2018, 70% of project beneficiaries make use of improved climate risk information	**Marginally Satisfactory.**	Creation of six meteorological stations, with data not yet used for farmers' seasonal forecasting at the time of the Final Evaluation. Failure to capitalize on existing traditional climate forecasting

[40] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. v.
[41] Ibid.

Enhance Community Preparedness to Climate Hazards.			knowledge, and to integrate in design the processes involved in setting up the stations (such as installation, training, generating and analyzing data, etc.).
Outcome 4. Knowledge Management System Established, and Knowledge Management Activities Implemented.	By 2018 at least 5 lessons learned materials produced and disseminated	**Marginally Satisfactory.**	No coherent knowledge management system and minimal activities.

Source: Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.

Relevant sustainability ratings from the Final Evaluation are presented in Table 3.3. The overall project sustainability was rated 'Moderately Likely.'

Table 3.3 Project sustainability rating at Final Evaluation

EVALUATION RATING	RATING
Overall sustainability	Moderately Likely
Financial resources	Moderately Likely
Socio-economic	Moderately Likely
Institutional and governance	Likely
Environmental	Moderately Likely

4-point scale: Likely; Moderately Likely; Moderately Unlikely; Unlikely

Source: Adapted from Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.

Elements of project design supporting sustainability of results include:

- Establishing farmer/water user associations in communities/ direct involvement of local communities: Farmer associations were established for each project site/village.[42]
- Partnership with different stakeholder groups: A coordination mechanism with national research institutions was developed to promote "new agricultural innovations which contributes to increase agricultural production and improve the livelihood of the community".[43]
- Legal and institutional arrangements – working with local extension agents and government agencies: The development of the NAP and NDC under the Paris Climate agreement were considered to provide "opportunities for legal and institutional frameworks and processes that support the sustainability of the project results".[44] Notably, Eritrea's Third National Communication Under the UNFCCC references the

[42] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[43] Ibid.
[44] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. 25.

project as one of several adaptation projects undertaken in the country.[45] However, the specific linkages between the project and the NAP are not apparent to the evaluation team at this time.

There is also technical capacity in place to support project sustainability; for example, government employees and experts at project sites (through the MoA, FWA, MoLWE, and sub-regional administration) as well as farmers who have participated in project activities.[46] A potential limitation which appeared through Project Performance Reports (PPRs) was the unavailability of a climate expert at the zoba level, to support the community "in upgrading their resilience and adaptive capacity to climate change".[47] The presence or availability of a climate expert has implications for the usability of climate data from the meteorological stations.

- Financing: At the Final Evaluation, money was already being earned from crop and livestock production, with income produced being used for schooling, medical care, other livelihood needs, etc. This may also support the maintenance of infrastructure, with resources for operations and maintenance determined on a community-by-community basis.[48] This will be verified by this Ex-Post Evaluation. The Project Document anticipated low maintenance costs for the infrastructure established in the project, notably for water management. Investment for maintenance was expected to be done through a Water User Management Committee which charged farmers fees for use, with more substantive investments being the responsibility of the Zoba Anseba Infrastructure Department and Eritrea's Water Resources Department.[49]

Adaptive Measures

There is evidence of adaptive measures being implemented during project implementation, both in response to identified risks and as a result of consultations with beneficiaries and overall alignment of potential activities with project goals. Some key measures with implications for sustainability are highlighted below.

One important change to the project was the introduction of the MIHAP under Outcome 2. This supported livelihood diversification in households as well as provided solar lighting – potentially supporting socio-economic sustainability through investment in livelihood needs, education, and medical care, for example.[50]

In contrast, the Final Evaluation reported some focus being lost on other project goals, such as water access in Hamelmalo as well as enabling activities tied to Outcomes 3 and 4.[5152] This may have implications for sustainability of climate information use and knowledge management.

[45] The State of Eritrea, Ministry of Land, Water and Environment Department of Environment (2021). Third National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC), p. xxiv.
[46] The State of Eritrea, Ministry of Land, Water and Environment Department of Environment (2021). Third National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC), p. 25.
[47] Adaptation Fund (2014). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[48] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. 25.
[49] Ibid., p. 21.
[50] Ibid., p. 23.
[51] Ibid., p. viii.
[52] Ibid., p. 29.

3.1.3 Conditions driving sustainability

This section provides insight into conditions that support the sustainability of adaptation benefits in alignment with anticipated conditions at the final evaluation. It also provides insight into identified barriers to sustainability. Conditions driving sustainability and barriers are categorized into:

- **Ownership:** "Stakeholders' ownership of project outcomes and interventions."
- **Capacities:** "Development and maintenance of capacities."
- **Partnerships:** "Development and maintenance of partnerships."
- **Resources/assets:** "Availability of tangible and intangible resources."[53]

Considering the lack of exit strategy and outcome-specific sustainability rating at Final Evaluation, the insights presented in Table 3.4 are based primarily on review of key project documentation and evaluation team assessment.

Table 3.4 Sustainability analysis

	SUSTAINABILITY ASSESSMENT	FINDINGS FROM DESK REVIEW
Outcome 1: Increased Water Availability and Erosion Control through Groundwater Recharge, Rainwater Harvesting, Irrigation and Soil and Water Conservation Measures	**Ownership**	Project reporting highlighted efforts in support of community ownership of project activities with relevance to Outcome 1, including "sharing experience meetings" conducted through Farmer to Farmer and community champions[54] Consultations with communities also resulted in changes to some of the planned activities, specifically by replacing plans to construct a sub-surface dam with a micro-dam, which would serve more farmers downstream.[55] This has the potential to influence ownership. Strong community participation was reported for Outcome 1 activities. Farmers in one village (Fiza) were reported to have repaired some of the diversion infrastructure themselves.[56] Further, village development committees have been reported, who "are in charge of identifying priorities, organizing and facilitating the project activities".[57] Additionally, strong involvement and leadership from government ministries was reported, with significant labor and other resources being provided for project implementation.[58]

[53] Adaptation Fund Technical Evaluation Reference Group (2025). Toolkit for the Ex Post Evaluation of Adaptation Interventions, p. 11.
[54] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[55] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 7.
[56] Ibid., p. 13-14.
[57] UNDP (2017). UNDP Eritrea Newsletter: Special Edition.
[58] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 26.

	Capacities	Capacities have been strengthened related to the maintenance and management of infrastructure installed through the project, as evidenced through temporary repairs made by communities.[59][60]
	Partnership	A variety of partners were engaged in project implementation. For Outcome 1, these include: MoLWE, MoA, Anseba Admin (Dept. of Water, Land), Village Councils, Communities. See the Theory of Sustainability for more information on how these partnerships were meant to influence sustainability.
	Resources/ assets	Physical assets established during the project have the potential to have a long lifespan; however, maintenance of these assets is needed and likely requires resources such as labor and finances for repairs, as well as access to materials which may be influenced by factors such as access to transport and inflation. Available reporting indicates farmer skills in maintenance and water management support sustainability, with continued technical support from the government. At the Mid-Term Review, a need for more formalized maintenance training and manuals was identified.[61] Community willingness to contribute labor and potentially other resources (e.g., finances gained through livelihood diversification) is a factor in sustainability. Other sources of financing may be required in case of significant damage to infrastructure. A 2017 UNDP Newsletter indicates the project is supporting the farmers in forming a "savings scheme," to "purchase farming inputs and spare parts for the water harvesting and irrigation system".[62]
Outcome 2: Climate-Resilient Agricultural and Livestock Production Enhanced	**Ownership**	Project reporting highlighted efforts in support of community ownership of project activities with relevance to Outcome 2, including "sharing experience meetings" conducted through Farmer to Farmer and community champions.[63] The MIHAP was considered a successful element of the project, supporting food and nutrition security in communities, in support of ownership.[64] Strong involvement and leadership from government ministries was reported, with significant labor and other resources being provided for project implementation.[65]
	Capacities	Capacities of project beneficiaries and extension agents have been strengthened related to the implementation of agricultural and livestock adaptation measures, covering various topics.[66][67]
	Partnership	A variety of partners were engaged in project implementation. For Outcome 2, these include: MoA (incl. NARI), Anseba Admin, Village Councils, Communities,

[59] Ibid., p. 13.
[60] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. 25.
[61] Ibid., p. 10.
[62] UNDP (2017). UNDP Eritrea Newsletter: Special Edition, p. 15.
[63] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[64] Ibid.
[65] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 26.
[66] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. 25.
[67] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 14, 16, 18.

		HAC. See the Theory of Sustainability for more information on how these partnerships were meant to influence sustainability.
	Resources/ assets	Tangible assets include the provision of improved seeds, livestock, and tools such as stoves, solar panels, and butter churners. Access to water and continued availability of land would influence the sustainability of these assets.[68] Farmer skills and knowledge, as well as support provided through extension services, have the potential to influence sustainability. Financial resources may be available through income generation as a result of sales of milk, vegetables, and animal feed.[69]
Outcome 3: Improved Climate Risk Information and Climate Monitoring Used to Raise Awareness of and Enhance Community Preparedness to Climate Hazards	**Ownership**	No information regarding ownership has been identified which links specifically to this outcome. However, project reporting identified activities in support of community ownership of project activities with potential relevance for Outcome 3, including "sharing experience meetings" conducted through Farmer to Farmer and community champions.[70] Additionally, strong involvement and leadership from government ministries was reported, with significant labor and other resources being provided for project implementation.[71]
	Capacities	Capacity was considered low for implementation of interventions related to Outcome 3, and for using the information generated during the project.[7273] While some staff received training on meteorological observation, expert shortages were noted and capacity development for community early warning systems did not occur. Examples of capacity strengthening activities include: • Capacity has been strengthened at the regional and sub-regional local government level through training on climate risk management and community preparedness, which was expected to then be provided at the community level.[74] • Training was provided at the regional level on "data collection, collating and analyzing climate information".[75] • Training on Geographic Information System (GIS) was offered to extension agents and staff from HAC and zoba and sub-zoba administration.[76]
	Partnership	A variety of partners were engaged in project implementation. For Outcome 3, these include: MoLWE, MoA, Anseba Admin, Meteorological Service Unit,

[68] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.
[69] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. vi.
[70] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[71] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 26.
[72] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[73] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.
[74] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[75] Ibid.
[76] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 21.

		Communities. See the Theory of Sustainability for more information on how these partnerships were meant to influence sustainability.
	Resources/ assets	The project installed six meteorological stations, with sustainability of these structures related to upkeep, and continued usability of these structures related to the availability of trained personnel for data collection, analysis, and dissemination.[77][78] Further, a limitation of the project was the lack of integration of traditional knowledge, which could influence uptake by farmers. Financial needs relate to operational costs (for maintenance, personnel, and communication); the extent to which this was secured beyond the project is not known.
Outcome 4: Knowledge Management System Established, and Knowledge Management Activities Implemented	**Ownership**	No information regarding ownership has been identified which links specifically to this outcome. However, project reporting identified activities in support of community ownership of project activities more generally, including "sharing experience meetings" conducted through Farmer to Farmer and community champions.[79] Additionally, strong involvement and leadership from government ministries was reported, with significant labor and other resources being provided for project implementation.[80]
	Capacities	The project reported a five-day farmer training carried out by HAC to increase awareness and knowledge on partnerships and the role of the extension service.[81]
	Partnership	A variety of partners were engaged in project implementation. For Outcome 4, these include: MoA, Anseba Admin, HAC. At the Mid-Term Review, HAC and NARI were reported as being involved in specific research (e.g., seed tests, incorporating climate-resilient varieties).[82] Additionally, HAC provided training support to farmers. However, broader Knowledge Management system partnerships were not yet established.
	Resources/ assets	There is limited evidence of tangible knowledge management resources having been established, as well as limited systematic capturing and codifying of lessons learned. The Final Evaluation recommended that project partners make efforts to prepare knowledge products;[83] evidence of this was not found in a web scan.[84]

[77] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.
[78] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 21, 23.
[79] Adaptation Fund (2017). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[80] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 26.
[81] Adaptation Fund (2014). Project Performance Report (PPR) [Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea].
[82] Asghedom, G., Haile, A. (2017). Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea: Mid-Term Review Report, p. 23.
[83] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea, p. vii).
[84] A 2016 UNDP-published article was found, with some insights on project implementation (UNDP 2016). Additionally, a 2017 UNDP Newsletter highlighted the project (UNDP 2017).

3.1.4 Gender considerations

The project was required to comply with Eritrea's Equal Opportunity Act. Gender was integrated in project activities through engagement of women and women's associations in different project activities, including for income generation. Key areas of engagement for women include:

- **Targeting of women-headed households as primary beneficiaries:** The project design explicitly identified women-headed households as a priority group for targeted support under key interventions such as livestock, poultry, and water access improvements, reflecting a gender-responsive targeting strategy. More specifically:
    - Greater than 35% of participants in soil and water conservation (SWC) were reported to be women, with variability across activities.
    - A reported 37% of MIHAP beneficiaries are women-headed households.
    - A reported 30% of agriculture/livestock training participants are women.
    - Women were key beneficiaries of stove training.
- **Partnership with the National Union of Eritrean Women (NUEW):** The project engaged NUEW as a key partner in community mobilization and beneficiary selection processes, helping ensure that women's needs and priorities were reflected in local implementation.
- **Project monitoring:** Gender considerations were integrated in logframe indicators.[85]

3.2 Resilience analysis

This section intends to explore how sustained adaptation outcomes and their supporting factors support the system's resilience. The pathways are described based on the following characteristics:

- **"Scale:** effects on the temporal or spatial scale needed for human-natural systems to maintain or change their functions and structures in the face of climate disturbances.
- **Redundancy:** effects on the availability of resources, means, or options to support climate resilience.
- **Diversity & inclusion:** effects on the variety of actors and inputs working/interacting towards common goals and the extent to which the project outcomes support equity and inclusiveness.
- **Flexibility:** effects on the system's agility in responding to uncertainty, effectively tackling challenges, and seizing opportunities that may arise from change.
- **Connectedness & feedback loops:** on communication lines, access to information or partnerships to respond or adapt to shocks or stressors."[86]

At this time, information on sustainability of outcomes post Final Evaluation is not available. It is expected that this information will be accessed through fieldwork, informing the table in Section 3.2.1.

[85] Fobissie, K., et al. (2019). Terminal Evaluation Report: Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.
[86] Adaptation Fund Technical Evaluation Reference Group (2025). Toolkit for the Ex Post Evaluation of Adaptation Interventions, p. 12.

3.2.1 Resilience characteristics

Table 3.5 Resilience analysis

	RESILIENCE ASSESSMENT	FINDINGS
Outcome 1	Scale	
	Redundancy	
	Capacities	
	Diversity & Inclusion	
	Flexibility	
	Connectedness & feedback loops	
Outcome 2	Scale	
	Redundancy	
	Capacities	
	Diversity & Inclusion	
	Flexibility	
	Connectedness & feedback loops	
Outcome 3	Scale	
	Redundancy	
	Capacities	
	Diversity & Inclusion	
	Flexibility	
	Connectedness & feedback loops	
Outcome 4	Scale	
	Redundancy	
	Capacities	
	Diversity & Inclusion	
	Flexibility	
	Connectedness & feedback loops	

4. Field Work Design

4.1 Key data sources

The evaluation team will use both qualitative and quantitative data sources to respond to the evaluation questions and sub-questions outlined in the evaluation matrix (see Appendix I).

Data sources to establish baseline data

Evaluation Question 1.1 on the achievement of outcomes at project completion seeks to establish a baseline against which sustained outcomes can be assessed. Therefore, the project Final Evaluation and PPRs are the main data source. These documents will also be used to answer sub-question 2.1a, which seeks to establish a baseline for the human and natural systems that have influenced projected sustainability at project completion.

Data sources to assess sustained outcomes

Primary data sources to assess sustained outcomes include:

- **Qualitative data from Key Informant Interviews (KIIs)/Focus Group Discussions (FGDs) with key stakeholders:** Each stakeholder group identified in the evaluation's stakeholder analysis (see **Appendix II**) will provide key information to answer the three main evaluation questions. These include: 1) Implementing Entity (UNDP); 2) Executing Entity / Adaptation Fund Designated Authority (MoLWE); 3) Government institutions; 4) Regional authorities; 5) Local authorities; 6) project beneficiaries (e.g., farmers community members); 7) other stakeholders; 8) and other delivery partners.

  To assess whether project outcomes have been sustained since completion (EQ1), local authorities and project beneficiaries—particularly farmer communities in Hamelmalo and Habero—will provide key evidence on the continued use and functionality of infrastructure, agricultural practices, and climate information systems. These frontline actors are best positioned to report on what has endured and what has faded over time.

  Beneficiaries will also provide critical information for questions related to factors that have contributed to sustaining adaptation outcomes (EQ2). It is still unclear whether the government has provided support to sustain project benefits but, if it has, national and regional government stakeholders—including the MoLWE, and Anseba Regional Administration—will offer perspectives on institutional support, integration into policy and planning, and the availability of extension services or technical backstopping, with an intent to further inform EQ2. Additionally, research and training institutions such as HAC and NARI can shed light on the continuity of technical knowledge and innovation.

  Finally, to understand how sustained outcomes influence broader resilience and adaptive capacity (EQ3), the evaluation will triangulate community-level insights with information from national partners and coordination bodies (e.g., MoLG, Anseba Regional Administration) to determine how project outcomes—such as early warning systems, diversified livelihoods, or collective resource management—are enhancing the capacity of communities and systems to absorb shocks and respond to climate risks. The evaluation will also engage with other development partners to assess whether partnerships have been established or new resources have been mobilized since project closure to reinforce or replicate project components, thereby contributing to the long-term resilience of the systems involved.

Secondary data sources include:

- **Documentary data sources:** the project documents that have been reviewed to establish baseline data include the original funding proposal, PPRs, the Mid-Term Review, and the Final Evaluation.

  Additional project documentation has been requested from the implementing entity, e.g., baseline reports, records of Project Board or Steering Committee membership and meeting notes, training participant lists, project-related social media content, press releases, and engineering documents such as infrastructure designs, permits, maintenance protocols, and any documented exit strategies.

In addition, a web-based landscape scan using Artificial Intelligence (AI) tools has been conducted to identify any references to the project in more recent or ongoing initiatives, which may signal replication, scaling-up, or institutional learning attributable to the project. These sources will be triangulated with primary data.

- **Annual Livelihoods Survey and the National Food Security Monitoring System:** The evaluation will explore the potential use of secondary data sources such as the Annual Livelihoods Survey and the National Food Security Monitoring System, if available, to complement primary data collection. These data sources could offer valuable information on trends in water access and use for productive purposes, as well as household-level indicators of food security in project areas over time. For example, changes in irrigation coverage, crop yields, or dietary diversity could help triangulate findings related to sustained outcomes under Outcomes 1 and 2. The evaluation team has not yet been able to confirm the availability, coverage, or disaggregation level of these datasets. This will be assessed during the data collection phase, and if found relevant and reliable, the data will be integrated into the analysis.

4.2 Methods and tools

The evaluation team will employ a mixed methods approach for this evaluation, comprising document review, stakeholder interviews, field visits, and transect walks with direct observations. These methods are outlined below, with additional detail provided in the discussion on the work plan.

Document review

As noted in Section 4.1, key documents will be reviewed to answer the evaluation questions. Please refer to this section for the type of documents to be reviewed.

KIIs and FGDs

KIIs and FGDs will be conducted as semi-structured discussions, with some conducted individually and others in small groups, depending on availability and institutional preference. Each data collection will last approximately 45 to 60 minutes and will follow a stakeholder-specific interview guide. These guides are informed by the evaluation matrix and tailored to the role, perspective, and level of engagement of each stakeholder group. The flexible, semi-structured format will allow the evaluation team to explore core questions and indicators while also probing emergent issues and context-specific insights relevant to sustainability and resilience.

Project Site Visits

Project site visits are planned to three project sites in Habero, three in Hamelmalo, and one in Adi Tekelezan, for a total of seven. This will include KIIs with local leaders/village councils and FGDs with project beneficiaries, particularly farmers and community members. The site visits will allow direct observation of project sites (i.e., infrastructure, innovative solutions, etc.); transect walks with community members are also proposed (see below). Given the limited time and resources available for data collection, the evaluation team does not anticipate the implementation of a survey to beneficiaries.

Transect Walks

The evaluation team will use direct observation of project sites combined with transect walks. This method will involve systematically walking through project areas alongside informed community members and technical

analysts to document environmental, social, and infrastructural conditions. The evaluation will also take into account additional conditions or variables that may influence the maintenance of the system's resilience, adaptive capacity, and adaptation outcomes over time. For example, the policies implemented by the state, the decisions made, and the proactive adaptation measures (or lack thereof) aimed at enhancing resilient natural and built infrastructure, addressing systemic disparities that render certain populations more susceptible to the effects of climate change.

The transect walk will facilitate detailed observation and interaction with local stakeholders, allowing the evaluation team to identify tangible evidence of sustained project outcomes, such as improved agricultural practices, water management systems, or climate-resilient infrastructure. The dynamic nature of the transect walk will ensure the collection of data on both pre-identified criteria relevant to the project's objectives and also on unexpected outcomes. Engaging with community members during the walk will also provide a participatory platform to understand local perceptions of project impacts, verify outcomes, and gather insights into factors contributing to or hindering their sustainability.

The approach will enable triangulation of observational data with beneficiary experiences and technical analysis, thereby offering a comprehensive understanding of how project outcomes have persisted or evolved since implementation. It bears noting that every effort will be made to conduct transect walks at every project site. While data collection at every project site is limited to 1.5 hours, it is anticipated that direct observation will be widespread, in conversation with beneficiaries.

4.3 Sampling approach

Sampling of stakeholders

The evaluation adopts a purposive sampling strategy for stakeholder consultations, aligned with the stakeholder analysis presented in **Appendix II** . Stakeholder categories were developed through a desk review of project documents, including the funding proposal, Mid-Term Review, and Final Evaluation. These categories include:

- **Implementing Entity:** UNDP staff at the Eritrea country office and relevant former project staff;
- **Executing Entity / Adaptation Fund Designated Authority:** Ministry of Land, Water and Environment (MoLWE);
- **Government Institutions:** Ministry of Agriculture, Ministry of Finance and National Development, Ministry of Local Government, Bureau of Standards and Evaluation;
- **Regional Authorities:** Anseba Regional Administration;
- **Local Authorities:** Village councils and local leaders;
- **Project Beneficiaries:** Farmer communities in Hamelmalo and Habero, including small-scale farmers, agro-pastoralists, pastoralists, and rural women;
- **Other Stakeholders:** Including HAC, NARI, Meteorological Services, NUEW, and NUEYS;
- **Other Delivery Partners:** To be confirmed, including any development actors replicating project components post-closure.

The table below provides an overview of the stakeholders to be consulted by the evaluation team.

Table 4.1 Overview of stakeholders to be consulted

STAKEHOLDER GROUP	TARGET	NOTE
Implementing Entity	3	
Executing Entity / Adaptation Fund Designated Authority	5	
Government Institutions	6	
Regional Authorities	8	
Local Authorities	28	4 individuals per project site
Project Beneficiaries	35-56	5-8 individual per project site
Other stakeholders	15	
Other delivery partners	4	
Total	104-125	

The purposive approach aims to ensure adequate representation across these categories, enabling the evaluation team to capture diverse perspectives on both project implementation and the sustainability of results. Consultations will include a mix of individual semi-structured interviews and FGDs, depending on the stakeholder type and setting. For project beneficiaries, the evaluation team will conduct one FGD per visited community, involving approximately five to eight participants. The selection of FGD participants will prioritize diversity in gender, livelihood type (e.g., crop farming, pastoralism), and engagement with specific project components. This approach is intended to yield balanced and representative insights across different project outcomes and implementation contexts.

Sampling of project sites

The evaluation team plans to conduct project site visits to the sub-zobas of Hamelmalo and Habero during three of the five days of the field mission. Specifically, the team will visit three project sites in each of the two sub-zobas, with the possible addition of one project site in the sub-zoba of Adi Tekelezan, which will be visited on the return journey from Keren to Asmara. Out of a total of 16 identified project sites, this planned sample represents approximately 44% coverage. Site selection was based on a purposive sampling strategy informed by the Final Evaluation, which identified key intervention areas.

The main criteria used for site selection included: 1) ensuring representation of all four project outcomes; and 2) prioritizing sites with a high concentration of physical assets that can be directly observed and assessed by the evaluation team. An important limitation of this sampling approach is that it is based solely on desk review of the Final Evaluation, which provides no indication of whether outcomes have been sustained at each site. All outcomes will be covered by data collection, both outcomes that have and have not been sustained, to learn about the factors that have both facilitated and hindered sustainability. The proposed sampling strategy has been shared with the MoLWE and UNDP for validation.

Table 4.2 below presents an overview of the universe of project sites. Highlighted in grey are the sites that have been sampled for a visit by the evaluation team.

Table 4.2 Site visit sampling

SITES VISITED	OUTPUT	NUMBER OF INFRASTRUCTURE	ACTIVITIES/INFRASTRUCTURE
Sub-Zoba Hamelmalo			
Gebsi	1.3, 1.4, 3.1	3	Construction of micro-dams/earth dam
			Soil and water conservation measures
			Meteorological Station
Wazentet	1.3, 1.4	2	Construction of micro-dams
			Soil and water conservation measures
Musha Shebah (Berdeg)	1.3, 1.4, 2.1	4	Construction of micro-dams
			Soil and water conservation measures
			Distribution of cross-bred dairy cows
			Distribution of improved chicks
Libena	1.4, 2.1	2	Soil and water conservation measures
			Distribution of improved chicks
Shlilak	1.1, 1.3, 1.4	2	Construction of micro-dams
			Soil and water conservation measures
Genfelom	1.4	2	Soil and water conservation measures
			Crop production
Ferhien	1.4	2	Soil and water conservation measures
			Crop production
Sub-Zoba Habero			
Fiza	1.1,1.2, 2.1	6	Construction of water diversion structure
			Irrigation system
			Solar pump
			Water well
			Distribution of cross-bred dairy cows
			Distribution of improved chicks
Lemayt/Simit Heday	1.2, 1.4	3	Construction of water diversion structure
			Installation of solar pumps
			Soil and water conservation measures
Aretay	1.4, 2.1, 3.1	4	Soil and water conservation measures
			Distribution of cross-bred dairy cows
			Distribution of improved chicks
			Installation of meteorological stations
Gelet	1.4	2	Soil and water conservation measures
			Crop production
Qar'obel	1.4	2	Soil and water conservation measures
			Crop production
Filfle	1.4	2	Soil and water conservation measures
			Crop production
Tsa'eda	1.4	2	Soil and water conservation measures
			Crop production

Sub-Zoba Adi Tekelezan			
Adi Tekelezan	3.1	1	Installation of meteorological stations

4.4 Timeline

Table 4.3 presents the overall timeline for the evaluation, with key phases and deliverables. A notable milestone in the evaluation process is the field visit to Eritrea, planned from 7 to 11 July 2025, with the possibility of subsequent consultations. Other key dates include the delivery of the draft and final inception reports on 18 June and 8 July, respectively and the delivery of the draft and final evaluation reports on 22 August and 19 September 2025, respectively.

Table 4.3 Timeline

DESCRIPTION OF COMPONENTS	TIMELINE
PHASE I: INCEPTION	
• **19 March 2025:** Virtual Training Session • **25-27 March 2025:** Kick-Off Call • **25 March-9 May 2025:** Drafting of the Stakeholder Management Tool, Document Review Tool, Inception Report Template, Evaluation Matrix, Outcome Analysis, Theory of Change, Theory of Sustainability, Observation Guide. • **28 April-23 May 2025:** Virtual Consultations • **5 May-23 May 2025:** Document Review • **26-30 May 2025:** Updating Theory of Change, Theory of Sustainability, Evaluation Matrix • **2-18 June 2025:** Develop Draft Inception Report, including emerging trends • **18 June 2025:** Draft Inception Report • **25 June 2025:** Feedback from AF-TERG and key stakeholders on Draft Inception Report • **8 July 2025:** Final Inception Report	**19 March-25 June 2025**
PHASE II: DATA COLLECTION	
• **31 March-4 July 2025:** Preparation of field mission logistics and training of data collection team • **7-11 July 2025:** In-Person Field Mission • **14-18 July 2025:** Debrief of field mission and contingency allocation	**30 June-18 July 2025**
PHASE III: DATA ANALYSIS AND REPORTING	
• **21-25 July 2025:** Data management • **28 July-1 August 2025:** Triangulated analysis of data sources • **7 August 2025:** Presentation of Preliminary Findings • **4-22 August 2025:** Drafting of Evaluation Report • **22 August 2025:** Delivery of Draft Evaluation Report • **5 September 2025:** Feedback from AF-TERG and key stakeholders on Draft Evaluation Report • **8-19 September 2025:** Revisions to the Draft Evaluation Report • **19 September 2025:** Delivery of Final Evaluation Report	**21 July-19 September 2025**
PHASE IV: DISSEMINATION	
• **22-26 September 2025:** Drafting of the Draft Evaluation Summary, and Draft PowerPoint Presentation of Key Findings, Recommendations, and Lessons Learned • **26 September 2025:** Delivery of the Draft Evaluation Summary**,** and Draft PowerPoint Presentation of Key Findings, Recommendations, and Lessons Learned • **3 October 2025:** Feedback from AF-TERG and key stakeholder on Draft Evaluation Summary, and Draft PowerPoint Presentation of Key Findings, Recommendations, and Lessons Learned • **6-10 October 2025:** Revisions to the Draft Evaluation Summary, and Draft PowerPoint Presentation of Key Findings, Recommendations, and Lessons Learned • **10 October 2025:** Delivery of Final Evaluation Summary and PowerPoint Presentation of Key Findings, Recommendations, and Lessons Learned • **Week of 13 October 2025:** Presentation of final project results to key stakeholders (i.e., GoE, UNDP, Adaptation Fund and AF-TERG)	**22 September-10 October 2025**

5. Data Analysis Strategy

5.1 Analytic approach

The evaluation team will pursue several analytical methods, described below, noting that additional or alternative analytic methods may emerge during the mandate to answer specific questions and/or sub-questions. In addition to the analytical methods described below, triangulation will be at the core of the data analysis process to ensure the reliability of information and to increase the quality, integrity, and credibility of the evaluation findings and conclusions.

Qualitative analysis will form a core component of the evaluation's approach. The evaluation team will analyze documents and interview data to identify patterns, trends, and divergent views across key units of analysis.

Quantitative analysis will be used to examine relevant data and trends in relation to project-level and wider contextual data, to the extent possible.

Descriptive and contextual analysis will be critical for understanding the operating environment of the Adaptation Fund project, and how contextual factors have influenced the sustainability of results.

Explanatory analysis will be used when presenting the sustainability of results, providing insights that will likely serve in the development of other projects into the future.

5.2 Risks and limitations

Table 5.1 presents the limitations identified by the evaluation team, as well as the proposed mitigation strategies.

Table 5.1 Evaluation limitations and mitigation strategies

LIMITATION	MITIGATION STRATEGY
The Ex-Post Evaluation is being conducted seven years after the completion of the project. As a result, many key stakeholders with direct knowledge of project design and implementation may no longer hold the same positions, institutional memory may have weakened, and there is the potential for recall bias. This challenge also applies to beneficiaries, some of whom may have migrated or moved away, making it difficult to ensure consistent recall and representation.	To address this limitation, the evaluation team is purposefully sampling individuals known to have direct involvement in the project and will prioritize consultation with former staff of key implementing and executing entities. A snowball approach will be employed during fieldwork to identify and reach additional knowledgeable stakeholders. While the time-bound nature of the data collection mission may constrain this approach, the national consultant will be available to conduct targeted follow-up interviews after the mission as needed, ensuring broader coverage and triangulation of institutional memory.
The design of Ex-Post Evaluations typically involves an extended inception phase with multiple stakeholder interviews to develop emerging findings and assess which	To mitigate this limitation, the evaluation team developed a preliminary site sampling strategy based on information available in the Final Evaluation and shared the proposed

outcomes have been sustained since the Final Evaluation. This enables the evaluation team to strategically select project sites that offer the best opportunities to examine the conditions contributing to sustainability. However, due to limited connectivity, consultations were restricted to central government officials and UNDP only. As a result, regional authorities, who likely possess essential information on outcome sustainability, were not included in the evaluation design or sampling strategy.	site list with regional counterparts for written feedback. Furthermore, prior to conducting any field visits, the evaluation team will undertake in-depth interviews with representatives of the regional administration to validate the relevance of selected sites. If these consultations reveal more suitable sites for evaluating sustained outcomes, the evaluation team remains flexible and prepared to adjust the site selection accordingly.
According to the list of Fragile and Conflict-Affected Situations (FCAS) of the World Bank for fiscal year 2025, Eritrea is categorized as having institutional and social fragility. While the areas targeted for site visits are currently stable, the broader security environment remains unpredictable.	To minimize security risks, the evaluation team has adopted a series of precautionary measures. All project site visits will be conducted in convoys using two vehicles, and travel will be restricted to daylight hours. International consultants will register with their respective embassies prior to travel and complete the mandatory online UNDSS Basic and Advanced Security in the Field courses. Upon arrival in-country, they will also register with UNDSS and comply with any security advisories or protocols in effect at the time of the mission.
So far, documentation has been limited to publicly available documents accessed through UNDP and Adaptation Fund project pages.	To source additional supporting documents which could inform the desk review and analysis, the evaluation team conducted a keyword search of UNDP annual reports and newsletters (see **Appendix IV**) and carried out a search of the web using AI. Both searches yielded limited but usable results, such that the team is relying significantly on field work and documents that may be made available at a later date. The evaluation team has requested UNDP and MoLWE to provide additional documentation, if available.

5.3 Gender analysis

Gender equality and inclusion are integral components of this Ex-Post Evaluation, consistent with the priorities outlined in the project design. The project explicitly identified women—particularly rural women and female-headed households—as primary beneficiaries, and aimed to reach approximately 1,350 female-headed households out of a total of 6,141 beneficiary households. It also adopted participatory planning mechanisms and worked with structures such as the NUEW to ensure equitable access and inclusion in decision-making processes. The Final Evaluation confirmed that rural women were meaningfully engaged across multiple components, including soil and water conservation, home gardens, and the uptake of improved fuel-efficient stoves. It also noted the inclusion of gender-specific indicators in the project's logical framework (e.g., number of staff trained in climate observation disaggregated by gender, and participation in awareness-raising events by gender and age).

This evaluation employs a mixed-methods approach to assess gender and inclusion outcomes. First, sex-disaggregated data will be collected wherever possible, including for quantitative indicators such as participation in project activities, benefits from asset creation (e.g., irrigation access or livestock), and use of improved

technologies. Second, FGDs will be designed to explore differentiated experiences of men and women in terms of benefit sharing, decision-making, and sustainability of outcomes. In each visited community, to the extent that fieldwork allows, a separate or gender-balanced FGD will be conducted to ensure that women's voices are adequately captured.

Interviews with institutional stakeholders will include targeted questions on gender considerations in planning and implementation, and the role of institutions such as the NUEW will be explicitly explored. The evaluation team also plans a dedicated interview with the NUEW in Anseba region, which was engaged in the implementation of awareness-raising and beneficiary targeting activities. Attention will be paid not only to the role of women, but also to other dimensions of inclusion, including youth, poverty status and livelihood type (e.g., agro-pastoralists versus settled farmers), in line with the participatory poverty and wealth ranking methodology originally used by the project.

Appendix I Evaluation Matrix

The evaluation matrix for this assignment is aligned with the overall with the Sustainability Framework for the Ex-Post Evaluation, with sub-questions broken down by outcome, where relevant. Indicators draw on both output and outcome indicators, with outcome indicators identified using blue font.

I.1 Evaluation matrix approach

EVALUATION QUESTIONS				
SUB-QUESTIONS	**SUSTAINABILITY FRAMEWORK CRITERIA**	**INDICATORS / DATA POINTS**	**DATA SOURCES**	**DATA COLLECTION METHODS**
Evaluation Question (EQ) 1: Have the project outcomes been sustained since completion?				
Sub-Question (SQ) 1.1: Were intended outcomes achieved at programme completion?	*Note: This sub-EQ has been broken down per outcome area. Please see breakdown for indicators and data sources			
SQ 1.1.1: To what extent did the programme support increased water availability and erosion control? (Outcome 1)		Outcome: Volume of water resources used in programme area, by million m3 (compared to baseline) Output: Evidence of infrastructure developed – sub-surface dam, micro-dams, diversion structures Evidence of irrigation technologies for crop and forage production Use of rainwater water harvesting for irrigation Evidence of retention and storage of water through micro-dams Evidence of implementation of soil and water conservation measures Hectares (ha) of rangeland under supplementary irrigation	Project Final Evaluation PPRs	Document Review

		Evidence of households migrating due to climate shock		
SQ 1.1.2: To what extent did the programme enhance climate-resilient agriculture and livestock production? (Outcome 2)		Outcome: Increased food availability among programme beneficiaries (for 3 months) Output: Increased food production through use of climate-resilient agricultural technologies and methods (e.g., drought- and disease-resistant varieties, integrated crop-livestock production systems, conservation agriculture, agroforestry, rangeland management; and traditional improved fuel-efficient stoves) Use of seasonal forecasts to enhance adaptive capacities and production systems	Project Final Evaluation PPRs	Document Review
SQ 1.1.3: To what extent did the programme improve and support use of climate risk information and climate monitoring? (Outcome 3)		Outcome: Proportion of programme beneficiaries using improved climate risk information Output: Number of meteorological stations built Evidence of strengthened capacities for climate monitoring and analysis Evidence of use of climate-risk information by communities Community preparedness enhanced	Project Final Evaluation PPRs	Document Review
SQ 1.1.4: To what extent did the programme establish a knowledge management system and implement knowledge management activities? (Outcome 4)		Outcome: Number of lessons learned materials produced and disseminated Output: Evidence of a knowledge management system being established Evidence of knowledge management activities Evidence of policy advocacy activities	Project Final Evaluation PPRs	Document Review

SQ 1.2: What outcomes have been sustained since programme completion?	*Note: This sub-EQ has been broken down per outcome area. Please see breakdown for indicators and data sources			
SQ 1.2.1: To what extent has increased water availability and erosion control been sustained since programme completion? (Outcome 1)		Outcome: Volume of water resources used in programme area, by million m3 (compared to Final Evaluation) Output: Evidence of infrastructure developed through programme still in place/functioning: – micro-dams – water diversion structures – irrigation systems – earthen dams – solar pumps – meteorological stations – hillside terraces – check dams – enclosure areas for grass production and tree regeneration – soil stabilization measures Beneficiary perceptions on availability of water for humans, irrigation, and livestock compared to programme completion Ha of rangeland under supplementary irrigation, compared to programme completion Evidence of sustained soil and water conservation measures (e.g., trees that were planted) Beneficiary perceptions on erosion control compared at time of programme completion	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP Annual livelihoods survey [if available] National food security monitoring system [if available]	Field visit Transect walks KIIs FGDs

		Community perceptions on migration due to climate shock since programme completion		
SQ 1.2.2: To what extent has the programme sustained climate-resilient agriculture and livestock production? (Outcome 2)		Outcome: Food availability among programme beneficiaries (for 3 months) Output: Evidence of climate-resilient agricultural technologies and methods developed/applied through programme still in use: – drought- and disease-resistant varieties – integrated crop-livestock production systems – conservation agriculture – agroforestry – rangeland management – traditional improved fuel-efficient stoves – solar panels Evidence of diversified livelihood options sustained Reported crop and livestock productivity compared to programme completion Perceptions on adaptation measures implemented in response to shocks Use of seasonal forecasts by farmers following programme completion	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration Hamelmalo Agricultural College National Agricultural Research Institute UNDP Annual livelihoods survey [if available] National food security monitoring system [if available]	Field visit Transect walks KIIs FGDs Document Review
SQ 1.2.3: To what extent have programme beneficiaries continued to use climate risk information and climate monitoring? (Outcome 3)		Outcome: Evidence of programme beneficiaries using improved climate risk information following programme completion Output:	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture	Field visit KIIs FGDs

		Evidence of improved climate risk information being generated Evidence of sustained capacities for monitoring and analyzing climate risk information Perceptions on availability of climate risk information following programme completion Awareness of climate change risks among community members Number of meteorological stations built through programme which have been maintained since programme completion Perceptions on adaptation measures implemented in response to shocks	MoLWE Zoba Anseba Administration Hamelmalo Agricultural College Meteorological Services National Agricultural Research Institute UNDP	
SQ 1.2.4: To what extent have knowledge management systems and activities established through the programme been sustained? (Outcome 4)		Outcome: Number of lessons learned materials produced and disseminated since programme completion Output: Evidence of knowledge management system in place since programme completion Evidence of knowledge produced through the programme being used since programme completion	Ministry of Agriculture MoLWE Zoba Anseba Administration Hamelmalo Agricultural College UNDP	Field visit KIIs FGDs
SQ 1.3: What new outcomes – positive or negative – have occurred since programme completion?		Evidence of positive outcomes since programme completion Evidence of negative outcomes since programme completion	Beneficiaries (farmers, village council, community members, local leaders) MoLWE Zoba Anseba Administration	Field visit Transect walks KIIs FGDs
SQ 1.4: Are the planned outcomes still desirable?		Stakeholder perceptions of continued relevance of project outcomes	Beneficiaries (farmers, village council,	Field visit Transect walks

			community members, local leaders) MoLWE Zoba Anseba Administration	KIIs FGDs
EQ 2: Which factors have contributed to sustain the project's adaptation outcomes over time?				
SQ 2.1: How have human and natural systems influenced the sustainability of adaptation outcomes?	Context		MTR PPRs TE Project Decisions	Field visit Transect walks Document Review KII FGD
SQ 2.1.1: How have key human and natural systems changed since programme closure?	Context	Evidence of changes in human and natural systems of relevance to programme, following programme closure.	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	Field visit Document review KII FGD
SQ 2.1.2: To what extent have socio-political dynamics affected the sustainability of the programme outcomes?	Context	Perceived level of government support (at local, regional, and national levels) for continued operation and maintenance of project-supported systems Reported changes in institutional coordination or power dynamics that have either enabled or hindered the continuation of project benefits	Beneficiaries (farmers, village council, community members, local leaders)	
SQ 2.1.3: How have human and natural systems influenced water availability and erosion control in Habero and Hamelmalo, following	Context	**Human systems:** – Conflicts over water resources – Decisions regarding land use – Decisions regarding crop production	Beneficiaries (farmers, village council, community members, local leaders)	Field visit Transect walks KII FGD

programme completion? (Outcome 1)		– Maintenance of irrigation systems **Natural systems:** – Occurrence of shocks (climate and non-climate)	Programme site observations Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	
SQ 2.1.4: How have human and natural systems influenced the sustainability of climate-resilient agricultural and livestock production in Habero and Hamelmalo? (Outcome 2)	Context	**Human systems:** – Decisions regarding land use – Decisions regarding crop production **Natural systems:** – Occurrence of shocks (climate and non-climate) – Pests	Beneficiaries (farmers, village council, community members, local leaders) Programme site observations Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	Field visit Transect walks KII FGD
SQ 2.1.5: How have human and natural systems influenced the sustainability of community awareness and preparedness to climate hazards in Habero and Hamelmalo? (Outcome 3)	Context	**Human systems:** – Presence of interministerial coordination for climate-risk information and monitoring – Presence of trained staff on meteorological observation and analysis **Natural systems:** – Extent to which local environmental conditions (e.g., frequency of droughts, floods, or land degradation) have reinforced or eroded preparedness practices adopted during the project	Beneficiaries (farmers, village council, community members, local leaders) Programme site observations Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	Field visit Transect walks KII FGD
SQ 2.1.6: How have human and natural systems	Context	**Human systems:**	Beneficiaries (farmers, village council,	Document Review KII

influenced the sustainability of knowledge generated through the programme? (Outcome 4)		– Production and dissemination of knowledge – Presence of other funding in these regions **Natural systems:** – TBD	community members, local leaders) Programme site observations Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	FGD
SQ 2.2: How have adjustments to programme strategies, plans, and actions during programme implementation influenced the sustainability of adaptation outcomes?	Strategy	Evidence of programme strategies, plans and actions Evidence of adjustments to programme strategies, plans, and actions during implementation Perceptions on influence of adjustments to programme strategies, plans, and actions during implementation on sustainability of adaptation outcomes	Program Document (Proposal) MTR PPRs Final Evaluation Project Decisions Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	Document Review KII FGD Field visit
SQ 2.3: To what extent has stakeholder *ownership* of programme outcomes and interventions contributed to the sustainability of adaptation benefits?	Conditions Driving Sustainability	Evidence of ownership of programme activities by programme completion, by outcome area Evidence of ownership of programme activities and results since programme completion, by outcome area	Final Evaluation Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE	Document Review KII FGD Field visit

			Zoba Anseba Administration UNDP	
SQ 2.3.1: To what extent has support for and/or dissent to the project's outcomes been expressed? What have been the implications for their sustainability beyond project closure?	Conditions Driving Sustainability	Presence of local structures (e.g., user committees, cooperatives, farmer groups) actively supporting the maintenance or continuation of project outcomes Reported cases of resistance, dissatisfaction, or neglect (e.g., abandonment of assets, non-participation in groups, disputes over resource use)	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration UNDP	
SQ 2.4: To what extent have *capacities* developed during programme implementation been maintained?	*Note: This sub-EQ has been broken down per outcome area. Please see breakdown for indicators and data sources			
SQ 2.4.1: To what extent have the capacities for water resources management been maintained since completion? (Outcome 1)	Conditions Driving Sustainability	Number local or regional staff (e.g., from MoLWE, sub-zoba offices, or water user committees) still engaged in water resource management functions Evidence of operational water user committees responsible for water infrastructure oversight Percentage of water infrastructure maintained and still operational Evidence of execution of operations and maintenance plans	Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration	KII FGD Field visit
SQ 2.4.2: To what extent has the capacity of farmers for climate-resilient agricultural and livestock production been maintained? (Outcome 2)	Conditions Driving Sustainability	Evidence of implementation of agricultural and livestock adaptation measures among project beneficiaries who received training Evidence of project beneficiaries making resource management decisions based on climate information	Final Evaluation Beneficiaries (farmers, village council, community members, local leaders)	KII FGD Field visit

		Continued use of Training of Trainers by extension agents Evidence of transfer of capacities (in animal production, crop production, horticulture, GIS mapping) to new farmers	Zoba Anseba Administration	
SQ 2.4.3: To what extent has the capacities of communities for climate-risk information and monitoring been maintained? (Outcome 3)	Conditions Driving Sustainability	Evidence of capacities to maintain meteorological stations Evidence of capacities to analyze climate risk information and to produce/disseminate forecasts Evidence of awareness of climate risks	Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration	KII FGD Field visit
EQ 2.5: To what extent have *partnerships* established during programme implementation been maintained?	*Note: This sub-EQ has been broken down per outcome area. Please see breakdown for indicators and data sources			
SQ 2.5.1: To what extent have partnerships for water resources management and soil erosion established during programme implementation been maintained? (Outcome 1)	Conditions Driving Sustainability	Evidence of partnerships and/or collaboration between stakeholders through programme implementation Evidence of continued partnerships and/or collaboration since programme completion, that contributes to sustaining adaptation benefits	Program Document (Proposal) MTR PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture MoLWE Delivery partners	KII FGD Field visit
SQ 2.5.2: To what extent have partnerships for climate-resilient agricultural and	Conditions Driving Sustainability	Evidence of partnerships and/or collaboration between stakeholders through programme implementation	Program Document (Proposal) MTR	KII FGD Field visit

livestock production been established during programme implementation been maintained? (Outcome 2)		Evidence of continued partnerships and/or collaboration since programme completion, that contributes to sustaining adaptation benefits	PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture MoLWE Delivery partners	
SQ 2.5.3: To what extent have partnerships for climate-risk information and monitoring been established during programme implementation been maintained? (Outcome 3)	Conditions Driving Sustainability	Evidence of partnerships and/or collaboration between stakeholders through programme implementation Evidence of continued partnerships and/or collaboration since programme completion, that contributes to sustaining adaptation benefits	Program Document (Proposal) MTR PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture MoLWE Delivery partners	KII FGD Field visit
SQ 2.5.4: To what extent have partnerships for knowledge management been established during programme implementation been maintained? (Outcome 4)	Conditions Driving Sustainability	Evidence of partnerships and/or collaboration between stakeholders through programme implementation Evidence of continued partnerships and/or collaboration since programme completion, that contributes to sustaining adaptation benefits	Program Document (Proposal) MTR PPRs Final Evaluation Zoba Anseba Administration Ministry of Agriculture MoLWE	KII FGD Field visit

			Delivery partners	
EQ 2.6 To what extent has the availability of *resources* (tangible, intangible, financial) influenced the sustainability of adaptation benefits?	*Note: This sub-EQ has been broken down per outcome area. Please see breakdown for indicators and data sources			
SQ 2.6.1: To what extent has the availability of resources (tangible, intangible, financial) influenced the sustainability of increased water availability? (Outcome 1)	Conditions Driving Sustainability	Allocation of national/local budget to maintain water infrastructure Personnel dedicated to management and maintenance of water infrastructure Number and type of resources from other development partners	Program Document (Proposal) MTR PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture Ministry of Finance and National Development MoLWE Delivery partners	KII FGD Field visit
SQ 2.6.2: To what extent has the availability of resources (tangible, intangible, financial) influenced the sustainability of climate-resilient agricultural and livestock production? (Outcome 2)	Conditions Driving Sustainability	Evidence of use of farmer resources to maintain and expand production	Program Document (Proposal) MTR PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture	KII FGD Field visit

			Ministry of Finance and National Development MoLWE Delivery partners	
SQ 2.6.3: To what extent has the availability of resources (tangible, intangible, financial) influenced the sustainability of climate-risk information and monitoring? (Outcome 3)	Conditions Driving Sustainability	Number of meteorological stations (installed by the project) still operational and maintained with government or partner support Number of trained personnel retained and engaged in climate-risk monitoring functions Existence of budget allocations (or donor support) for the operation and maintenance of climate monitoring infrastructure	Program Document (Proposal) MTR PPRs Final Evaluation Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture Ministry of Finance and National Development MoLWE Delivery partners	KII FGD Field visit
SQ 2.6.4: To what extent has the availability of resources (tangible, intangible, financial) influenced the sustainability of knowledge management systems? (Outcome 4)	Conditions Driving Sustainability	Existence of a functioning institutional mechanism (platform, database, or coordinating body) for storing, updating, and disseminating project-generated knowledge and lessons Inclusion of post-project knowledge sharing or learning activities	Program Document (Proposal) MTR PPRs Final Evaluation Zoba Anseba Administration Ministry of Agriculture Ministry of Finance and National Development MoLWE Delivery partners	KII FGD Field visit
EQ 3: How do the sustained outcome characteristics contribute to the system's resilience and adaptive capacity?				

SQ 3.1: How have sustained adaptation outcomes from the project impacted the temporal and spatial scale needed for natural and/or human systems to maintain or change their functions and/or structures in the face of climate disturbances?	Resilience – Scale	Evidence of increased responsiveness to climate disturbances due to climate-risk information: **Temporal scale indicators:** Proportion of farmers who received and used seasonal forecast information prior to the planting season to inform crop selection or timing Average number of additional months per year that project beneficiaries report having sufficient food availability compared to the pre-project period **Spatial Scale Indicators:** Percentage of project-installed meteorological stations still operational and providing climate data Percentage of micro-dams that continue to meet the water needs (volume and coverage) of their intended user communities across dry and wet seasons	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture Ministry of Finance and National Development MoLWE Zoba Anseba Administration	KII FGD Field visit
SQ 3.2 How have sustained adaptation outcomes from the programme contributed to increased availability of resources, means, or options, or created new ones, to support resilience to climate risks?	Resilience – Redundancy	Production diversification (e.g., shift from pastoralist to agro-pastoralist, etc.) Increased productive yields (fruits, vegetables, etc.) Evidence of water storage and diversion infrastructure providing an alternative water source Evidence of new climate-resistant seed varieties since Final Evaluation Increased farmer income from production invested in productive assets Evidence of livelihood diversity Evidence of alternative sources of income	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture Ministry of Finance and National Development MoLWE Delivery partners	KII FGD Field visit

SQ 3.3 How have sustained adaptation outcomes from the programme widened/deepened the variety of actors and inputs[87] working/interacting towards common goals?	Resilience – Diversity and Inclusion	Evidence of interministerial coordination Evidence of participation of diverse interest groups (civil society, private sector) Integration of scientific research and traditional knowledge in decision-making systems	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Zoba Anseba Administration Ministry of Agriculture Ministry of Finance and National Development MoLWE Delivery partners	KII FGD Field visit
SQ 3.4 To what extent have sustained adaptation outcomes from the programme supported equity and inclusiveness?	Resilience – Diversity and Inclusion	Evidence of engagement of marginalized groups in programme area (e.g., in decision-making) Perceived fairness and inclusiveness in access to and use of sustained project assets or services, disaggregated by gender, age, and socio-economic status	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture MoLWE Zoba Anseba Administration	KII FGD Field visit
SQ 3.4.1: Has the project empowered and/or disempowered certain actors, groups, institutions, etc., over time? How has this affected relations between these different stakeholders, particularly since project closure?	Resilience – Diversity and Inclusion	Perceived change in decision-making influence or autonomy among key stakeholder groups (e.g., women, local authorities, regional institutions) since project closure Reported changes in relationships—positive or negative—between community members and institutional actors	Beneficiaries (farmers, village council, community members, local leaders)	KII FGD Field visit

[87] Understood to include non-actor components such as access to research and knowledge, different farming methods, etc.

SQ 3.4.2: Have the benefits of the programme been distributed equitably, with perceived equitability, over time? Has this changed over time, particularly since programme closure?	Resilience – Diversity and Inclusion	Proportion of different demographic groups reporting continued access to and use of key project benefits Perceived fairness in the distribution of project benefits and continued access to resources or services, disaggregated by group	Beneficiaries (farmers, village council, community members, local leaders)	
SQ 3.5 How have sustained adaptation outcomes from the programme contributed to the system's agility in: • **Responding to uncertainty** • **Effectively tackling challenges** • **Seizing opportunities that may arise from change**	Resilience - Flexibility	Percentage of community members reporting use of climate-risk information (e.g., seasonal forecasts, early warnings) to adjust practices in response to uncertain or changing conditions Introduction of new practices or scaled innovations in response to emerging opportunities	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture Ministry of Finance and National Development MoLWE Zoba Anseba Administration	KII FGD Field visit
SQ 3.6 How have sustained adaptation outcomes from the programme supported: • **Communication lines** • **Access to information** • **Partnerships to respond or adapt to shocks or stressors**	Resilience – Connectedness/feedback loops	Number and type of communication channels (e.g., radio, extension agents, local committees) still used by communities to receive or share climate-related information Percentage of beneficiaries who report continued access to timely and relevant information on climate risks, agricultural practices, or resource availability Evidence of multi-stakeholder partnerships (e.g., between communities, local authorities, meteorological services, or NGOs) maintained or developed since project closure to address climate-related challenges	Project site observations Beneficiaries (farmers, village council, community members, local leaders) Ministry of Agriculture Ministry of Finance and National Development MoLWE Zoba Anseba Administration	KII FGD Field visit

Appendix II Stakeholder Analysis

Table II.1 below presents the stakeholder analysis for the Adaptation Fund project ERI/MIE/Rural/2010/2 in Eritrea. It identifies key stakeholder groups and the main organizations or actors within each group, and describes their roles in two dimensions: (i) their role in project implementation, organized by outcome area; and (ii) their expected or reported role in sustaining project outcomes after completion. The information on roles in implementation is based on project design documents and validated through available evaluations. The description of stakeholder roles in sustaining outcomes is drawn from the original project strategy—particularly the sustainability and exit plans outlined in the funding proposal—as well as the Mid-Term and Final Evaluations, which provide insights into the likely durability of results. Since inception interviews were not conducted for this Ex-Post Evaluation, the actual roles of stakeholders in sustaining outcomes have not yet been verified and will be updated during the primary data collection phase.

Table II.1 Stakeholder analysis

STAKEHOLDER TYPE	DESCRIPTION	ROLE IN PROJECT (BY OUTCOME)	ROLE IN SUSTAINING PROGRAMME OUTCOMES
Implementing Entity: United Nations Development Programme (UNDP)	UNDP served as the Implementing Entity (IE) for this Adaptation Fund project. Its responsibilities included overall fiduciary oversight, quality assurance, procurement, and technical support.	**Outcome 1–4:** Provided technical backstopping for the design and delivery of all outcomes. Oversaw financial management and procurement. Coordinated with the Executing Entity on annual work plans and M&E frameworks. Supported knowledge management efforts and facilitated integration of lessons learned into future programming. UNDP also supported reporting to the Adaptation Fund.	**Outcomes 1–4:** Preparation of knowledge products and policy briefs for upscaling and replication; Advocacy for a Phase II proposal to the Green Climate Fund, thus aiming to institutionalize lessons and secure future financing; Mobilization of international learning platforms (e.g., Adaptation Learning Mechanism) for sharing project outcomes.
Executing Entity / Adaptation Fund Designated Authority: Ministry of Land, Water and Environment (MoLWE)	MoLWE was the Executing Entity (EE) responsible for direct implementation of the project and coordination among national and local actors. It also acted as the national Designated Authority to the Adaptation Fund.	**Outcome 1:** Led implementation of water resource infrastructure (micro-dams, diversion structures, and rainwater harvesting systems) and related land management activities. **Outcome 2:** Coordinated with MoA and research institutions to implement climate-resilient agricultural practices and livestock packages.	**Outcome 1:** Provide continued technical oversight for infrastructure (e.g., micro-dams, subsurface dams), in collaboration with Zoba Anseba's Infrastructure Department and Water Resources Department, especially for repairs beyond local capacity.

		Outcome 3: Oversaw community-based early warning systems and collaborated with Meteorological Services for installation of monitoring equipment. **Outcome 4:** Supervised the development of a knowledge management system and coordinated with regional actors on advocacy and policy engagement.	**Outcome 2:** Support environmental mainstreaming in agriculture and natural resource policy frameworks. **Outcome 3:** Maintain collaboration with meteorological services and zoba administration on climate information systems. **Outcome 4:** Responsible for policy advocacy and integrating climate risk reduction into regional and national planning processes
Government Institutions: MoA	MoA is responsible for national agriculture and livestock development, including research, extension services, and input provision.	**Outcome 1:** Supported design and implementation of soil and water conservation (SWC) measures. Supplied technical staff and mobilized agricultural extension services. **Outcome 2:** Provided training on drought-tolerant seeds, livestock care, and integrated production systems. Distributed seeds, heifers, and chicks as part of technology packages. **Outcome 3:** Participated in awareness-raising events and helped connect climate information to farmers' needs.	**Outcomes 1–2:** Continue delivery of agricultural extension services, including technical backstopping on climate-resilient methods and seed/livestock distribution. MoA staff at sub-regional level were expected to support infrastructure maintenance as part of their regular duties. **Outcome 3:** Sustain integration of seasonal forecasts into extension services via trained agents and farmer-to-farmer learning forums. **Outcome 4:** Maintain data repositories and technical documentation from the project, with support from HAC.
Government Institutions: Ministry of Local Government	Oversees local governance structures, including sub-zoba and village councils. Plays a key role in administrative coordination.	**Outcome 3:** Helped integrate climate risk awareness and preparedness into local planning and administrative structures. **Outcome 4:** Facilitated communication between central authorities and local administrations for knowledge sharing and policy uptake.	**Outcomes 3–4:** Provide institutional support for: Embedding climate awareness and preparedness into local administrative systems; Facilitate coordination between sub-zoba administrations and national-level actors; Maintain the Zoba Food Information Committee, a body proposed to support EWS continuity.

Government Institutions: Ministry of Finance and National Development	Formed part of the Project's National Steering Committee.	Unclear. To be further developed in data collection.	Although document review does not provide information on the role of this Ministry in sustaining outcomes, it potential plays or has played a key role in securing budget lines to maintain infrastructure or project activities.
Government Institutions: Bureau of Standards and Evaluation (BS&E)	A national entity responsible for project evaluations and performance tracking.	**Outcome 4:** Participated in M&E functions, including the Mid-Term Review. Supported performance tracking and may have helped develop indicators and data collection protocols.	Unclear. To be further developed in data collection.
Regional Authorities: Anseba Regional Administration	The regional governing body responsible for overseeing development initiatives in Anseba, including the sub-zobas of Hamelmalo and Habero.	**Outcome 1:** Helped identify project sites and mobilize community labor for infrastructure work. **Outcome 2:** Coordinated local training and extension activities in collaboration with MoA and local offices. **Outcome 3:** Facilitated implementation of early warning systems and supported climate awareness campaigns. **Outcome 4:** Acted as a key channel for disseminating knowledge products and feeding local lessons into regional policy planning.	**Outcomes 1–2:** Responsible for financial and technical support to communities for infrastructure maintenance through its Infrastructure Department. **Outcome 3:** Institutionalize early warning data within the zoba administration and led coordination with community data collectors. **Outcome 4:** Host the knowledge management system and policy feedback loops; support mainstreaming of adaptation into development planning.
Local Authorities: Village Councils and Traditional Leaders	Local governance units composed of elected or customary leaders in rural villages.	**Outcome 1:** Facilitated access to land and labor for construction of micro-dams and terraces. **Outcome 2:** Helped mobilize farmers and women's groups for trainings and production activities. **Outcome 3:** Played a critical role in community preparedness initiatives and in disseminating climate risk information. **Outcome 4:** Supported identification and documentation of traditional knowledge and best practices.	**Outcome 1:** Take on responsibility for operation and maintenance of local water infrastructure, e.g., through Water Use Committees that collect modest user fees for maintenance. **Outcome 2:** Encourage community adherence to sustainable agriculture norms and collective resource management. **Outcome 3:** Help sustain community-based early warning systems through local leadership and integration into traditional decision-making structures.

			Outcome 4: Provide grassroots insights that inform knowledge products and policy recommendations.
Project Beneficiaries: Farmer Communities in Hamelmalo and Habero	Includes smallholder farmers, agro-pastoralists, pastoralists, and rural women, particularly female-headed households.	**Outcome 1:** Participated in construction and maintenance of water structures; directly benefited from improved water availability. **Outcome 2:** Adopted drought-resilient crops, integrated livestock practices, and fuel-efficient stoves. **Outcome 3:** Received training on climate risks and contributed to community early warning systems. **Outcome 4:** Shared lived experiences for documentation and were featured in success stories and communications materials.	**Outcome 1:** Maintain dams and diversion structures (e.g., Fiza and Lemayt communities repaired temporary embankments independently after flood damage). **Outcome 2:** Continue using drought-tolerant crops and livestock packages; keep using stoves and agroforestry techniques. **Outcome 3:** Act as data collectors for EWS and maintain some functions independently post-project. **Outcome 4:** Share testimonials and experiences that feed into national knowledge repositories and outreach materials.
Other Stakeholders: HAC	A national academic institution providing education and research in agriculture.	**Outcome 2:** Trained extension agents; conducted research on conservation agriculture and drought-resistant varieties. **Outcome 4:** Helped document and disseminate field results, contributed to national knowledge systems.	**Outcome 2:** Continue testing and promoting climate-resilient agricultural techniques. **Outcome 3:** Operate and maintain meteorological stations; train staff and students in climate data use. **Outcome 4:** Support knowledge management infrastructure and backstopped MoA data repositories.
Other Stakeholders: NARI	Government research institute focused on improving agricultural productivity and resilience.	**Outcome 2:** Developed and released improved crop varieties (e.g., Kona millet, Se'are sorghum). **Outcome 4:** Supported field trials and contributed to lessons learned dissemination.	**Outcome 2:** Continue development and dissemination of drought- and disease-resistant varieties. **Outcome 4:** Participate in documentation of lessons learned and research-extension linkages.

Other Stakeholders: Meteorological Services	National provider of weather data, forecasts, and climate services.	**Outcome 3:** Installed and maintained weather stations; trained local staff; helped produce seasonal forecasts and risk information.	**Outcome 3:** Provide seasonal forecasts and supported climate data analysis through enhanced Class A stations. Play a central role in sustaining the climate information system at regional level.
Other Stakeholders: NUEW	Government-affiliated women's organization with representation at all administrative levels.	**Outcome 2:** Supported identification and training of female beneficiaries, particularly for poultry, dairy, and stove initiatives. **Outcome 3:** Participated in awareness campaigns and helped ensure women's engagement in early warning efforts.	**Outcomes 2–3:** Continue to mobilize rural women for agricultural activities and awareness raising. Ensure gender-sensitive approaches remain visible in follow-up actions.
Other Stakeholders: NUEYS	Non-profit non-governmental organization focused on the betterment of youth in Eritrea.	To be confirmed during fieldwork.	To be confirmed during fieldwork.
Other Delivery Partners	To be confirmed during fieldwork : may include NGOs, bilateral donors, or UN agencies that replicated project components post-implementation.	**N/A**	**Outcome 1–2:** Replicate or scale micro-dam or irrigation infrastructure and agricultural innovations. **Outcome 3:** Help institutionalize or extend early warning systems. **Outcome 4:** Integrate knowledge products from the project into broader resilience initiatives.

Appendix III Project Results Framework

Table III.1 Results framework

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
				METHOD	TIMING	
Outcome 1: Increased Water Availability and Erosion Control through Groundwater Recharge, Rainwater Harvesting, Irrigation and Soil and Water Conservation Measures. **Indicators** - Change in level of renewable water resources used in project area **Baseline**	By 2018, 5.3 million cubic meters of water resources used in project area (increase of 4.3 million m^3) (TE, p.4)	Output 1.1: Groundwater recharged, and irrigation technologies implemented for crop and forage production by developing a subsurface dam within the Anseba River	Indicator 1.1.1: Sub-surface dam with associated pumping and irrigation water distribution facilities completed Indicator 1.1.2: Number of households of agropastoralists using the water supply to increase their agricultural and rangeland productivity by twenty-fold	- Annual survey - Project Final Evaluation	Annually and at the end of the project	- Ministry of Agriculture - MoLWE - Zoba Anseba Administration - Village Councils - community members
		Output 1.2: Floodwater harvested to enable irrigation of rain-fed cereal production and rangelands	Indicator 1.2.1: Number of hectares of rangeland that become fully under supplementary irrigation and have an increased productivity of 40% Indicator 1.2.2: Number of hectares of cereal production that are converted to be fully under supplementary irrigation Indicator 1.2.3: Number of hectares of the dominant cereal crops (sorghum and pearl millet) that have an increased production of from 0.36 (baseline) tons per hectare to 0.7 tons per hectare			

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
Only about 1million cubic meters is put in use		Output 1.3: Two micro dams constructed to retain and store rainfall run-off.	Indicator 1.3.1: Number of hectares of cereal production that is converted to be fully under supplementary irrigation and in which the production of the dominant cereal crops (sorghum and pearl millet) is increased from 0.36 tons per hectare (baseline) to 1.0 tons per hectare			
			Indicator 1.3.2 Increase in forage production per ha of irrigated land.			
			Indicator 1.3.3: Amount of time spent in search of water and forage for livestock.			
		Output 1.4: Soil and water conservation measures implemented to improve runoff management and infiltration	Indicator 1.4.1: Livestock carrying capacity of rangelands under this protection and rehabilitation project			
			Indicator 1.4.2: Agricultural production of farm lands under the on-farm soil and water conservation project			
			Indicator 1.4.3: Percentage of households migrating to other areas due to climatic shock			
Outcome 2: Climate-Resilient Agricultural and Livestock Production Enhanced.	By 2018, 70% of project beneficiaries have sufficient food for at least	Output 2.1: A range of climate-resilient agricultural technologies and methods developed and transferred to farmers e.g., drought- and disease-resistant varieties,	Indicator 2.1.1 Number of project beneficiaries involved in capacity development for implementation of specific agricultural and/or livestock adaptation measures, disaggregated according to gender	- Annual livelihoods survey - National food security	Annually, to the end of the project. Annually,	- Ministry of Agriculture - MoLWE - Zoba Anseba Administration - Village

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
Indicator Change in food security in the project area as a result of using climate-resilient agricultural and livestock production methods, measured as # of months per year additionally covered by local production **Baseline** (Baseline to be established by project through livelihoods survey1 # of months per year covered by local farming and livestock production before & after the project. List some concrete examples.	an additional 3 months (TE, p.4)	integrated crop-livestock production systems, conservation agriculture, agroforestry, rangeland management; and traditional improved fuel-efficient stoves	Indicator 2.1.2: Number of professionals involved in capacity development to enable rolling out of climate-resilient agricultural production technologies and methods, disaggregated according to gender	monitoring system - Project Final Evaluation	to the end of the project. End of project	Councils - community members - Hamelmalo Agricultural College - National Agricultural Research Institute - National Union of Eritrean Women - National Union of Eritrean Youth and Students
			Indicator 2.1.3: Percent change in beneficiaries' capacities to make resource management decisions based on climate information			
			Indicator 2.1.4: Increased agricultural and livestock production as a result of implementing climate-resilient technologies and methods			
			Indicator 2.1.5: Number of improved traditional energy-efficient stoves distributed and in regular use			
		Output 2.2: Seasonal forecasts used in a farmer-led collaborative action learning process to enhance adaptive capacity and climate-proof production systems	Indicator 2.2.1: Number of farmers using seasonal forecasts to develop on-farm adaptive strategies			
			Indicator 2.2.2: Increased production and farm income as a result of using seasonal forecasts to guide on-farm activities			
Outcome 3. Improved Climate	By 2018, 70% of project	Output 3.1.: Improved climate risk information	Indicator 3.1.1: Downscaled climate change projections at the sub-national	Survey	Annually and	- Ministry of Agriculture

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
Risk Information and Climate Monitoring Used to Raise Awareness of and Enhance Community Preparedness to Climate Hazards. **Indicator** Percentage of project beneficiaries making use of improved climate risk information and climate monitoring processes, disaggregated according to gender **Baseline** Baseline is zero – no improved climate risk information yet available	beneficiaries make use of improved climate risk information (TE, p.4)	generated, and capacity developed for climate monitoring and analysis	scale from multiple GCMs for Zoba Anseba		on project completion	- MoLWE - Zoba Anseba Administration - Village Councils - community members - Meteorological Services - Hamelmalo Agricultural College - National Agricultural Research Institute - National Union of Eritrean Women - National Union of Eritrean Youth and Students
			Indicator 3.1.2: Number of gender-sensitive knowledge products developed and disseminated using improved climate risk information			
			Indicator 3.1.3: Class 1 meteorological station installed in sub-zoba Habero and six Class 3 meteorological stations installed, three in each sub-zoba			
			Indicator 3.1.4: Number of staff trained on meteorological observation and analysis, disaggregated according to gender			
		Output 3.2: Awareness raised at different levels on climate change risks facing Zoba Anseba	Indicator 3.2.1: Number of stakeholders participating in awareness raising events, disaggregated according to gender and age where possible			
			Indicator 3.2.2: Perceived change in decision making as a result of participation in awareness raising activities			
			Indicator 3.3.1: Number of community members trained on EWS			
			Indicator 3.3.2: Number of stakeholders served by community-based EWS			

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
		Output 3.3: Community preparedness enhanced through development of a community-based early warning system in sub-zobas Hamelmalo and Habero	Indicator 3.3.3: Losses resulting from climate-related disasters (e.g., mortality, injury, property or infrastructure lost or damaged) compared with recent historical experience or projected baseline, in the area served by the community-based EWS			
Outcome 4. Knowledge Management System Established, and Knowledge Management Activities Implemented. **Indicators** Number of 'lessons	By 2018 at least 5 lessons learned materials produced and disseminated (TE, p.4)	Output 4.1: Knowledge management system established, and knowledge management activities implemented	Indicator 4.1.1: Number of 'lessons learned' codified	Project Final Evaluation	End of the project	- Ministry of Agriculture - Zoba Anseba Administration - Hamelmalo Agricultural College
			Indicator 4.1.2: Number of relevant networks or communities through which lessons learned are disseminated			
		Output 4.2: Policy advocacy activities implemented	Indicator 4.2.1: Number of knowledge products developed for use in policy advocacy activities			

OUTCOMES	OUTCOME TARGETS	OUTPUTS	OUTPUT INDICATORS	MEANS OF VERIFICATION OUTCOME LEVEL		RESPONSIBLE PARTIES)
learned' about natural resource management in the context of climate change as a result of the project **Baseline** Baseline is zero – no relevant lessons learned are currently being captured or disseminated			Indicator 4.2.2: Number of policies/plans/strategies/projects revised or developed as a result of policy advocacy activities			

Table III.2 Project contribution to Adaptation Fund Strategic Results Framework

EXPECTED RESULTS	INDICATORS	SPECIFICATIONS
Impact: Increased resiliency at the community, national, and regional levels to climate variability and change	Core Indicator: No. of beneficiaries	Number of beneficiaries (Direct and indirect beneficiaries, % female, % youth)
Outcome 1: Reduced exposure to climate-related hazards and threats	Indicator 1: Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	Number of targeted stakeholders (% female), hazards information generated and disseminated, overall effectiveness
Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	Indicator 2: Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	Number of staff targeted, sector, capacity level
Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1: Increase in application of appropriate adaptation responses	Percentage of targeted population applying adaptation measures, sector
Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 4.1: Increased responsiveness of development sector services to evolving needs from changing and variable climate Core Indicator 4.2: Assets produced, developed, improved or strengthened	4.1: project sector, geographical scale, response level 4.2: sector, targeted asset, changes in asset (quantitative or qualitative)
Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	Indicator 5: Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	Natural resource improvement level, sector, type
Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Indicator 6.1: Increase in households and communities having more secure access to livelihood assets Indicator 6.2: Increase in targeted population's sustained climate-resilient alternative livelihoods	6.1: No. of targeted households, % of female headed households, improvement level 6.2: No. of targeted households, % of female headed households, % increase in income level vis-à-vis baseline, alternate source
Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Indicator 7: Climate change priorities are integrated into national development strategy	Integration level

Source: Drawn from latest available PPR, based on indicators with targets reported (Adaptation Fund 2018)

Appendix IV Analysis of Data Quality for Each Project Outcome/Outputs

Data availability has been identified as a primary limitation during the inception stage, with the main documents available to the evaluation team including publicly available documents accessible through the Adaptation Fund and UNDP project pages.[88]

To support the identification of additional documents as well as potential project influence on subsequent programming, the evaluation team:

- Did a keyword search in available UNDP Eritrea annual results reports/country office reports (2019-2024) and newsletters (2015, 2017, 2022, 2023), using the following keywords: agriculture, water, climate change, adaptation, Anseba, Habero, Hamelmalo
- Used AI to scan the web for documentation referencing the project.

In both cases, limited additional reference information was returned.

AI Scan

An AI web search was carried out using Microsoft Copilot with enterprise data protection.[89] The search relied on a series of prompts and follow-up prompts, as described below:

Search 1

1. Write a concise summary of the UNDP project "Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea." Include the years of implementation, the goal, and key outcomes and limitations. Use publicly available information.
    a. Can you provide more details on outcomes that were achieved?
    b. What were the long-term impacts of this project?
        i. Expand on the project's replication and policy influence
        ii. What specific projects were influenced by this one?
        iii. What are the names of the projects that were influenced?
2. What climate funds have had projects in Eritrea relating to climate change adaptation, water, or agriculture, since 2017?
    a. What about the Climate Investment Funds (CIF) and Central Emergency Response Fund (CERF)?
    b. Do either of the GCF or GEF projects mentioned above reference the Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea?
        i. *[Would you like help locating or reviewing the full GEF or GCF project documents for Eritrea to confirm references?]* Yes

[88] Adaptation Fund: https://www.adaptation-fund.org/project/climate-change-adaptation-programme-in-water-and-agriculture-in-anseba-region-eritrea/
UNDP: https://www.adaptation-undp.org/projects/af-water-and-agriculture-adaptation-anseba-region-eritrea
[89] https://learn.microsoft.com/en-us/copilot/microsoft-365/enterprise-data-protection

ii. *[Would you like a side-by-side comparison of these projects and their thematic overlaps with the Anseba programme?]* Yes, a comparison would be useful

3. What bilateral donors have projects in Eritrea relating to climate change adaptation, water, or agriculture, since 2017?
    a. Compile a list of specific projects that these donors have had in Eritrea since 2017, relating to climate change adaptation, water or agriculture
        i. Do any of these projects reference the Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea?
4. Are there examples of projects in Habero or Hamelmalo relating to climate change adaptation, water, or agriculture, since 2017?
5. Share a list of documents available online which reference the Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea.
6. What about documents that reference UNDP PIMS ID 4540?
7. Are there any webpages that reference this project or project ID?
8. What about online sources that talk about water and agriculture in Eritrea?
    a. Summarize the IFAD project in Eritrea.
    b. List the FAO projects in Eritrea since 2017
    c. Create a table with the years of implementation of these projects, as well as the national partner and goals
    d. What was the location for each of these projects?

Search 2

1. What is the most recently published National Programme of Action (NAPA) document for Eritrea?

Appendix V List of Project Documents and M&E Data Available

Project Design

Project Document (Project/Programme Proposal), n.d.

Project Progress

Project Performance Report, 2013

Project Performance Report, 2014

Project Performance Report, 2015

Project Performance Report, 2018

Mid-Term Evaluation, 2017

Terminal Evaluation, 2019

Project Extensions

Project Decision B.15-16/2, 2011

Project Decision B.30-31.17, 2018

Project News and Stories

Climate change adaptation interventions improve livelihoods in Anseba

UNDP Eritrea Newsletter: Special Edition, 2017

Other Documents of Interest

First Biennial Update Report (BUR I) Under the United Nations Framework Convention on Climate Change (UNFCCC) (MoLWE, 2021)

World Bank 2025 Eritrea Outlook

UN Eritrea Cooperation Framework (2022-2026) Results Framework

UNDP Eritrea Thematic Fact Sheet – GEF Small Grants Programme

UNDP National Union of Eritrean Women (NUEW)

Appendix VI Bibliography

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Appendix VII Data Collection Tools

Adaptation Fund Ex-Post Evaluation in Eritrea - Interview Protocol and Template

Introduction

This Ex-Post Evaluation is being conducted by Universalia Management Group of Montreal, Canada in support of the Adaptation Fund and its "*Climate Change Adaptation Programme in Water and Agriculture in Anseba Region, Eritrea*" project. You have been contacted in the context of this Ex-Post Evaluation as a key informant given your organisation's partnership with UN Development Programme (UNDP), the project's implementing agency.

Overview of the Project

The project was a US$ 6.52 million project carried out in two sub-zobas of the Anseba region, Habero and Hamelmalo, between 2012 and 2018. The project goal was to "promote increased food security in Eritrea through ecologically sustainable and climate-resilient improvements in agricultural production," and its objective was to "increase community resilience and adaptive capacity to climate change through an integrated water management and agricultural development approach."

The project four core components focusing on the following outcomes:

- increasing water availability for farmers;
- enhancing climate-resilient agricultural and livestock production;
- improving climate risk information and community preparedness; and
- implementing a system for knowledge management and carrying out policy advocacy activities.

Overview of the Ex-Post Evaluation

This Ex-Post Evaluation aims to provide insight into programme impact and sustainability seven years after completion. This is based on an understanding that results of adaptation activities may appear years after a project is completed. This evaluation will not seek to re-evaluate the project outcome but rather focus on learning from what has remained or emerged since the project closed.

Specifically, this Ex-Post Evaluation will serve three primary purposes;

- To assess changes in the project impacts from the time of the final evaluation to the time of the evaluation ex-post, that is, 3 to 5 years after the project's administrative closure.
- To identify conditions that contributed to sustain the project's adaptation outcomes over time
- To analyze ways through which the sustained outcomes are contributing to the system's resilience and adaptive capacity.

Informed Consent

The content of this interview will remain confidential and data from individual interviews is aggregated to inform higher-level evaluation findings and conclusions. While your name will be included in a list of consulted stakeholders, it will not be specifically associated with information included in report.

You may choose not to answer certain questions or withdraw from the interview at any time without consequences.

The decision to participate (or not) will have no repercussions (positive or negative) for you. You will not be granted any benefit if you accept to participate in the evaluation.

Do you consent to participate to this interview and (if applicable) to be recorded? Do you have any questions about the evaluation or this interview before we start?

Do you consent that your name can be mentioned in the evaluation report only as part of the list of people consulted to inform the evaluation?

If you have any questions or additional information to bring forward after this meeting, you may contact:

- Evaluation Team Leader, Ms. Esther Rouleau (esther.rouleau@gmail.com)

Important Information

Please also complete the following descriptor information:

Interviewee 1 – Last Name:
Interviewee 1 – First Name:
Job Title:
Department/Division:
Organization:
Type of Stakeholders (as per stakeholder list):
Gender:

Name of Interviewer:
Date of Interview:

Important Note of Guidance to Interviewer

- For all interviewees
  - Please review and familiarise yourself with this interview guide ahead of going into an interview.
  - Please adjust the conduct and language of the interview to suit the interviewee, based on their response to the warm-up questions, their level of experience/involvement in activities, their knowledge of the organisation, their language skills, and perhaps others.
  - Please take into consideration how early in the process the interview takes place and how much time is allotted to the interview.
  - Please check if this interviewee has been interviewed before. If so, please review the previous interview. It is essential that your interview builds on any prior interview and does not repeat it.
  - The actual formulation of questions will depend on these factors and relies largely on the interviewer. This should also be used to guide an experienced interviewer through a more conversational exchange, ideally keeping fairly close to the order of questioning.
  - Please take appropriately detailed notes and then complete the interview report.
- For UNDP interviewees
  - Structure the interview as a dialogue/conversation
  - Assume a more detailed and project specific approach
- For Government of Eritrea interviewees
  - Structure the interview as a dialogue/conversation
  - Assume a more general and open-ended approach

0. Introduction

Please introduce yourself and your familiarity and/or involvement with the project.

1. Have the project outcomes been sustained since completion?

Questions	Group					
	UNDP	MoLWE and other Govt	Regional Authorities	Devt partners	Village councils and local institutions	Beneficiaries (at community level)
1.1 Were intended outcomes achieved at programme completion?						
1.1.1. To what extent has increased water availability and erosion control been sustained since programme completion? (Outcome 1)						
1. Which **water infrastructure** developed under the project (e.g., micro-dams, diversion canals, solar pumps) is still functional and serving its intended purpose?	X	X	X		X	X
2. Has your **institution** been involved in maintaining or monitoring any of these systems since project closure? If not, who is responsible?	X	X	X		X	
3. Have **water availability** conditions for agriculture or livestock changed in the programme area since the project ended?	X	X	X		X	X
4. Has your **institution collected or accessed data on water use** (e.g., million m^3/year) or irrigated rangeland coverage in the area since project closure? If so, does data show **increase in water availability**?	X	X	X		X	
5. To your knowledge, are any **erosion control or reforestation measures** (e.g., tree planting, soil stabilization) still intact and delivering benefits?	X	X	X		X	X
6. Are there any **mechanisms in place to monitor** or assess soil and water conservation structures (e.g., hillside terraces, enclosures, check dams) introduced by the project?	X	X	X		X	X
1.1.2: To what extent has the programme sustained climate-resilient agriculture and livestock production? (Outcome 2)						
1. Which **climate-resilient agricultural or livestock practices** introduced during the project are still being used in the target communities?	X	X	X		X	X

2. Has your **institution supported or monitored** the continued use of any of these practices (e.g., drought-resistant crops, rangeland management, agroforestry)? If so, do you have any hard data that you could share on agricultural production and improved food security?	X	X	X		X	
3. Are there any known changes in **household food availability** (e.g., number of months with sufficient food) in the programme areas since project closure?	X	X	X		X	X
4. Have farmers in the area continued to **diversify their livelihoods** (e.g., new crops, poultry, energy-efficient stoves, solar panels)?	X	X	X		X	X
1.1.3: To what extent have programme beneficiaries continued to use climate risk information and climate monitoring? (Outcome 3)						
1. Are **meteorological stations** installed by the project still functioning today? How many are operational and are they being maintained?	X	X	X		X	X
2. Who is currently responsible for **maintaining and using data** from these stations?	X	X	X		X	X
3. Has your institution continued to **analyze, share, or use climate risk information** since the project ended?		X	X		X	
4. Have there been any **trainings demonstrations or institutional processes** in place (e.g., by MoA, HAC, NARI) to strengthen climate monitoring capacity after project closure?		X	X		X	X
5. To your knowledge, is climate risk information (e.g., **seasonal climate forecasts and early warnings)** still being used by farmers to inform agricultural decisions? Do you have any examples of this?	X	X	X		X	X
6. In your view, has **community preparedness** improved, remained the same, or declined since the project ended?		X	X	X	X	X

1.1.4: To what extent have knowledge management systems and activities established through the programme been sustained? (Outcome 4)						
1. Was a knowledge **management system or repository established** during the project? Is it still being used or maintained?	X	X	X		X	X
2. Were any **knowledge products** (e.g. manuals, lessons learned, training material) developed and disseminated? Are these still being used?	X	X	X		X	X
3. Has your institution continued to implement or support any **knowledge-sharing activities** since the project ended?	X	X	X		X	
4. Are you aware of any **processes or practices influenced** by the knowledge generated through the project?	X	X	X	X	X	X
1.1.5: What new outcomes – positive or negative – have occurred since programme completion?						
1. Have you observed any **new positive or negative outcomes** that emerged after the project ended?	X	X	X	X	X	X
1.1.6: Are the planned outcomes still desirable?						
1. In your view, are the objectives or results supported by the project **still relevant to local needs and priorities today**? In terms of: a) water availability or erosion control; b) climate-resilient agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.	X	X	X	X	X	X
2.1: Which factors have contributed to sustain the project's adaptation outcomes over time?						
2.1.1: How have key natural and human systems changed since programme closure?						
1.a Have there been any **major environmental or climatic changes** (e.g. rainfall, drought, land use, pest outbreaks, etc.) in Habero and Hamelmalo since project end? 1.b. Have they affected **the sustainability of programme/project outcomes**:	X	X	X	X	X	X

a) water availability or erosion control; b) climate-resilient agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.						
2.a Have there been significant **changes in human systems** such as population movements, livelihood, land use patterns, and irrigation management decisions? 2.b Have they affected the sustainability of programme/project outcomes: a) water availability or erosion control; b) climate-resilient agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.	X	X	X	X	X	X
3. Have there been any **political, institutional or coordination issues** that facilitated or hindered sustainability of programme/project outcomes: a) water availability or erosion control; b) climate-resilient agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.	X	X	X	X	X	X
3. Have **local institutions** (e.g. village councils, regional coordination bodies, extension agents, trainers) remained engaged, had adequate capacity, appropriate mechanisms and tools, and contributed to the sustainability of outcomes: a) water availability or erosion control; b) climate-resilient	X	X	X	X	X	X

agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.						
2.1.2: How have adjustments to programme strategies, plans, and actions during programme implementation influenced the sustainability of adaptation outcomes?						
1. Were any c**hanges made to the project's strategies or activities** during implementation? What were they and why were they made?	X	X	X		X	X
2. How have these **changes influenced long-term sustainability** of the outcomes?	X	X	X		X	X
2.1.3: To what extent has stakeholder ownership of programme outcomes and interventions contributed to the sustainability of adaptation benefits?						
1. By the time the project ended, which **stakeholders (institution or communities) have taken ownership** of the project outcomes (including built infrastructure)?	X	X	X		X	X
2. Have those **same actors maintained their role and ownership** since project closure?	X	X	X		X	X
3. Are institutions or groups that collaborated during the project **still collaborating**, formally or informally?	X	X	X		X	X
4. Have **communications channels** on project related issues between national, regional and community levels been maintained since project closure?	X	X	X		X	X
5. Has **knowledge sharing** continued through any networks, platforms, or institutions since the project has ended?	X	X	X	X	X	X
2.1.4: To what extent has the availability of resources (tangible, intangible, financial) influenced the sustainability of outcomes?						
1. Have **new/additional financial resources** been made available to support the sustainability of outcomes, in terms of: a) water availability or erosion control; b) climate-resilient agriculture and livestock	X	X	X	X	X	X

production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.						
2. Have **other than financial resources** (e.g. human resources, knowledge, networks, seeds, land, technical support, etc.) been mobilized to support the sustainability of outcomes, in terms of: a) water availability or erosion control; b) climate-resilient agriculture and livestock production, c) the sustainability of community awareness and preparedness to climate hazards, and d) the sustainable use of knowledge generated through the programme.	X	X	X	X	X	X
3.1: How do the sustained outcome characteristics contribute to the system's resilience and adaptive capacity?						
3.1.1: Resilience – Scale: How have sustained adaptation outcomes from the project impacted the temporal and spatial scale needed for natural and/or human systems to maintain or change their functions and/or structures in the face of climate disturbances?						
3.1.2: Resilience – Redundancy: How have sustained adaptation outcomes from the programme contributed to increased availability of resources, means, or options, or created new ones, to support resilience to climate risks?						
1. Do the **micro-dams still provide sufficient water** to the intended user communities in both dry and wet seasons?		X	X		X	X
2. Based on your knowledge, has the **number of food-secure months per year** increased or remained stable since the project's closure? i) Have beneficiaries continued to diversify their production systems (e.g. combining crops and livestock introducing new varieties, etc.)? ii) Have water storage or diversion infrastructures (e.g. ponds, canals) **created alternative water sources** for farmers and livestock since project closure? iii) Are there examples of **new seed varieties or techniques** introduced		X	X		X	X

by the project still in use or further spread among farmers? iv) Have farmers reported increased income from improved practices, and is there evidence that some of this **income was reinvested** in sustaining production? v) Have any **new livelihood opportunities** emerged or expanded since the project, such as fuel-efficient stove production or small businesses?						
3. Are the **meteorological stations** installed through the project still functional and actively used for data collection and dissemination?		X	X		X	X
4. Have **farmers continued receiving and using seasonal forecasts** to guide crop selection or timing since the project ended?		X	X		X	X
3.1.3: Resilience – Diversity and Inclusion: To what extent have sustained adaptation outcomes from the programme supported equity and inclusiveness?						
3.1.4 Resilience – Diversity and Inclusion: How have sustained adaptation outcomes from the programme widened/deepened the variety of actors and inputs working/interacting towards common goals?						
1. Have coordination mechanisms among ministries or departments continued since the project?		X	X			
2. Have other groups (e.g. universities, women's organizations, development partners, private actors) been involved in follow-up activities?		X	X	X	X	
3. Are there examples where community knowledge or research institutions have informed decision-making post-project?		X	X		X	X
3.1.5: Resilience – Diversity and inclusion: Have the benefits of the programme been distributed equitably, with perceived equitability, over time? Has this changed over time, particularly since programme closure?						
3.1.6: Resilience – Diversity and Inclusion: Has the project empowered and/or disempowered certain actors, groups, institutions, etc., over time? How has this affected relations between these different stakeholders, particularly since project closure?						
1. Have all beneficiary groups (e.g. women, youth, poor household, etc.) continued to **benefit equitably** from the project's results?		X	X		X	X

2. Have there been any **concerns or complaints** regarding exclusion or unequal access to services or resources introduced by the project?		X	X		X	X
1. Were there cases of **notable engagement, dissatisfaction or resistance** during the project or since completion?	X	X	X		X	X
2. Have you observed any groups (e.g. women, youth, local organizations) becoming **more or less involved in local decision-making** since the project has ended?		X	X		X	X
3. Were any structures created during the project (e.g. local committees) that gave **a new voice to certain groups**? Are these still active?		X	X		X	X
4. Have there been any **tensions or shifts in relationships** between community members and institutions?		X	X		X	X
4.1 How have sustained adaptation outcomes from the programme contributed to the system's agility?						
4.1.1 How have sustained adaptation outcomes from the programme contributed to the system's agility in terms of:						
1. Responding to uncertainty		X	X		X	X
2. Effectively tackling challenges		X	X		X	X
3. Seizing opportunities that may arise from change		X	X		X	X
4. Addressing risks, shocks or stressors		X	X	X	X	X

Recommendations and Additional Issues to Cover