



BEERO OO BARWAAQEE SOOMAALIYA (BBS) IRRIGATION PROJECT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT

Revitalizing Irrigation Infrastructure and Climate-Smart Agriculture in Somalia

BEERO OO BARWAAQEE SOOMAALIYA (BBS) PROJECT

NORTH EASTERN STATE

Erigavo, Buuhoodle, and Laascaanood Districts — 3 Sites

FINANCED BY	African Development Bank (AfDB)
AFDB CATEGORY	Category 2
PROPONENT	Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia
REPORT DATE	July 2026
FIELD VERIFICATION	December 2025 – January 2026
PROJECT SITES	North Eastern State — Erigavo District (Sanaag region), Buuhoodle District (Cayn region), and Laascaanood District (Sool region) — 3 sites total

DECLARATION PAGE

This Environmental and Social Impact Assessment (ESIA) Report has been prepared for the Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project in North Eastern State, covering 3 water catchment rehabilitation sites across Erigavo District (Sanaag region), Buuhoodle District (Cayn region), and Laascaanood District (Sool region), under the Ministry of Agriculture and Irrigation (MoAI) of the Federal Republic of Somalia, with financing from the African Development Bank (AfDB).

The undersigned hereby declare that this ESIA has been carried out in accordance with the applicable environmental and social laws, regulations, and policies of the Federal Republic of Somalia and the requirements of the African Development Bank's Integrated Safeguards System (ISS, 2023). To the best of our knowledge, the information contained in this Report is true, complete, and accurate, and the environmental and social risks and impacts of the Project have been assessed in a professional and objective manner.

This Declaration Page is signed upon submission of the Report for environmental and social clearance, and a signed copy shall be shared with the African Development Bank.

Declaration and Signatures

Action	Name / Position	Organisation	Date & Signature
Prepared by	Yussuf Abdi Maalim — ESS Specialist	MoAI, Somalia	
Cleared by	Eng. Mohamed Hassan Abdulle Director General (DG)	MoAI / FGS	



ABBREVIATIONS

Abbreviation	Full Form
AfDB	African Development Bank
ARAP	Abbreviated Resettlement Action Plan
BBS	Beero oo Barwaaqee Soomaaliya Project
C-ESMP	Contractor Environmental and Social Management Plan
CLO	Community Liaison Officer
CRA	Climate Risk Assessment
ESHS	Environment, Social, Health, and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ERW	Explosive Remnants of War
FAO	Food and Agriculture Organization
FGS	Federal Government of Somalia
FMS	Federal Member States
GBV	Gender-Based Violence
GIIP	Good International Industry Practice(s)
GRM	Grievance Redress Mechanism
HVRM	Highly Vulnerable and Marginalized (groups)
IDP	Internally Displaced Persons
IPC	Integrated Phase Classification
ISS	Integrated Safeguards System (AfDB 2023)
LMP	Labour Management Procedures
LTIFR	Lost Time Injury Frequency Rate
MoAI	Ministry of Agriculture and Irrigation
MoECC	Ministry of Environment and Climate Change
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
OS	Operational Safeguard
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
SEA/SH	Sexual Exploitation, Abuse, and Sexual Harassment
SEP	Stakeholder Engagement Plan
SMP	Security Management Plan
SWALIM	Somalia Water and Land Information Management
UXO	Unexploded Ordinance
WUA	Water User Association / Canal Committee

EXECUTIVE SUMMARY

Project at a Glance

Item	Summary
Project	Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project - North Eastern State Component
Proponent / Borrower	Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia
Financier	African Development Bank (AfDB)
AfDB E&S Category	Category 2
Geographic Scope	3 sites: Erigavo District (Sanaag), Buuhoodle District (Cayn), and Laascaanood District (Sool)
Intervention Type	Rehabilitation of 3 existing community rainwater-harvesting catchments
Project Sites	Damala-xagare (Erigavo); Sarmaan (Buuhoodle); Odweyne (Laascaanood)
Applicable Safeguards	AfDB OS1, OS2, OS3, OS4, OS7 and OS10; precautionary controls under OS5, OS6 and OS8; OS9 not applicable
Field Verification	December 2025 - January 2026, with follow-up scope confirmation through June 2026
Implementation Period	Works phased within the wider 48-month project period
Indicative ESMP Budget	USD 58,850 over four years, excluding contractor ESHS costs and specialist ERW/UXO clearance funded through works contracts

1. Project Background and Rationale

The Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project is a Federal Republic of Somalia initiative led by the Ministry of Agriculture and Irrigation and financed by the African Development Bank. The project seeks to improve water security, agricultural productivity and climate resilience in selected project areas. The North Eastern State component is comparatively small by site count and technically focused: it consists exclusively of rehabilitation of three existing rainwater-harvesting catchments, one in each of Erigavo, Buuhoodle and Laascaanood Districts.

The project rationale is rooted in chronic water insecurity in an arid to semi-arid pastoral and agro-pastoral setting. The three catchments have lost effective storage through sedimentation and deterioration of embankments and associated structures. Communities rely heavily on seasonal runoff and water storage because there are no permanent rivers in the project districts. Rehabilitation is therefore intended to restore storage, improve drought resilience, reduce water-access pressure and support livestock-dependent livelihoods.

The wider operating environment is recently conflict-affected and institutionally evolving. The ESIA therefore applies a strictly non-political and conflict-sensitive approach focused on the technical and safeguards requirements of rehabilitating community water infrastructure. ERW/UXO risk, security management, conflict-sensitive access governance and credible community engagement are consequently central implementation considerations.

2. ESIA Purpose, Scope and Method

The ESIA has been prepared to identify and assess the environmental and social risks and impacts of the three catchment-rehabilitation interventions, define mitigation and enhancement measures, establish implementation and monitoring responsibilities, and support AfDB and Borrower decision-making. The assessment covers pre-

construction and mobilisation, construction and rehabilitation, commissioning and handover, operation and maintenance, and demobilisation/reinstatement of temporary works.

The assessment is based on the June 2026 BBS Master List, environmental and social screening, field verification undertaken between December 2025 and January 2026, stakeholder consultations and follow-up engagement, available technical/project information, and secondary environmental and social datasets. Impact significance is assessed using magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood, with ratings of Negligible, Minor, Moderate and Major.

Where the evidence base is incomplete, the ESIA converts the uncertainty into a mandatory pre-works verification or monitoring requirement. This is especially important for the Damala-xagare coordinate, site-specific catchment condition, ERW/UXO status, security conditions, detailed community socioeconomic data and final design dimensions.

3. Project Components and Locations

Site	District	Region	Latitude	Longitude	Status	Key assessment Qualification
Damala-xagare Water Catchment	Erigavo	Sanaag	9.833776	47.96301	Rehabilitation	Coordinate treated as provisional pending field re-verification because the assessment identifies an inconsistency with the stated district.
Sarmaan Water Catchment	Buuhoodle	Cayn	8.32040	46.47808	Rehabilitation	Existing community catchment; post-conflict/security and ERW/UXO controls required before earthworks.
Odweyne Water Catchment	Laascaanood	Sool	8.46329	47.40827	Rehabilitation	Existing community catchment; assessment identifies the highest ERW/UXO and security sensitivity of the three sites.

The works at all three sites consist of desilting and reshaping the existing catchment basin; repairing and reinforcing embankments and bunds; installing geomembrane lining where site assessment demonstrates material infiltration losses; improving inlet, outlet and silt-control structures; constructing or rehabilitating livestock watering troughs where included in the approved design; and reinstating or revegetating disturbed areas. No boreholes, shallow wells or canals are included, and the interventions remain within or adjacent to existing catchment footprints.

4. AfDB Environmental and Social Categorization and Operational Safeguards

The North Eastern State component is classified as an AfDB Category 2 operation under the Integrated Safeguards System 2023. The applicable safeguards reflect the catchment-rehabilitation activities and the post-conflict social and security context.

Operational Safeguard	Status	Application to North Eastern State
OS1 - Assessment and Management of E&S Risks and Impacts	Applicable	Overall ESIA/ESMP, catchment condition assessment, erosion, climate risk, change screening, associated support sites and site-readiness controls.
OS2 - Labour and Working Conditions	Applicable	Worker terms and welfare, heat stress, excavation/earthworks OHS, emergency response and Workers' GRM.
OS3 - Resource Efficiency and Pollution Prevention	Applicable	Sediment and erosion management, fuel/waste controls, water quality and operation-phase catchment maintenance.
OS4 - Community Health, Safety and Security	Applicable	Priority ERW/UXO hazard, open excavations, traffic, water-access continuity, security, SEA/SH and first-use water safety.
OS5 - Land Acquisition / Restrictions / Resettlement	Precautionary	Temporary access and pastoral routes; replacement-cost compensation for verified project-caused loss; reassessment if screened assumptions are exceeded.
OS6 - Biodiversity and Living Natural Resources	Precautionary	Footprint limitation and revegetation in degraded dryland rangeland; reassessment if unexpected sensitive habitat is identified.
OS7 - Vulnerable Groups	Applicable	Women, nomadic and semi-nomadic women, female-headed households, minority clans, IDPs/returnees, poor pastoral households, youth and persons with disabilities.
OS8 - Cultural Heritage	Precautionary	Chance Finds Procedure for all ground-disturbing works; ERW/UXO procedure takes precedence for suspected explosive items.
OS9 - Financial Intermediaries	Not applicable	No financial-intermediary structure.
OS10 - Stakeholder Engagement and Information Disclosure	Applicable	Three-district engagement, non-political/conflict-sensitive disclosure, mobile pastoral outreach, GRM and WUA governance.

5. Policy, Legal and Institutional Framework

The component is subject to the applicable Federal Republic of Somalia legal and policy framework relevant to environmental assessment, water resources, climate change, gender, labour, public health and land/remanagement, together with the institutional arrangements operating in North Eastern State and the three project districts. The governing framework includes the Provisional Federal Constitution, national development and environmental policy instruments, the national water-reframework, climate and gender policy, labour requirements and public-health provisions, supplemented by the AfDB ISS 2023.

State institutional structures and regulatory capacity remain developing; accordingly, the MoAI PIU retains overall safeguards accountability and the AfDB ISS 2023 provides the minimum project safeguards standard where local systems are less specific. A dedicated North Eastern State E&S Officer, supported by district CLO arrangements, provides day-to-day oversight; district administrations and traditional leaders support access, security coordination and non-sensitive grievance mediation; WUAs manage operation and maintenance after handover; and a recognised demining/mine-action entity provides the mandatory ERW/UXO assessment and clearance before ground disturbance.

6. Analysis of Alternatives and Design Rationale

The alternatives analysis considered the no-project option, siting and micro-siting, design and technology choices, and construction methodology and sequencing. The no-project option was rejected because it would leave the three communities dependent on deteriorated catchments with reduced storage in a drought-prone environment.

Issue	Alternatives	Preferred Approach / Rationale
Catchment lining	Compacted soil / no liner vs geomembrane where infiltration losses are material	Use liner where site assessment demonstrates high losses; avoid assuming lining is required everywhere.
Desilting method	Fully mechanised vs combined mechanised and labour-based	Combined approach preferred: machinery for bulk desilting with labour-based finishing and reinstatement to support local employment.
Spillway / embankment design	Standard design vs design for projected extreme rainfall	Climate-resilient design preferred because the assessment climate assessment projects more intense heavy-rainfall events.
Ground disturbance	Standard excavation vs prior ERW/UXO clearance	No ground disturbance without recognised written ERW/UXO clearance; this is the defining project-safety alternative.
Work sequencing	Simultaneous mobilisation vs phased district-based works	Phasing preferred to maintain safeguards supervision, security control and community-water continuity.

7. Environmental and Social Baseline

7.1 Physical Environment

The project sites are interior dryland locations characterised by arid to semi-arid conditions, highly variable bimodal rainfall, prolonged dry seasons, high evapotranspiration, shallow stony soils and sparse vegetation. Annual rainfall is broadly about 200-400 mm, while potential evapotranspiration is approximately 2,000-3,000 mm/year. Temperatures can exceed 40 degrees Celsius in the hot season. Drainage is seasonal and episodic; there are no permanent rivers in the project districts.

The three project catchments capture seasonal runoff for domestic and livestock use. Existing storage is constrained by sedimentation and infrastructure deterioration. The surrounding landscape is predominantly degraded dryland rangeland with sparse scrub and grasses. No designated protected areas, wetlands or critical habitats are identified at the three sites; OS6 is therefore applied on a precautionary basis through footprint control, avoidance of unnecessary clearing and reinstatement.

7.2 Social and Livelihood Context

Project communities are predominantly pastoral and agro-pastoral, with both settled and mobile populations. Livelihood vulnerability is closely linked to drought, livestock losses and access to functional water points. Conflict-related displacement and IDP/returnee presence are also relevant in some communities. Health, education and public-service access are constrained at remote sites, which directly informs emergency-response planning and the use of oral and Somali-language engagement for low-literacy groups.

Women and girls carry the primary household water-collection burden while water governance is traditionally male dominated. Vulnerable groups requiring differentiated engagement include female-headed households, nomadic and semi-nomadic women, minority-clan households, IDPs and returnees, unemployed youth, poor pastoral households and persons with disabilities. The ESIA therefore requires female CLO access, inclusive WUA rules and gender-/stakeholder-disaggregated monitoring.

7.3 Security, ERW/UXO and Data Limitations

The recent conflict context is a material baseline factor, with Laascaanood and Buuhoodle requiring particularly careful security and ERW/UXO management. ERW/UXO contamination status cannot be established from the ESIA alone, so recognised written clearance of the exact work/access/support footprint is a non-negotiable pre-works requirement. Site-level environmental and household socioeconomic data are also limited, and the Damala-xagare coordinate requires field verification. These matters are managed through hard pre-construction hold points and C-ESMP requirements.

8. Stakeholder Engagement and Key Issues Raised

Stakeholder engagement was undertaken during field verification in December 2025-January 2026, with follow-up engagement through June 2026 to confirm the three-site scope. Stakeholders included North Eastern State authorities, the Erigavo, Buuhoodle and Laascaanood District Administrations, community leaders and guurti, women's groups and female-headed households, pastoral and agro-pastoral households, youth, water-management structures, health/NGO focal points and mine-action contacts.

Issue Raised	ESIA / ESMP Response
ERW/UXO safety	Mandatory recognised risk assessment and written clearance before ground disturbance; worker/community awareness and immediate stop-work-and-report protocol.
Damala-xagare coordinate	Coordinate retained as provisional; field re-verification and signed register correction required before mobilisation.
Equitable water access	Inclusive WUA, publicly posted non-discriminatory access rules, conflict-sensitive representation, GRM and PIU oversight.
Women's participation	At least 30% women in WUA membership and leadership; women-only consultations; female CLOs and confidential reporting.
Local employment	Transparent local recruitment; project targets at least 80% local unskilled labour, 20% youth and 30% women in appropriate roles.
Maintenance sustainability	WUA formation and O&M training, tools/manuals, catchment monitoring and first-year PIU follow-up.
Security / conflict sensitivity	Strictly non-political engagement, site-specific security assessment, coordination with authorities and traditional leaders, flexible sequencing.

9. Key Environmental and Social Risks, Impacts and Residual Significance

Risk / Impact	Applicability	Pre-Mitigation	Residual	Key Control / Qualification
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Risk / Impact	Applicability	Pre-Mitigation	Residual	Key Control / Qualification
ERW/UXO hazard during ground disturbance	All 3 sites	Major	Minor	Acceptable only where recognised written clearance covers all work/access areas and the stop-work protocol remains active.
Soil erosion and sediment transport	Catchment earthworks	Moderate	Minor	Minimum footprint, down-slope sediment controls, rapid compaction/revegetation and seasonal scheduling.
Occupational health and safety - heat, excavation, remoteness	All construction	Major	Minor-Moderate	ERW/UXO clearance, heat/OHS plan, excavation controls, PPE, first response and district emergency routes.
Community health and safety	Construction	Moderate	Minor	Barriers, Somali-language signage, exclusion zones, traffic speed limits, notification and ERW/UXO awareness.
SEA/SH from worker presence	Construction	Moderate	Minor	Codes of Conduct, training, confidential PIU channel, female CLOs and mapped referral pathways.
Temporary water-access disruption	Rehabilitation period	Moderate	Minor	Advance notice, documented alternative supply where required, minimise outage and confirm water quality before resumed use.
Security and conflict sensitivity	All phases	Moderate	Minor-Moderate	Site-specific assessment, non-political/conflict-sensitive engagement, equitable hiring, authority/elder coordination and flexible scheduling.
Inequitable water access / social conflict	O&M	Moderate-Major	Moderate	Inclusive WUA, public access rules, balanced representation, GRM and first-year PIU oversight.
Catchment sedimentation / deterioration	O&M	Moderate	Minor-Moderate	Post-rainfall maintenance, bi-annual condition checks and desilting at >15% storage loss from post-construction baseline.
Water quality	O&M	Moderate	Minor	Pre-commissioning and semi-annual testing, inlet protection, silt control and separation of livestock/domestic access.
Safety around catchments	O&M	Moderate	Minor	Fencing/signage, quarterly WUA safety inspection and repair of defects within the specified timeframe.
Climate risk	All phases / O&M	High to Very High hazard context	Moderate residual climate risk	Climate-resilient embankment/spillway design, lining where justified and adaptive catchment maintenance.

10. Positive Project Impacts and Development Benefits

- Restoration of effective catchment storage and improved reliability of seasonal community and livestock water supplies.
- Improved drought resilience for pastoral and agro-pastoral households across three districts.

- Improved livestock health and reduced drought-related losses where catchments remain functional and equitably governed.
- Reduced water-collection burden for women and girls; the project outcome-monitoring framework targets at least a 50% reduction in average women's water-collection time by Year 2 of operation, subject to establishment of a valid baseline and follow-up monitoring.
- Local employment and skills opportunities through combined mechanised and labour-based rehabilitation; contractor workforce monitoring shall apply the project targets of at least 80% local unskilled labour, at least 20% youth and at least 30% women in appropriate roles, subject to the approved labour plan.
- Strengthened local water governance through inclusive WUAs, transparent access rules, formal grievance channels and women's participation.
- Support to community recovery and resilience in a conflict-affected and drought-prone setting.

11. Climate, Cumulative and Induced Effects

Climate change is a material risk multiplier. The Climate Risk Assessment identifies drought and heat stress as Very High risks across all three districts and flash-flood risk as High. It projects increasing temperatures, more very hot days, higher evapotranspiration, more frequent drought and a 10-20% increase in heavy-rainfall intensity. Multi-year drought may exceed the storage provided by a rehabilitated catchment, while intense events may damage embankments, spillways and newly reinstated surfaces.

The rehabilitation itself is a climate-adaptation measure because it restores seasonal water storage. Design and management responses include lining where infiltration losses justify it, flood-resilient embankment and spillway design, silt and erosion control, post-storm inspection and adaptive maintenance. Residual climate risk is assessed as Moderate.

Cumulative and induced adverse effects are assessed as limited because there are only three widely dispersed rehabilitation sites and the project does not add groundwater abstraction. The cumulative development effect of improving drought resilience across three districts is positive. Local induced effects such as increased concentration of users around functioning catchments are managed through access governance, pastoral-route considerations, safety measures and WUA oversight.

12. Mitigation Hierarchy and Priority Safeguards Commitments

- No ground-disturbing work at any site or project support area without an ERW/UXO risk assessment and written clearance confirmation from a recognised demining/mine-action authority for the relevant footprint.
- Re-verify and correct the Damala-xagare location before mobilisation and update the signed site register; do not use the provisional coordinate as final construction control.
- Complete a pre-works condition assessment for Damala-xagare, Sarmaan and Odweyne covering storage, sediment, embankment, inlet/outlet, spillway, liner need, erosion, downstream receptors and access.

- Apply minimum-footprint earthworks, erosion and sediment controls, controlled spoil placement, rapid compaction/revegetation and rainfall-sensitive work scheduling.
- Implement a competent OHS Plan for heat, excavation, machinery, vehicle movements, flash flooding and remote emergency response. The C-ESMP shall include a Heat Stress Management Plan defining potable-water provision, acclimatisation, workload-based work/rest arrangements, shade, heat-trigger criteria, first aid and medical evacuation consistent with GIIP and the approved OHS standard.
- Maintain physical barriers, exclusion zones, Somali-language safety signs, traffic controls and no unguarded hazardous excavations overnight.
- Protect existing community water access through advance notice and documented alternative supply, including tankering where required, before a catchment is taken out of service.
- Apply worker Codes of Conduct, SEA/SH induction, confidential reporting, female CLO arrangements and survivor-centred referral pathways before mobilisation.
- Implement non-political and conflict-sensitive engagement, site security assessment and flexible sequencing, with equitable local employment and community acceptance measures.
- Apply the Land Access Protocol, maintain pastoral movement routes and compensate verified project-caused crop or asset loss at replacement cost.
- Establish and train inclusive WUAs before commissioning, with at least 30% women in both membership and leadership and documented non-discriminatory access rules.
- Maintain catchment water-quality, sedimentation, safety and governance monitoring through O&M and implement the integrated pest/vector measures relevant to catchments and livestock water points.

13. Environmental and Social Management Plan

Chapter 9 operationalises the mitigation measures through AfDB Operational Safeguard cross-references, a comprehensive implementation matrix, procurement requirements, ESHS hold points, stakeholder engagement, GRM, monitoring standards, institutional arrangements, capacity building, implementation schedule, budget, implementation and risk-management matrices, KPIs and associated plans.

13.1 Monitoring and Reporting

Topic	Indicator / Method	Frequency	Trigger / Action
ERW/UXO clearance	Written clearance per site and incident/suspect-item log	Before mobilisation and continuous awareness	No ground disturbance without clearance; any suspect item triggers stop-work and mine-action callout.
Construction ESHS compliance	ESMP/OHS/GRM checklist	Weekly Supervision; monthly PIU audit	Corrective action within 48 hours for non-compliance; serious event follows incident procedure.

Topic	Indicator / Method	Frequency	Trigger / Action
Water quality	Turbidity, pH, E. coli, total coliforms, nitrates, EC	Before commissioning; semi-annually O&M; after contamination/flood	Commissioning/use withheld where approved criteria are not met.
Catchment condition	Storage depth/capacity, embankment, liner, spillway and silt-trap function	Before Gu and after Deyr; after major storms	Desilting triggered at >15% storage loss from post-construction baseline.
WUA governance	Women in membership/leadership, meeting/access records, minority/IDP representation	3, 6 and 12 months post-handover; annually thereafter	At least 30% female membership and leadership; exclusion/conflict trends trigger review.
GRM	Cases, resolution time, satisfaction and sensitive referral status	Monthly	Project target at least 80% resolved within 30 days; allocation complaints use the dedicated faster track.
OHS / heat	LTIFR, fatalities, heat illness, near misses, rest-regime compliance	Continuous / monthly	Zero fatalities; LTIFR monitored against the approved project OHS KPI framework; heat-control failure triggers immediate corrective action.
Security	Incidents and work suspension	Continuous	Serious incident triggers work halt/security review and authority coordination.
Pest/vector	Trough drainage, vector assessment conditions, livestock-disease signals and pesticide incidents	Monthly / seasonal / incident-based	No persistent standing water; RVF/locust/pesticide triggers applied through project P/VMP.

13.2 Institutional Responsibilities

Actor	Principal ESMP Responsibility
MoAI PIU	Overall ESMP ownership, contractor-plan approval, site releases, serious incident management, budget/corrective action and quarterly AfDB reporting.
North Eastern State E&S Officer	Day-to-day oversight across all three districts, inspections, GRM, WUA support, security monitoring, engagement and monthly reporting.
Recognised Demining / Mine-Action Operator	Site-specific ERW/UXO risk assessment, clearance certification, community/worker awareness support and suspect-item response.
Erigavo, Buuhoodle and Laascaanood District Administrations	Access and community liaison, local security coordination and non-sensitive GRM mediation with traditional leaders.
Traditional Leaders / Guurti	Community communication, pastoral-route coordination and xeer-based mediation for non-sensitive grievances.
Contractors	Implement C-ESMP, OHS, waste/pollution, labour, SEA/SH, community safety and security requirements; maintain records and incident reporting.
Supervision Consultant	Independent site inspections, earthworks/reinstatement verification, OHS spot checks, commissioning and corrective-action close-out.
WUAs / Community Committees	O&M, access rules, catchment/silt-trap maintenance, safety checks and grievance reporting after handover.
AfDB	Safeguards oversight, review of periodic reporting and corrective-action requirements.

14. Stakeholder Engagement, GRM and SEA/SH

Ongoing engagement shall remain strictly non-political and conflict-sensitive. The Stakeholder Engagement Plan provides for mixed community meetings, women-only consultations, mobile outreach to nomadic pastoralists, ERW/UXO awareness sessions, WUA meetings, guurti/traditional-leader engagement, site notices and Somali-language communication. Project and grievance information shall remain accessible to low-literacy and mobile users. The project GRM is separate from the Workers' GRM. Channels include CLOs, phone/SMS, sealed suggestion boxes, traditional-leader referral, written submissions and anonymous options. The controlled GRM procedure establishes site resolution, district mediation for ordinary grievances, PIU review and external recourse, while SEA/SH follows a separate confidential pathway.

SEA/SH complaints are excluded from traditional/WUA or ordinary district mediation. They follow a separate confidential survivor-centred route managed by the PIU Social/GBV Specialist, with female CLO access and referral to pre-mapped health/psychosocial service providers. Worker Codes of Conduct and training are mandatory before mobilisation.

15. Land Access, Inclusion and Livelihood Protection

Verified project-caused crop or asset loss shall be compensated at replacement cost in accordance with the Land Access Protocol. Any physical displacement or material livelihood loss outside the screened assumptions requires immediate work suspension and OS5 determination before the affected activity proceeds.

Inclusion requirements are an implementation condition. WUA rules shall be non-discriminatory and include women, minority-clan households and IDPs/returnees. At least 30% women shall be represented in both WUA membership and leadership, at least one female CLO/focal arrangement shall be available per district, and outreach shall include nomadic women and other groups that may not be reached through general meetings. Workforce monitoring shall apply the approved local, youth and women's participation targets.

16. Integrated Pest and Vector Management

The project-wide Pest and Vector Management Plan applies to the North Eastern State catchments because stored water and livestock troughs can create mosquito, tick and livestock-disease pathways where drainage and maintenance are poor. Core requirements include drainage of trough overflow, avoidance of persistent shallow standing water, reinstatement of borrow/depression areas, routine WUA inspection, livestock-disease awareness and coordination on relevant vector/disease early warning.

Where BBS-supported horticulture or fodder production develops around a catchment, the approved project-wide P/VMP and applicable legal/technical requirements shall govern integrated pest management and pesticide controls so that community water sources are protected.

17. ESMP Budget and Financing

Cost Item	Year 1	Year 2	Year 3	Year 4	Total
NES E&S Officer (shared) + district CLO support	6,000	4,500	4,000	3,500	18,000

Community engagement - three districts	2,500	1,800	1,500	1,200	7,000
GRM operation - three districts	1,800	1,200	1,000	1,000	5,000
Water quality monitoring - 3 catchments	1,500	1,200	1,200	1,200	5,100
Pre-works catchment condition assessments - 3 sites	2,500	-	-	-	2,500
Damala-xagare coordinate field re-verification	800	-	-	-	800
WUA capacity building and training - 3 sites	4,500	2,500	1,500	1,200	9,700
ERW/UXO community awareness (clearance via works contract)	1,200	500	-	-	1,700
Pest and vector management	1,200	900	800	800	3,700
Subtotal	22,000	12,600	10,000	8,900	53,500
Contingency (10%)	2,200	1,260	1,000	890	5,350
TOTAL (indicative)	24,200	13,860	11,000	9,790	58,850

Budget control note: the USD 58,850 safeguards budget excludes specialist ERW/UXO risk assessment and clearance and other contractor ESHS obligations. These requirements shall be financed through the works contracts; recognised ERW/UXO clearance is a condition precedent to ground disturbance.

18. Conditions Before Mobilisation, Commissioning and Handover

18.1 Before Mobilisation

- Recognised written ERW/UXO clearance for the specific site, working areas and relevant access/support areas.
- Damala-xagare coordinate field re-verification and corrected signed site register before mobilisation at the Erigavo site.
- Pre-works catchment condition assessment completed for the relevant site.
- Site-specific security assessment and clearance, with Security Management Plan where required.
- Land-access and pastoral-route arrangements documented and community notification completed.
- Approved C-ESMP, OHS Plan, high-risk earthworks/excavation method statements, Waste Plan, Community H&S Plan, SEA/SH arrangements, labour controls and Chance Finds Procedure.
- Operational GRM in the relevant district, including confidential SEA/SH pathway and female CLO arrangements.
- Alternative community water arrangement documented where rehabilitation will interrupt catchment use.
- Construction/support-site resources screened and covered by the same ERW/UXO, land/access and reinstatement requirements.

18.2 Before Commissioning and Handover

- Approved bacteriological and physico-chemical water-quality test passed for any catchment supply point intended for community use.
- Catchment embankment, liner where present, spillway/inlet/outlet, silt control, fencing/signage, trough and access/safety arrangements inspected and defects closed.
- Temporary facilities, spoil/borrow areas and disturbed surfaces reinstated and signed off.

- Inclusive WUA or equivalent management committee established and trained, with at least 30% women in membership and leadership and documented access rules.
- O&M responsibilities, maintenance records, GRM, pest/vector measures and post-handover monitoring arrangements operational.

19. C-ESMP and Pre-Construction Confirmation Requirements

Requirement	Assessment Position	C-ESMP / Pre-Construction Action
Damala-xagare coordinate	The recorded coordinate is inconsistent with the stated Erigavo District location and shall not be used as final construction control.	Field-verify the actual site, correct the signed controlled register and use the verified location for final design, ERW/UXO clearance and mobilisation.
Final catchment design parameters	Final basin geometry, embankment dimensions, liner extent, silt-control and spillway parameters are site-specific engineering deliverables.	Complete the catchment condition assessment and approved engineering design/BoQ and incorporate the confirmed parameters into the C-ESMP and earthworks method statement.
ERW/UXO contamination status	Site safety cannot be established from desk review or visual inspection alone.	No ground disturbance shall occur without recognised written mine-action clearance covering the exact work, access and support footprint.
Heat-stress hydration quantity	Heat exposure is a material worker-health risk; this ESIA does not adopt an unverified fixed hydration quantity as a contractual standard.	The C-ESMP Heat Stress Management Plan shall define the competent hydration, work/rest, shade, acclimatisation, monitoring and emergency-response regime consistent with GIIP.
State institutional arrangements	State and district systems remain developing and may change during implementation.	The PIU shall maintain a controlled legal/institutional register identifying the responsible state/district counterparts and applicable approvals without transferring safeguards accountability away from the PIU.
Baseline household indicators	Site-level quantitative outcome baselines are limited.	Establish the beneficiary, vulnerability and water-collection-time baseline needed for outcome and inclusion monitoring during mobilisation/early O&M.

20. Overall Environmental and Social Conclusion

The ESIA concludes that rehabilitation of the Damala-xagare, Sarmaan and Odweyne rainwater-harvesting catchments is environmentally and socially feasible as an AfDB Category 2 component provided the ESMP and associated safeguards controls are implemented in full. The rehabilitation-only footprint and the availability of established mitigation measures mean that most construction residual risks can be reduced to Minor or Minor-Moderate. Operation-phase inequitable water access and residual climate risk remain Moderate and require sustained governance and adaptive management.

The defining condition for environmental and social acceptability is ERW/UXO safety: no excavation, desilting, access preparation or other ground disturbance may proceed until the relevant area has recognised written clearance. Environmental and social acceptance should also remain conditional on completion of catchment condition assessments, site-specific security and land/access readiness, approved contractor safeguards plans, functioning

GRM/SEA-SH systems, compliant water-quality commissioning, inclusive WUA readiness and adequate safeguards financing.

Subject to these conditions, the anticipated benefits - restored water storage, improved water reliability and livestock health, reduced drought vulnerability, reduced water-collection burden, local employment and strengthened inclusive water governance - are expected to outweigh the temporary and localised adverse effects of rehabilitation.

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CHAPTER 1: INTRODUCTION AND SCOPING

1.1 Background and Project Context

The Beero oo Barwaaqee Soomaaliya (BBS) Irrigation Project is a Federal Republic of Somalia initiative led by the Ministry of Agriculture and Irrigation (MoAI) and financed by the African Development Bank (AfDB). The project seeks to improve water security, agricultural and livestock productivity, and climate resilience through targeted water-infrastructure investments.

This ESIA addresses the North Eastern State component. The assessment is strictly non-political and conflict-sensitive and addresses only the technical, environmental and social safeguards implications of the proposed works.

The component consists of rehabilitation of three existing rainwater-harvesting catchments: Damala-xagare in Erigavo District (Sanaag), Sarmaan in Buuhoodle District (Cayn), and Odweyne in Laascaanood District (Sool). No boreholes, shallow wells or canals are included. The defining E&S features are the wide separation of the three sites, chronic drought and water insecurity, post-conflict ERW/UXO risk, and the need for conflict-sensitive water-access governance.

1.2 Purpose and Objectives of the ESIA

The ESIA provides the assessment and management framework for the three sites in accordance with AfDB ISS 2023 requirements applicable to a Category 2 operation. It aims to:

- confirm the three-site scope and area of influence;
- establish the relevant environmental and social baseline using field verification, consultations and available secondary information;
- identify and evaluate risks and impacts across pre-construction, construction, commissioning and O&M;
- apply the mitigation hierarchy and define design, implementation and monitoring controls;
- establish institutional, stakeholder-engagement, grievance, capacity and reporting requirements through the ESMP; and
- identify site-specific information that shall be confirmed through binding C-ESMP and pre-construction hold points before the affected works proceed.

1.3 Scope of the ESIA

1.3.1 Geographic and Intervention Scope

The ESIA covers the Damala-xagare, Sarmaan and Odweyne catchments and associated temporary access, spoil/borrow, lay-down, storage, construction-water and worker-support areas used by the works. The intervention is rehabilitation within or adjacent to existing catchment footprints: desilting/reshaping, embankment and bund repair, liner installation where justified, inlet/outlet and silt-control improvements, livestock trough works, erosion control and reinstatement.

1.3.2 Spatial Area of Influence

The immediate works influence area shall be defined in each C-ESMP based on the final footprint, access, community receptors, traffic, dust/noise exposure and temporary water-access effects; no fixed generic distance is adopted as a site boundary.

1.3.3 Temporal Scope

The assessment covers pre-construction/mobilisation, construction, commissioning/handover, O&M and demobilisation of temporary works. Gu and Deyr rains affect erosion and flash-flood exposure, while Jilaal and Hagaa are periods when temporary water interruption can have greater social consequences.

1.4 ESIA Methodology

The methodology combines project-document and screening review, December 2025–January 2026 field verification, stakeholder consultation, baseline compilation, impact-pathway analysis and significance evaluation. Significance uses magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood, with ratings of Negligible, Minor, Moderate and Major. Where evidence is insufficient for a final technical conclusion, the missing evidence becomes a pre-works hold point.

1.5 Environmental and Social Scoping

1.5.1 Site-Specific Priorities

Site	Priority Issues
Damala-xagare — Erigavo	Dryland catchment erosion, OHS, community safety and access; project records flag the recorded coordinate as inconsistent with the stated district, requiring field re-verification; ERW/UXO clearance applies.
Sarmaan — Buuhoodle	Dryland catchment risks plus elevated post-conflict ERW/UXO and security considerations; conflict-sensitive security assessment required.
Odweyne — Laascaanood	Dryland catchment risks with the highest identified ERW/UXO/security sensitivity of the three sites; equitable access and community acceptance also material.

1.5.2 Cross-Cutting Issues

- ERW/UXO during excavation, desilting, borrow extraction or other ground disturbance;
- erosion, sediment, embankment/spillway performance and spoil management;
- heat, excavation, plant and remote-emergency OHS;
- community safety and continuity of water access during rehabilitation;
- land access, pastoral mobility, equitable water governance and transparent recruitment;
- SEA/SH and confidential survivor-centred grievance handling;
- water quality, catchment sedimentation and structural maintenance; and
- drought, rising heat/evaporation and intense rainfall/flash flooding.

1.5.3 Issues of Limited Relevance and Verification Triggers

The assessment identifies no protected area, wetland or critical habitat at the three sites, so OS6 is precautionary and managed through footprint control/reinstatement. No physical displacement is anticipated, but temporary access and verified project-caused losses remain subject to the Land Access Protocol and OS5 reassessment if screening assumptions are exceeded. OS8 is precautionary through the Chance Finds Procedure, while OS9 is not applicable.

1.6 Stakeholder Engagement During ESIA Preparation

Engagement included North Eastern State counterparts, Erigavo, Buuhoodle and Laascaanood district administrations, elders/guurti, women and female-headed households, pastoral/agro-pastoral households, youth and water-management committees. Key issues included ERW/UXO, catchment condition and maintenance, equitable clan access, women's participation, youth employment, security and the Damala-xagare location discrepancy. These issues are integrated in the later assessment and ESMP rather than repeated as a separate consultation chapter.

1.7 Limitations, Data Gaps and Treatment of Uncertainty

Issue	Treatment
Damala-xagare location	Coordinate is provisional; field re-verification and correction of the controlled site register are mandatory before mobilisation.
ERW/UXO status	Formal risk assessment and written mine-action clearance required for all work/access/support areas before ground disturbance.
Catchment engineering condition	Site-specific condition assessment required for storage, sediment, embankment, liner, inlet/outlet and spillway before final design.
Community socioeconomic data	Regional and consultation evidence used; outcome monitoring can establish household indicators during O&M.
Security/institutional context	Site-specific security/readiness assessment required before each mobilisation/phase.
Climate data	Regional/national projections used; final engineering and O&M must remain adaptive.

1.8 Structure of the ESIA

The report structure is: Chapter 1 Introduction and Scoping; Chapter 2 Legal and Institutional Framework; Chapter 3 Analysis of Alternatives; Chapter 4 Design Measures; Chapter 5 Project Description; Chapter 6 Project Baseline; Chapter 7 Environmental and Social Risks and Impacts; Chapter 8 Mitigation Measures; Chapter 9 ESMP; and Chapter 10 Conclusion and Recommendations.

CHAPTER 2: LEGAL AND INSTITUTIONAL FRAMEWORK

2.1 Purpose and Application

This chapter identifies the federal, state/institutional, international and AfDB safeguards framework relevant to the three North Eastern State catchment sites. It defines the compliance basis for design, procurement, mobilisation, construction and O&M without duplicating the project description or impact assessment.

2.2 Federal Legal, Regulatory and Policy Framework

Instrument	Relevant Authority	Relevance
Provisional Federal Constitution (2012), including Articles 43–45	Federal Government of Somalia	Principles relating to land, natural resources and environmental protection.
National Transformation Plan 2025–2029	Federal planning institutions	Development, resilience, productive-sector and service-delivery context.
National Environment Policy (2020) and Environment Law (2019)	Federal environment authority	assessment basis for environmental assessment, clearance/permitting expectations and civil-works environmental protection.
National Water Resources framework	Federal water-sector authority	Water rights/allocation and catchment/assessment management.
National climate-change policy and related instruments	Federal climate/environment authority	Climate resilience and adaptation mainstreaming.
National Gender Policy	Federal gender/family/human-rights authority	Gender equality, participation, benefits and grievance arrangements.
Labour law and employment regulations	Federal labour authority	Baseline worker protections, supplemented by project LMP.
Public-health regulations	Federal health authority	Drinking-water, sanitation and public-health protection.

A complete state-specific permits register is not available in the project documentation. The PIU shall therefore maintain a controlled legal and permits register, confirm the competent authorities before procurement and update the register as institutional arrangements evolve.

2.3 North Eastern State Institutional Context

The assessment describes state institutions and administrative systems as newly developing and district regulatory capacity as limited. The PIU therefore retains a strong safeguards role while coordinating with relevant state and district counterparts. The ESIA takes no position on territorial claims and uses a strictly non-political implementation framing.

Actor	Role	Interface
North Eastern State authorities / relevant line institutions	State coordination and developing oversight of water, agriculture and environmental matters.	PIU coordination and joint oversight where feasible.
Erigavo, Buuhoodle and Laascaanood District Administrations	Access, community liaison, local dispute resolution and security coordination.	Pre-works and continuing liaison.

Actor	Role	Interface
Traditional leaders / guurti	Community legitimacy, xeer-based ordinary mediation and pastoral-route coordination.	Milestone engagement; not used for SEA/SH case handling.
WUAs / community water committees	O&M, access rules and routine maintenance.	Formation/strengthening before handover.
Recognised mine-action / demining entity	ERW/UXO assessment, clearance certification and suspect-item response.	Mandatory before ground disturbance.

2.4 International Conventions

The assessment identifies Somalia's participation in the UNFCCC and Paris Agreement, UNCCD, CBD and CEDAW, while ILO core principles inform the project LMP. These instruments provide policy context; operational project compliance is implemented through applicable federal requirements and AfDB ISS 2023.

2.5 AfDB Integrated Safeguards System (ISS 2023)

Operational Safeguard	Status	Application
OS1 — E&S Risk Assessment and Management	Applicable	Overall ESIA/ESMP, condition assessment, change screening, associated facilities and climate risk.
OS2 — Labour and Working Conditions	Applicable	LMP, age/terms, Workers' GRM, heat, excavation, plant and remote emergency OHS.
OS3 — Resource Efficiency and Pollution Prevention	Applicable	Erosion/sediment, construction water, waste/fuel, water quality and catchment O&M.
OS4 — Community Health, Safety and Security	Applicable	ERW/UXO priority risk, excavation/traffic, water continuity, SEA/SH and security.
OS5 — Land / Access / Resettlement	Precautionary	Land Access Protocol, pastoral routes, compensation for project-caused losses; stop-work if displacement assumptions are exceeded.
OS6 — Biodiversity	Precautionary	No critical habitat identified; footprint and reinstatement controls.
OS7 — Vulnerable Groups	Applicable	Inclusive WUA with at least 30% women in membership and leadership; non-discriminatory access rules; differentiated outreach and representation monitoring.
OS8 — Cultural Heritage	Precautionary	Chance Finds Procedure; ERW/UXO protocol takes precedence for suspected explosives.
OS9 — Financial Intermediaries	Not applicable	No FI structure.
OS10 — Stakeholder Engagement and Disclosure	Applicable	Three-district engagement, GRM, differentiated outreach and WUA governance.

2.6 Institutional Responsibilities for Compliance

Actor	Principal Responsibility
MoAI PIU	Overall borrower safeguards responsibility; approval of contractor plans/readiness; incidents, budget and AfDB reporting.
North Eastern State E&S Officer	Day-to-day three-site oversight, inspections, GRM, engagement, WUA and monitoring.
Contractor(s)	C-ESMP, OHS, waste, community, labour, SEA/SH, security and records.
Supervision Consultant	Independent ESHS verification, earthworks/reinstatement quality and handover checks.

Actor	Principal Responsibility
District Administrations	Access, community/security coordination and ordinary dispute support.
Mine-action entity	Written ERW/UXO clearance and suspect-item response.
WUAs	O&M, access rules, catchment maintenance and grievance reporting.
AfDB	External safeguards oversight and corrective-action requirements.

2.7 Pre-Works Legal and Safeguards Authorisations

- applicable federal/state environmental and water-sector clearances confirmed in the PIU legal register;
- written ERW/UXO clearance for exact work/access/support footprints;
- Damala-xagare field coordinate correction and controlled register update;
- approved catchment condition assessment and final rehabilitation design/method;
- documented land/access and pastoral-route arrangements;
- site-specific security assessment and SMP where required;
- approved C-ESMP and supporting OHS, waste, community H&S, labour, SEA/SH and emergency arrangements; and
- commissioning water-quality certification where catchment water is intended for domestic use.

2.8 Framework–AfDB Gap Review

Gap	Context	Project Response
Developing regulatory capacity	State/district systems described as early-stage.	Apply AfDB ISS/federal requirements as project minimum; PIU-led assurance.
ERW/UXO	Ordinary construction approval does not establish safe ground.	Separate recognised mine-action clearance before disturbance.
GRM	Customary mediation alone is not a complete project mechanism.	Formal multi-channel GRM; xeer for ordinary mediation; SEA/SH separate.
Remote OHS	Heat, excavation and medical distance need project-specific measures.	LMP/OHS plans, task methods, emergency mapping and Supervision.
Water quality	Routine enforcement capacity limited.	Pre-commissioning and semi-annual testing under ESMP.
Water governance	Customary structures may be male/clan dominated.	Inclusive WUA, female targets, differentiated engagement and GRM.
Climate resilience	Rehabilitation may otherwise reproduce historic vulnerability.	Condition-led design and adaptive O&M.

2.9 Compliance Principle

Where applicable legal, AfDB or approved project safeguards requirements differ, the project shall apply the legally applicable and more protective requirement, subject to the governing financing arrangements. Site assumptions do not replace the competent authority's actual clearance.

CHAPTER 3: ANALYSIS OF ALTERNATIVES

3.1 Purpose and Evaluation Criteria

Because the component rehabilitates only three existing catchments, the realistic alternatives concern whether to intervene, how to rehabilitate existing sites, micro-siting, construction sequencing and avoidance of unsafe ground. Alternatives are evaluated against water-security benefit, technical feasibility, E&S risk, O&M sustainability, cost/practicality and climate resilience.

3.2 No-Project Alternative

Without the project, the available climate/baseline evidence indicates continued loss of effective catchment storage and chronic dry-season water insecurity. The no-project option avoids construction risk, including ERW/UXO exposure, but retains drought, household/livestock and livelihood vulnerability. therefore favours controlled rehabilitation.

3.3 Location and Micro-Siting Alternatives

Existing community catchment locations are preferred over new sites because this avoids new land take and limits induced impacts. Micro-siting of access, spoil, troughs, inlets/outlets and local embankment details may change to avoid ERW/UXO areas, erosion-prone ground, pastoral routes or cultural/community conflicts. Proceeding on the unverified Damala-xagare coordinate is rejected; the actual site must be field-confirmed first.

3.4 Design and Technology Alternatives

Issue	Alternative A	Alternative B	Preferred Position
Catchment lining	Compacted soil / unlined	Geomembrane where high infiltration is demonstrated	Use liner only where site assessment/design justifies need and extent.
Desilting	Fully mechanised	Mechanised bulk + labour-based finishing	Combined approach preferred where safe/practical for efficiency, local jobs and controlled reinstatement.
Spillway/embankment	Reinstate previous/conventional form	Climate-resilient design for more intense rainfall	Use final engineering climate design basis; do not invent dimensions in ESIA.
Ground disturbance	Standard excavation	Formal ERW/UXO clearance before disturbance	Clearance is mandatory; uncleared excavation is not an acceptable alternative.
Water access	Undifferentiated use	Separated livestock/domestic access where final design provides it	Preferred for hygiene/safety subject to final design and consultation.

3.5 Construction and Sequencing Alternatives

Phased district-based mobilisation is preferred over simultaneous work at all three widely separated sites because it better matches mine-action, security and safeguards supervision capacity. Earthworks should avoid peak Gu/Deyr rainfall where practicable and account for acute dry-season dependence before interrupting an existing catchment.

3.6 ERW/UXO and Security Avoidance

ERW/UXO is addressed by avoidance: the project does not accept excavation first and response later. Any work, access, spoil or borrow area involving ground disturbance must lie within recognised written clearance. Areas that cannot be safely cleared or accessed are redesigned, excluded or deferred. Security conditions similarly can require resequencing or suspension.

3.7 Climate-Resilience Alternatives

The assessment rates drought and heat Very High and flood High. The preferred design restores storage, uses liners only where justified, improves silt control and sizes embankment/spillway works through the final engineering climate basis. Residual multi-year drought and events beyond design capacity remain an O&M/adaptive-management issue.

3.8 Social and Water-Governance Alternatives

Returning assets to unmodified customary governance could perpetuate exclusion. Strengthened WUA/community management with documented non-discriminatory rules, women's representation and GRM is preferred. Traditional guurti/xeer remains relevant for ordinary mediation but does not replace formal project accountability or confidential SEA/SH arrangements.

3.9 Preferred Alternative and Conditions

The preferred alternative is rehabilitation of the three existing catchments using condition-led design, ERW/UXO clearance before disturbance, phased mobilisation, climate-resilient sediment/embankment/spillway measures and inclusive water governance. It is conditional on Damala-xagare re-verification, three catchment condition assessments, access/security readiness and incorporation of final engineering into procurement/method statements.

CHAPTER 4: DESIGN MEASURES

4.1 Design Approach

This chapter identifies environmental and social design measures to be integrated into final engineering. It does not replace approved drawings or Bills of Quantities and does not assign dimensions or quantities that are not supported by site-specific engineering evidence.

4.2 Design Inputs and Control Documents

Final design for each catchment is informed by verified site location, the pre-works catchment condition assessment, available drainage/topographic information, community/pastoral access information, climate-risk findings, the ERW/UXO clearance boundary and the approved engineering package. For Damala-xagare, the corrected field coordinate and updated controlled site register are prerequisites to final site design and mobilisation.

4.3 Catchment Rehabilitation Design Measures

4.3.1 Basin Desilting and Geometry

Desilting and reshaping should restore effective storage without unnecessary expansion of the existing footprint. The condition assessment must establish sediment accumulation, reusable versus unsuitable spoil, basin form and safe sequencing of mechanical and labour-based works. Spoil placement must not obstruct runoff, pastoral movement or community access.

4.3.2 Embankments and Bunds

Embankments and bunds should be repaired and reinforced according to actual condition, soil behaviour and hydraulic loading. Crest width, height, slopes, compaction and erosion protection remain engineering parameters to be confirmed. Disturbed embankment surfaces should be stabilised and revegetated where feasible.

4.3.3 Liner Measures

Geomembrane lining shall be used only where the approved site assessment and engineering design demonstrate material infiltration losses. The final design shall justify the need, type and extent of lining and specify subgrade preparation, protection, anchoring and maintenance access.

4.3.4 Inlets, Outlets, Silt Control and Spillway

Because the Climate Risk Assessment projects more intense heavy rainfall but final site hydrology is not yet established, design discharge, dimensions and freeboard shall be confirmed by the approved engineering design before construction and incorporated into the C-ESMP.

4.3.5 Livestock and Domestic Water Access

Where final design includes livestock troughs and domestic draw-off points, layout should minimise livestock contamination of household collection areas, prevent standing overflow and provide safe circulation. The

arrangement should be reviewed with women and other routine water users before finalisation, with fencing/signage where required by the site safety assessment.

4.3.6 Erosion Control and Reinstatement

Design specifications should identify erosion-control and reinstatement requirements, including drainage shaping, stabilisation, revegetation where feasible, downstream discharge protection and restoration of temporary work/access areas. Borrow and spoil areas are associated support sites subject to screening, land/user agreement and ERW/UXO clearance where ground disturbance occurs.

4.4 Climate-Resilience Design Measures

The Climate Risk Assessment identifies Very High drought and heat risk and High flash-flood risk at all three sites. Final design shall therefore restore usable storage, reduce infiltration where justified, improve sediment control and apply an appropriate hydraulic/climate design basis to embankments and spillways.

4.5 ERW/UXO and Constructability Constraints

Formal ERW/UXO clearance defines where the project may safely disturb ground. Final work areas, access, borrow/spoil and support areas must fall within the recognised written clearance boundary. If clearance identifies unsafe areas, the design or work footprint must be adjusted, excluded or deferred; worker awareness is not a substitute for formal clearance.

4.6 Community Safety and Inclusion in Design

Design should avoid unsafe steep edges, uncontrolled vehicle/pedestrian conflicts and obstruction of pastoral movement. Safe approach routes, fencing/signage and livestock management should reflect actual site conditions. Domestic draw-off and access arrangements should be reviewed with women, vulnerable users and persons with mobility constraints where relevant. No unsupported accessibility dimensions are inserted.

4.7 Temporary and Associated Facilities

Temporary access, lay-down/storage, fuel storage, worker welfare areas, borrow/spoil sites and construction-water sources are not automatically approved. They must be registered, screened and agreed with users, cleared for ERW/UXO where necessary, managed for pollution/erosion and reinstated.

4.8 Design Confirmation Hold Points

Design Element / Site	Required Confirmation Before Works
All three sites	Catchment condition assessment completed and integrated into final design/method statement.
Damala-xagare	Field location/coordinate re-verified and controlled site register corrected.
All ground disturbance	Recognised ERW/UXO written clearance covers exact work/access/support footprint.
Embankment/spillway	Final hydraulic/climate design basis documented by engineering team.

Design Element / Site	Required Confirmation Before Works
Liner	Need, type and extent justified by site evidence and approved design.
Trough/domestic access	Layout reviewed with relevant community users, including women.
Temporary/support sites	Associated Facilities Register, access agreement, screening/clearance and reinstatement method approved.

CHAPTER 5: PROJECT DESCRIPTION

5.1 Project Overview

The North Eastern State BBS component comprises rehabilitation of three existing community rainwater-harvesting catchments. It is a rehabilitation-only component by infrastructure typology: no boreholes, shallow wells or irrigation canals are included. The works seek to restore storage and structural functionality and improve household/livestock water reliability in a drought-prone setting.

5.2 Project Site Register

Site	District	Region	Latitude	Longitude	Status	Document-Control Note
Damala-xagare Water Catchment	Erigavo	Sanaag	9.833776	47.96301	Rehabilitation	Coordinate is provisional; project records flag inconsistency with stated district and requires field re-verification.
Sarmaan Water Catchment	Buuhoodle	Cayn	8.32040	46.47808	Rehabilitation	Confirmed in the controlled Master List.
Odweyne Water Catchment	Laascaanood	Sool	8.46329	47.40827	Rehabilitation	Confirmed in the controlled Master List.

The controlling scope for this ESIA is exactly three catchment rehabilitation sites. Damala-xagare remains provisional in location until the mandatory field re-verification is completed and the signed project register is updated.

5.3 Geographic Distribution and Project Map

The sites are widely separated, one in each of Erigavo, Buuhoodle and Laascaanood Districts. This dispersion affects logistics, safeguards supervision, emergency response and security planning and supports phased rather than simultaneous mobilisation.

5.4 Proposed Works

The assessment describes a common rehabilitation package; actual quantities and extent are determined by the condition assessment and final engineering design. Works may include:

- desilting and reshaping of the existing basin;
- repair and reinforcement of embankments/bunds;
- geomembrane lining where high infiltration losses are confirmed and final design specifies it;
- improvement of inlet, outlet and silt-control structures;
- construction or rehabilitation of livestock troughs/domestic draw-off arrangements where included in final design;
- erosion protection, stabilisation and revegetation; and
- reinstatement of temporary access, spoil, borrow and support areas.

5.5 Site-Level Description

5.5.1 Damala-xagare — Erigavo District

Damala-xagare is identified as an existing catchment requiring rehabilitation. Because the project records flag its listed coordinate as inconsistent with Erigavo District, final location-specific access, baseline and design information remain conditional on field re-verification. No ground disturbance is authorised until location and ERW/UXO status are confirmed.

5.5.2 Sarmaan — Buuhoodle District

Sarmaan is an existing community catchment in Buuhoodle District. The assessment identifies conflict-related ERW/UXO and security sensitivity in the area. Final rehabilitation quantities follow the approved condition assessment and design.

5.5.3 Odweyne — Laascaanood District

Odweyne is an existing catchment in Laascaanood District. The assessment identifies this as the most conflict-sensitive of the three sites. The exact footprint, access and support areas require formal ERW/UXO and security readiness before mobilisation.

5.6 Construction Methods and Sequencing

Bulk desilting is expected to use excavation equipment with manual/labour-based finishing, compaction, erosion control and reinstatement. Methods are contractor-developed and Supervision-approved. Works are phased by readiness; no ground disturbance occurs before written ERW/UXO clearance. Earthworks should avoid peak Gu/Deyr rainfall where practicable and any interruption of water access must be agreed in advance.

5.7 Construction Support and Associated Facilities

Potential support activities include temporary lay-down/storage, banded fuel storage, worker sanitation/welfare, construction-water sourcing, access, spoil disposal and borrow material. The contractor must identify them in advance; the PIU must screen and approve them, including land/user agreement, ERW/UXO clearance where necessary, environmental controls and reinstatement.

5.8 Materials and ReRequirements

Likely construction resources include construction water, aggregate/borrow material, geomembrane where required, fencing and cement. Construction-water sourcing shall not create unacceptable competition with community supply. Final quantities shall be taken from the approved design/BoQ.

5.9 Workforce and Labour Profile

The indicative workforce is approximately 15-30 workers per site during active works, subject to the final contractor labour plan. Recruitment shall be transparent and conflict-sensitive and workforce reporting shall monitor the approved local, youth and women's participation targets.

5.10 Land and Access Requirements

The sites are on existing communal/community-managed catchment land and no involuntary permanent acquisition or physical displacement is anticipated. Work areas, temporary access and pastoral routes are documented before works; project-caused asset/crop losses and reinstatement are managed through the Land Access Protocol. Any displacement outside screening assumptions triggers OS5 determination.

5.11 Operation and Maintenance Concept

Each catchment is handed over to an inclusive WUA or strengthened community water-management committee responsible for access rules, silt-trap clearance, condition/safety inspection, trough/fencing/signage maintenance, water-quality hygiene, record keeping and grievance reporting. PIU/NES follow-up is required during the first year and periodically thereafter.

5.12 Project Definition Controls

Item	Control
Scope	Three catchment rehabilitation sites only; any added typology/site requires formal change screening.
Damala-xagare	Field re-verify coordinate and actual site before mobilisation.
Design quantities	Use approved condition assessment and engineering/BoQ for storage, desilting, embankment, liner, spillway and trough requirements.
ERW/UXO	All ground-disturbance and support areas require recognised written clearance.
Temporary facilities	Contractor identifies; PIU screens/approves before use.
Schedule	Account for rainfall, water continuity, security and safeguards supervision capacity.

CHAPTER 6: PROJECT BASELINE

6.1 Baseline Methodology and Evidence Base

Baseline conditions draw on the ESIA's December 2025–January 2026 field verification, stakeholder consultations, SWALIM soil/land-use information, FSNAU and other regional datasets, climate information and satellite/secondary review. Post-conflict conditions and developing institutions constrain some site-level data; these gaps are stated explicitly rather than replaced with unsupported local statistics.

6.2 Regional Geographic and Environmental Setting

The sites are inland dryland locations in the Sool, Sanaag and Cayn areas. The assessment describes gently undulating plains/low-relief rangelands and no permanent river in the three project districts. Drainage is seasonal and episodic, making rainwater-harvesting catchments important for household and livestock supply.

6.3 Physical Environment

6.3.1 Climate and Meteorology

Annual rainfall is broadly about 200-400 mm and potential evapotranspiration is approximately 2,000-3,000 mm/year, with hot-season temperatures regularly exceeding 40°C. Rainfall is localised and erratic and consecutive drought years occur.

6.3.2 Topography, Drainage and Flash-Flood Context

Catchments receive short-duration runoff from dryland drainage. These events replenish storage but can also cause flash flooding, erosion and structural stress around embankments, inlets and spillways. Local drainage conditions remain a pre-works design input.

6.3.3 Soils and Erosion Sensitivity

The assessment describes soils as shallow, stony and low in organic matter with sparse vegetation cover, creating erosion sensitivity where surfaces are disturbed. Site-specific geotechnical/compaction values are not provided and remain engineering requirements.

6.3.4 Water Resources

No permanent surface water is identified. Communities depend on seasonal rainwater harvesting and groundwater outside the direct project scope. The three catchments store seasonal runoff for domestic and livestock uses and are vulnerable to drought, sedimentation, evaporation and water-quality deterioration.

6.3.5 Biodiversity and Natural Habitat

The sites are characterised as degraded dryland rangeland with sparse scrub and grasses, and no designated protected area, wetland or critical habitat has been identified at the project footprints. Biodiversity risk therefore relates mainly to unnecessary footprint expansion, access/support-site disturbance and poor reinstatement.

6.3.6 Land Use and Rangeland

Land use is dominated by pastoralism and agro-pastoralism with limited cultivation where water permits. Seasonal mobility is important and existing catchments are communal/common-reassets, so improved functionality may alter timing and concentration of use even without expanding the footprint.

6.4 District and Site Baseline Profiles

6.4.1 Erigavo / Damala-xagare

The assessment identifies Damala-xagare in Erigavo District but flags the listed coordinate as inconsistent. Site-specific baseline conclusions tied to that coordinate are therefore provisional until the actual site is field-verified. The valid cross-cutting baseline remains dryland catchment dependence, drought/heat exposure, erosion sensitivity, pastoral use and post-conflict ERW/UXO/security considerations.

6.4.2 Buuhoodle / Sarmaan

Sarmaan lies in a dryland pastoral setting where conflict/security sensitivity, local employment expectations and ERW/UXO awareness are particularly important social and safety considerations.

6.4.3 Laascaanood / Odweyne

Odweyne lies in the most conflict-sensitive of the three project settings. ERW/UXO, safe access, non-political engagement, conflict-sensitive recruitment and balanced water governance are therefore central baseline considerations alongside drought and erosion.

6.5 Social and Socioeconomic Environment

6.5.1 Population, Settlement and Mobility

Conflict-related displacement and IDPs/returnees are relevant in parts of the project area. Reliable community-level population figures are not available, so site-level registration and consultation records shall provide the implementation baseline.

6.5.2 Livelihoods and Poverty

Livelihoods depend largely on livestock, limited cultivation and related trade/services. Drought-related livestock loss is a pathway to poverty and displacement. Functional catchments are therefore livelihood-resilience assets as well as water infrastructure.

6.5.3 Vulnerable Groups and Social Inclusion

The assessment identifies female-headed households, nomadic/semi-nomadic women, minority-clan households, IDPs/returnees, unemployed youth, poor pastoral households and persons with disabilities as potentially disadvantaged groups requiring differentiated engagement and benefit monitoring.

6.5.4 Gender

Women-only consultation, female CLO access, WUA female participation/leadership targets and O&M monitoring of women's water-collection burden are required to address structural barriers in water governance.

6.5.5 Education, Health and Communication

Education and health services are described as limited and dispersed, particularly for mobile and remote communities. Low literacy supports oral Somali-language/visual communication. Limited medical access increases the significance of heat, excavation and ERW/UXO emergency planning. Poor water quality is an existing public-health risk.

6.5.6 Land Tenure and Water Governance

there is also a risk of exclusion or elite capture, requiring documented non-discriminatory WUA rules and project GRM access.

6.5.7 Security, Conflict Sensitivity and ERW/UXO

The assessment describes variable post-conflict security and overlapping territorial claims. The ESIA is non-political; the operational relevance is safe access, potential ERW/UXO contamination, sensitivity of recruitment/water governance and possible constraints on supervision. Absence of visible explosive hazards is not treated as clearance.

6.6 Climate and Fragility Context

The Climate Risk Assessment projects higher temperatures, more very hot days, increased evapotranspiration, more frequent drought and more intense heavy-rainfall events. Heat and drought are rated Very High and flash-flood risk High. Rehabilitation is an adaptation measure, but residual climate risk remains Moderate because multi-year drought or extreme rainfall can exceed asset capacity.

6.7 Baseline Data Gaps Requiring Continued Verification

Gap	Required Treatment
Damala-xagare location	Correct coordinate and actual site baseline before mobilisation.
Catchment storage/condition	Quantify sediment, storage, embankment, liner, spillway and drainage before final works.
ERW/UXO	Formal site/access/support-area assessment and written clearance.
Household outcome indicators	Establish baseline/sample data if women's water-collection time and other outcome targets are retained.
Water quality	Pre-commissioning baseline and semi-annual monitoring where domestic use occurs.
Security	Update before mobilisation/phase; do not rely on static ESIA conditions.
Climate/design values	Use final engineering hydrology/design basis rather than generic assessment ranges.

CHAPTER 7: ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

7.1 Assessment Method and Significance

Impacts are assessed by linking project activities to receptors identified in Chapter 6 and considering magnitude, duration, geographic extent, receptor sensitivity, reversibility and likelihood. Significance ratings are Negligible, Minor, Moderate and Major. The explicit ratings below are retained from the ESIA. Chapter 8 consolidates mitigation and Chapter 9 converts it into implementation obligations.

7.2 Principal Receptors and Impact Pathways

Key receptors are workers; nearby residents and children; pastoral and agro-pastoral households; women and girls collecting water; vulnerable and displaced users; pastoral routes; catchment soils, embankments and drainage; stored water quality; dryland vegetation; and water-governance institutions. The distinctive pathway is ERW/UXO exposure during ground disturbance in a post-conflict environment.

7.3 Pre-Construction and Mobilisation Risks

7.3.1 Damala-xagare Location Error

The project records flag the listed Damala-xagare coordinate as inconsistent with Erigavo District. Proceeding without correction could misdirect survey, consultation, clearance, design or works. Field re-verification and correction before mobilisation are therefore hard readiness conditions rather than residual uncertainty.

7.3.2 ERW/UXO and Security Readiness

Mobilisation without formal mine-action clearance can create fatal worker/community risk, while outdated security assumptions can expose workers and supervisors to unsafe access. These are conditions precedent to mobilisation and are not accepted as risks to be managed reactively after excavation begins.

7.3.3 Land Access and Expectations

Poorly documented access, water-interruption or employment expectations can create local disputes. Permanent displacement is not anticipated, but temporary restrictions, project-caused losses and perceived benefit exclusion require early agreement and transparent GRM/recruitment arrangements.

7.4 Construction-Phase Environmental Impacts

7.4.1 Soil Erosion and Sediment Mobilisation

Desilting, reshaping and embankment works can destabilise shallow dryland soils and mobilise sediment. The assessment rates this Moderate before mitigation and Minor residual after footprint control, erosion/sediment measures, seasonal scheduling and reinstatement.

7.4.2 Waste, Spoil and Pollution

Spoil, fuel, oils, cement and general waste can contaminate soils, water or drainage if poorly managed. addresses these pathways under OS3 controls rather than assigning separate significance ratings. Effects are expected to remain local if associated support sites, waste and spill controls are implemented.

7.4.3 Vegetation and Rangeland Disturbance

Temporary access, borrow/spoil areas and catchment works can remove sparse dryland vegetation and disturb rangeland. No critical habitat is identified in the assessment. Impacts remain local where the approved footprint is respected and disturbed surfaces are reinstated.

7.5 Occupational Health and Safety

7.5.1 ERW/UXO Hazard — Priority Risk

Excavation or desilting in uncleared ground could encounter explosive remnants of war or unexploded ordnance and cause fatal or serious injury. The assessment rates the risk Major before mitigation and Minor residual because no ground disturbance is permitted until formal clearance is confirmed and any suspect item triggers stop-work.

7.5.2 Heat, Excavation, Plant and Remote Emergency Risk

The C-ESMP OHS Plan shall define the final heat-management regime, including potable water, acclimatisation, workload-based work/rest arrangements, shade, heat-trigger criteria and emergency response consistent with GIIP; no unverified fixed hydration quantity is adopted by this ESIA.

7.6 Community and Social Impacts

7.6.1 Community Safety

Open excavations and vehicle/equipment movement can injure residents and children. The assessment rates this Moderate before mitigation and Minor residual with barriers, signage, speed controls, secure work fronts and notification.

7.6.2 Temporary Water-Access Disruption

Rehabilitation can temporarily remove an existing catchment from use, particularly significant in dry periods. The assessment rates this Moderate before mitigation and Minor residual with advance notice, alternative supply where necessary, minimum outage and quality confirmation before resumed domestic use.

7.6.3 SEA/SH

Worker-community interaction creates SEA/SH risk in a context where women and girls face existing vulnerability and services are limited. The assessment rates this Moderate before mitigation and Minor residual after Codes of Conduct, training, confidential reporting, female liaison and referral arrangements.

7.6.4 Security and Conflict Sensitivity

Site access, recruitment and water governance can interact with a sensitive post-conflict/clan context. The assessment rates this Moderate before mitigation and Minor–Moderate residual with security assessment, non-political engagement, equitable hiring/community acceptance and flexible scheduling.

7.6.5 Land, Pastoral Access and Livelihoods

Permanent land acquisition is not expected, but temporary work areas can affect pastoral routes or cause local asset/crop damage. These impacts are minimised through documented access, phasing, reinstatement and replacement-cost compensation. Any physical displacement or material loss outside screening assumptions requires OS5 determination before proceeding.

7.7 Operation and Maintenance Risks

7.7.1 Inequitable Water Access and Social Conflict

Improved catchment functionality can increase competition and risk stronger-group capture. The assessment rates this Moderate–Major before mitigation and Moderate residual, making it the most important long-term social risk. Inclusive WUA rules, transparent access and continuing oversight are therefore essential.

7.7.2 Catchment Sedimentation and Structural Deterioration

Without routine silt-trap clearance, inspection and desilting, restored storage and structural condition will decline. The assessment rates this Moderate before mitigation and Minor–Moderate residual with the bi-annual maintenance regime.

7.7.3 Water Quality

Stored catchment water can be contaminated by sediment, animals and poor draw-off arrangements. The assessment rates this Moderate before mitigation and Minor residual with pre-commissioning/semi-annual testing and assessment-protection measures.

7.7.4 Safety Around Catchments

Drowning and falls remain possible after handover. The assessment rates this Moderate before mitigation and Minor residual with fencing/signage, quarterly WUA inspection and timely correction of defects.

7.8 Cumulative and Induced Effects

assesses adverse cumulative and induced effects as Minor because only three widely separated existing catchments are rehabilitated and groundwater abstraction is not increased. Local user concentration around improved water points can still affect rangeland use and governance and should be observed through WUA/access and grievance monitoring. The wider cumulative water-security effect is positive.

7.9 Climate-Related Impacts

More frequent drought can reduce inflow and duration of supply, higher temperature increases evaporation and water demand, and more intense rainfall can damage freshly rehabilitated earthworks. assesses residual climate risk Moderate because liners where justified, improved spillway/embankment design and adaptive maintenance cannot eliminate extreme drought or events beyond the final design envelope.

7.10 Positive Environmental and Social Impacts

Positive Pathway	Expected Effect
Water reliability	Restored storage improves household and livestock water availability where rainfall occurs.
Drought resilience	Catchment rehabilitation is a direct adaptation measure for episodic-runoff-dependent communities.
Women and girls	assessment expects reduced collection burden and monitors a $\geq 50\%$ reduction in water-collection time by Year 2 O&M, subject to baseline confirmation.
Livestock/livelihoods	More reliable watering can reduce livestock stress and drought losses.
Employment	Construction creates temporary local jobs and skills opportunities.
Water governance	Inclusive WUAs, public rules and GRM can strengthen transparency/conflict management.
Post-conflict recovery	Small-scale community infrastructure can support recovery where implemented equitably and non-politically.

7.11 Summary of Significance Ratings

Risk / Impact	Pre-Mitigation	Residual	Assessment Note
ERW/UXO during ground disturbance	Major	Minor	Acceptable only with formal clearance before works.
Soil erosion	Moderate	Minor	Controlled earthworks and reinstatement.
OHS — heat, excavation, remoteness	Major	Minor–Moderate	Requires strong site supervision/emergency readiness.
Community safety	Moderate	Minor	Barriers, traffic controls and notification.
SEA/SH	Moderate	Minor	Separate confidential survivor-centred pathway.
Temporary water-access disruption	Moderate	Minor	Alternative supply/short interruption.
Security/conflict sensitivity	Moderate	Minor–Moderate	Residual risk remains context dependent.
Inequitable water access	Moderate–Major	Moderate	Long-term governance focus.
Catchment sedimentation	Moderate	Minor–Moderate	O&M dependent.
Water quality	Moderate	Minor	Testing/source protection required.
Safety around catchments	Moderate	Minor	WUA safety monitoring.
Climate risk	—	Moderate	Extreme drought/rainfall cannot be fully eliminated.

7.12 Conditional Determinations

A materially different Damala-xagare location, uncleared ERW/UXO hazard, unexpected displacement, sensitive habitat/cultural heritage or substantially different design would require reassessment before the affected activity proceeds. These issues are linked to Chapter 9 hold points rather than treated as resolved by narrative.

CHAPTER 8: MITIGATION MEASURES

8.1 Mitigation Hierarchy and Application

Mitigation follows avoidance, minimisation, restoration/reinstatement and compensation/enhancement where unavoidable. This chapter describes substantive controls; Chapter 9 assigns responsibilities, monitoring, timing, cost and hold points. Measures are proportionate to the three rehabilitation sites and do not create unsupported technical specifications.

8.2 Pre-Construction Avoidance and Readiness

- field re-verify Damala-xagare and update the controlled site register;
- obtain recognised ERW/UXO assessment and written clearance for every site, work/access area and ground-disturbing support site;
- complete catchment condition assessment and integrate findings into final design/method statements;
- document land/access and pastoral routes;
- complete site-specific security assessment/SMP where required;
- establish GRM, female CLO/focal arrangements and confidential SEA/SH referrals in all three districts;
- approve C-ESMP, OHS, waste/spill, community H&S, labour, SEA/SH, emergency and high-risk method statements; and
- agree temporary water-supply arrangements before taking a functioning catchment out of service.

8.3 ERW/UXO Risk Controls

ERW/UXO risk is avoided through formal clearance before exposure. No excavation, desilting, borrow extraction or other ground disturbance may occur outside the written clearance boundary. Workers and communities receive no-touch and stop-work/report awareness. Any suspect object triggers immediate cessation of work, isolation and mine-action callout. Awareness does not substitute for clearance.

8.4 Catchment Earthworks, Erosion and Sediment Controls

- keep work within the approved rehabilitation footprint;
- phase desilting and install erosion/sediment controls before exposed earthworks where needed;
- avoid peak rainfall where practicable and stop/secure works during unsafe flash-flood conditions;
- use approved spoil locations that do not block runoff or access;
- compact/stabilise completed earthworks promptly and revegetate where feasible;
- protect inlets, silt traps, spillways, liners and downstream discharge areas; and
- inspect after rainfall and correct rilling, gullyng or instability promptly.

8.5 Pollution Prevention and Water-Quality Protection

- contain fuel/chemicals away from catchment water and drainage; use spill kits and controlled refuelling;
- segregate waste and use approved disposal; no dumping in catchments, drainage or rangeland;
- provide sanitation/welfare that cannot contaminate water sources;
- manage construction-water demand to avoid unacceptable competition with community supply;
- test domestic-use catchment water before commissioning; and
- maintain inlet/silt controls and domestic/livestock separation where final design provides it.

8.6 Occupational Health and Safety

The contractor shall implement a competent OHS system for extreme heat, excavation, plant and remote emergency conditions, including induction, task risk assessment/methods, PPE, safe excavation/shoring, equipment controls, first aid, communication/evacuation, heat acclimatisation and a Heat Stress Management Plan. The C-ESMP shall define the final hydration and work/rest requirements in accordance with GIIP and the approved OHS standard.

8.7 Community Health, Safety, Security and Conflict Sensitivity

- barrier/sign excavations and hazardous work; no unguarded hazardous excavations overnight;
- apply traffic-speed/routing controls and notify communities;
- maintain safe access and alternative water supply when an existing is interrupted;
- use strictly non-political, conflict-sensitive engagement and equitable recruitment;
- maintain current security clearance/communications and halt or resequence where safe access/supervision cannot be maintained; and
- use customary structures for ordinary liaison/mediation only, never for SEA/SH case handling.

8.8 Land Access, Pastoral Mobility and Livelihood Protection

Working/access areas are agreed in writing and pastoral routes maintained through phasing or local rerouting. Disturbed land is reinstated and verified project-caused crop/asset losses are compensated at replacement cost. Any physical displacement or material loss outside screening assumptions requires stop-work and OS5 determination.

8.9 SEA/SH Prevention and Response

- all workers, drivers, security staff and subcontractors sign Codes of Conduct;
- induction and refresher training covers prohibited conduct and reporting;
- a confidential PIU-managed survivor-centred channel/referral pathway is operational before mobilisation;
- at least one female CLO/focal arrangement per district supports women-only engagement and confidential access;
- WUAs, elders and contractors do not mediate SEA/SH allegations; and
- worker accommodation, if required, includes privacy/separation and community-safety controls.

8.10 Social Inclusion, Employment and Water Governance

- transparent local recruitment with monitoring of the approved project targets for local unskilled labour, youth and women in appropriate roles;
- inclusive WUA/community management before handover with at least 30% women in membership and leadership;
- targeted engagement for nomadic users, minority clans, IDPs/returnees, poor pastoral households and persons with disabilities;
- documented, public non-discriminatory access rules; and
- GRM access for water, employment, land and O&M complaints.

8.11 Construction Support and Associated Facilities

Borrow, spoil, camp, lay-down, construction-water and temporary access sites require screening, land/user agreement, ERW/UXO clearance where ground disturbance occurs, pollution/erosion controls and reinstatement. Contractor convenience does not constitute approval.

8.12 Commissioning and O&M Measures

- block domestic-use commissioning until approved water-quality tests pass;
- close fencing/signage, drainage, access and structural defects before handover;
- complete WUA formation/training and O&M arrangements before handover;
- clear silt traps after rainfall and inspect before Gu/after Deyr with post-storm checks;
- apply the ESMP >15% storage-loss trigger for major desilting using an accepted measurement method;
- conduct semi-annual O&M water-quality testing where water is used domestically; and
- address safety/structural defects within the agreed maintenance response.

8.13 Climate Adaptation and Resilience

Restored storage, liner where justified, resilient embankment/spillway design, erosion/silt management and early post-storm maintenance reduce climate risk. Work sequencing also limits peak-rainfall and heat exposure. Multi-year drought and rainfall beyond design capacity remain adaptive-management risks.

8.14 Pest and Vector Management

The controlled project-wide Pest and Vector Management Plan applies where relevant. For these catchments, core measures are drainage and avoidance of persistent standing overflow, livestock/vector awareness and protection of community water from pesticide contamination. Detailed numeric pesticide/RVF/locust controls should remain in the approved P/VMP rather than be reinvented here.

8.15 Enhancement Measures

- maximise safe local employment and skills transfer;
- strengthen women's water-governance participation and record/financial capacity;
- support transparent WUA access rules and conflict prevention;
- use first-year oversight to establish routine maintenance culture; and
- use ERW/UXO awareness to improve general safety understanding without implying safety outside formally cleared zones.

8.16 Pre-Mobilisation Verification Summary

Verification Area	Minimum Evidence
Damala-xagare	Correct field-verified location in signed register.
All catchments	Condition assessment and final rehabilitation/design method approved.
All ground disturbance	Recognised written ERW/UXO clearance for exact work/access/support footprint.
All sites	Land/access, pastoral routes, community notification, security and alternative water arrangements confirmed.
Contractor	C-ESMP and supporting OHS/waste/community H&S/labour/SEA-SH/security/methods approved.
Three districts	GRM, female CLO/focal arrangements and SEA/SH referrals operational.
Commissioning	Water quality passed where domestic use intended; safety/reinstatement closed; WUA ready.

CHAPTER 9: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Project code	P-SO-A00-003	AfDB category	Category 2
Location	Erigavo, Buuhoodle and Laascaanood Districts	Project sites	3 existing water catchments — rehabilitation
Applicable safeguards	OS1, OS2, OS3, OS4, OS7 and OS10	Precautionary safeguards	OS5, OS6 and OS8; OS9 not applicable
Priority risk	ERW/UXO during any ground disturbance	Indicative ESMP budget	USD 58,850 over four years; ERW/UXO clearance and contractor ESHS costs additional through works contracts

9.1 ESMP Objectives and Scope

This ESMP defines the mitigation, monitoring, institutional, contractual, stakeholder-engagement, capacity-building and financing requirements for the three North Eastern State catchment-rehabilitation sites. It mirrors the ESMP architecture used in the Hirshabelle State ESIA and converts the assessment in Chapters 7 and 8 into auditable implementation requirements. It applies to the main works, temporary/associated support sites and O&M arrangements.

The ESMP is a living controlled instrument. Any material change in site, work footprint, design, support area or risk context must be screened before implementation. The primary non-negotiable condition is that no ground disturbance occurs without recognised written ERW/UXO clearance covering the exact affected area.

9.2 Summary of Environmental and Social Risks and Impacts

Risks arising from project activities.

The main construction risks are ERW/UXO exposure; erosion and sediment during desilting/embankment work; heat, excavation, plant and remote-emergency OHS; community exposure to open excavations and vehicles; temporary water-access interruption; waste/fuel contamination; SEA/SH; and security/conflict sensitivity. O&M risks are inequitable access, recurrent sedimentation, water-quality deterioration, safety around catchments and weak maintenance.

Risks arising from associated facilities.

Borrow/spoil areas, access routes, construction-water points, lay-down/storage and worker facilities can create land-access, ERW/UXO, erosion, pollution and reinstatement risks and are therefore screened and registered before use.

Cumulative and induced effects.

assesses adverse cumulative effects as Minor because only three widely separated existing catchments are rehabilitated and no new groundwater abstraction is introduced. Local user concentration around improved catchments remains possible and is observed through WUA/access and grievance records.

Vulnerable groups and land.

Women, nomadic users, female-headed households, minority clans, IDPs/returnees, poor pastoral households, youth and persons with disabilities require differentiated access to consultation, jobs, water governance and GRM. No permanent land acquisition or physical displacement is anticipated; any material displacement outside screening assumptions is a stop-work trigger for OS5 determination.

9.3 Mitigation, Compensation and Enhancement Measures

9.3.1 Pre-Construction and Mobilisation Phase

Table 9: AfDB Operational Safeguards Applicability and ESMP Cross-Reference — North Eastern State

Operational Safeguard	Applicability	ESMP Application
OS1 — Assessment and Management of E&S Risks and Impacts	Applicable	Overall ESIA/ESMP, Damala-xagare correction, catchment condition assessment, readiness/change screening, associated facilities and climate monitoring.
OS2 — Labour and Working Conditions	Applicable	LMP, worker terms/age, Workers' GRM, heat/excavation/plant OHS, welfare and remote emergency response.
OS3 — Resource Efficiency and Pollution Prevention	Applicable	Erosion/sediment, water quality, construction water, waste/fuel and catchment O&M.
OS4 — Community Health, Safety and Security	Applicable	ERW/UXO priority controls, community excavation/traffic safety, water continuity, SEA/SH and security.
OS5 — Land / access / resettlement	Precautionary	Temporary access, pastoral routes, reinstatement, compensation and stop-work if displacement assumptions are exceeded.
OS6 — Biodiversity	Precautionary	Minimum footprint, vegetation protection and reinstatement.
OS7 — Vulnerable Groups	Applicable	Inclusive WUA with at least 30% women in membership and leadership; non-discriminatory access rules; differentiated outreach and representation monitoring.
OS8 — Cultural Heritage	Precautionary	Chance Finds Procedure; separate ERW/UXO procedure takes precedence for suspected explosives.
OS9 — Financial Intermediaries	Not applicable	No FI structure.
OS10 — Stakeholder Engagement and Disclosure	Applicable	Non-political three-district engagement, differentiated outreach, GRM and WUA governance.

9.3.2 Construction Phase

Table 10: Comprehensive ESMP Implementation Matrix — North Eastern State (all 3 sites)

PROJECT PHASE	E&S RISKS AND IMPACTS	MITIGATION / MANAGEMENT MEASURES	IMPLEMENTATION RESPONSIBILITY	MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY	INDICATIVE COST / FUNDING SOURCE
OS1 — Assessment and Management of Environmental and Social Risks and Impacts					
Pre-construction — all 3 sites	Unready mobilisation / incorrect site / incomplete design	PIU readiness checklist: current controlled site register; Damala-xagare verified where applicable; condition assessment; access/community notification; security and ERW/UXO clearance; approved contractor plans; GRM/SEA-SH operational. Written PIU release.	PIU / NES E&S Officer	Once per site; 3/3 written authorisations.	PIU safeguards administration
Pre-construction — 3 catchments	Inadequate rehabilitation design	Condition assessment for storage/sediment, embankment, liner, inlet/outlet/silt trap/spillway, erosion and access/safety; integrate into final design/method.	PIU / Technical Consultant	3/3 approved assessments.	USD 2,500 — ESMP budget
Damala-xagare	Wrong work location	Field re-verify site coordinate and update signed controlled register before Erigavo mobilisation/design reliance.	PIU / Technical Consultant	Corrected coordinate/register.	USD 800 — ESMP budget
All phases	Material project change	Screen and approve material site/design/support-area changes before implementation; update ESMP/C-ESMP as required.	PIU	Monthly change register; zero unassessed material changes.	PIU administration
Close-out	Temporary areas not reinstated	Remove waste/facilities and reinstate access, borrow/spoil, lay-down and disturbed ground; close residual hazards.	Contractor	Supervision close-out inspection and photographs.	Works contract
OS2 — Labour and Working Conditions					
Pre-construction / construction	Non-compliant labour / child labour / worker grievance	Apply LMP: worker register, age verification, written terms, wages/hours, non-discrimination, Workers' GRM and Code of Conduct; flow to subcontractors.	Contractor	Monthly labour audit; zero under-18 construction workers.	Works contract

PROJECT PHASE	E&S RISKS AND IMPACTS	MITIGATION / MANAGEMENT MEASURES	IMPLEMENTATION RESPONSIBILITY	MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY	INDICATIVE COST / FUNDING SOURCE
Construction	Heat, excavation, plant and remote emergency injury	Approved OHS Plan and task methods; PPE; safe excavation/shoring; plant controls; first aid/communication/evacuation; and a competent Heat Stress Management Plan defining potable water, acclimatisation, workload-based work/rest arrangements, shade and heat-trigger criteria consistent with GIIP.	Contractor	Daily checks; weekly Supervision; incident trends.	Works contract
OS3 — Resource Efficiency and Pollution Prevention and Management					
Construction — catchments	Erosion, sediment and embankment instability	Minimum footprint; phased desilting; silt/erosion controls; safe spoil placement; rainfall/flash-flood controls; prompt compaction/stabilisation/reinstatement.	Contractor	Weekly during earthworks and after rainfall.	Works contract
Construction	Waste/fuel/chemical contamination	Segregated waste and approved disposal; contained fuel/chemicals; spill kits; no disposal/refuelling in catchment/drainage; sanitation controls.	Contractor	Weekly Supervision; monthly PIU; zero uncontrolled disposal/spill.	Works contract
Construction	Competition for community water	Approve construction-water source and avoid unacceptable competition; do not use sole community supply without documented arrangement.	Contractor / PIU	Approval before use; complaints/supply tracked.	Works contract
Commissioning/O&M	Unsafe water quality	Pre-commissioning laboratory pass for domestic-use supply; semi-annual O&M testing; investigate contamination; maintain silt/inlet protection and livestock/domestic separation.	PIU / WUA / lab	Test before use; semi-annually.	USD 5,100 monitoring

PROJECT PHASE	E&S RISKS AND IMPACTS	MITIGATION / MANAGEMENT MEASURES	IMPLEMENTATION RESPONSIBILITY	MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY	INDICATIVE COST / FUNDING SOURCE
O&M	Sedimentation / structural deterioration	Post-rainfall silt-trap clearance; before-Gu/after-Deyr and storm inspections; >15% storage-loss trigger for major desilting; prompt reporting and repair of structural defects.	WUA / PIU technical	Bi-annual records; annual oversight.	O&M / WUA
OS4 — Community Health, Safety and Security					
Pre-construction / ground disturbance	ERW/UXO detonation or exposure — PRIORITY	Recognised mine-action risk assessment and written clearance for exact site/work/access/support footprint before ground disturbance; no work outside clearance; no-touch awareness; suspect item = stop/isolate/callout.	PIU / mine-action entity / Contractor	Before mobilisation and continuously.	Clearance via works contract; awareness USD 1,700
Construction	Community/child injury	Barriers, Somali signs, exclusion zones, no unguarded hazardous excavation overnight, safe access and traffic control, advance notification.	Contractor / CLO	Daily safety check; weekly Supervision.	Works contract
Construction	Temporary loss of existing water access	Advance notice; documented alternative supply/tankering where required; minimise outage; quality confirmation before resumed domestic use.	Contractor / PIU / WUA	Daily during interruption.	Works / contingency
All phases	Security/conflict-sensitive incident	Site-specific assessment/SMP where required; non-political conduct; authority/elder coordination; equitable hiring; halt/resequence if safe access/supervision cannot be maintained.	PIU / Contractor	Valid clearance; continuous incident/security log.	Project/works resources
O&M	Drowning/falls / unsafe catchment use	Maintain fencing/signage and safe access; quarterly WUA inspection; repair safety and structural defects promptly in accordance with the O&M plan.	WUA / PIU	Quarterly safety log.	O&M
OS5 — Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement					

PROJECT PHASE	E&S RISKS AND IMPACTS	MITIGATION / MANAGEMENT MEASURES	IMPLEMENTATION RESPONSIBILITY	MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY	INDICATIVE COST / FUNDING SOURCE
Pre-construction / construction	Temporary access, pastoral-route restriction or crop/asset loss	Written access/work-area records; identify users; maintain pastoral routes through phasing; reinstate; replacement-cost compensation for verified project-caused losses; stop for OS5 determination if screening is exceeded.	PIU / District / Contractor	100% access records; grievance/compensation register.	Compensation if needed / works
OS6 — Habitat and Biodiversity Conservation					
Construction/support sites	Unnecessary vegetation/rangeland disturbance	Keep within approved footprint; avoid unnecessary clearing; use existing access where possible; reinstate disturbed ground; reassess unexpected sensitive habitat.	Contractor	Monthly footprint/reinstatement check.	Works contract
OS7 — Vulnerable Groups					
Pre-construction/O&M	Women, nomadic users, minority clans, IDPs/returnees or poor pastoral users excluded	Inclusive WUA with at least 30% women in membership and leadership; non-discriminatory access rules; differentiated outreach and representation monitoring.	PIU / CLO / WUA	Membership/leadership at formation and oversight; GRM trends.	WUA training USD 9,700 / engagement
Construction	Local youth/women excluded from jobs	Transparent recruitment and monthly disaggregated workforce reporting against the approved local, youth and women's participation targets in the labour plan.	Contractor / PIU	Monthly disaggregated workforce data.	Works contract
OS8 — Cultural Heritage					
All earthworks	Chance find disturbed	Apply the controlled Chance Finds Procedure: immediate stop-work, secure the area, record and notify the PIU/competent authority; suspected explosive items follow the separate ERW/UXO procedure.	Contractor / PIU	Chance-find log; induction.	Works contract
OS10 — Stakeholder Engagement and Information Disclosure					

PROJECT PHASE	E&S RISKS AND IMPACTS	MITIGATION / MANAGEMENT MEASURES	IMPLEMENTATION RESPONSIBILITY	MONITORING RESPONSIBILITY / INDICATORS / FREQUENCY	INDICATIVE COST / FUNDING SOURCE
Pre-construction / construction	Communities unaware of works, safety, recruitment or access	Pre-works meeting at each site; disclose schedule, ERW/UXO awareness, water interruption, recruitment, access/reinstatement, GRM and safety using accessible Somali/oral methods; women/nomadic outreach.	PIU / CLO / Contractor	Meeting/issue-action records.	USD 7,000 engagement
All phases	Grievances unresolved/inaccessible	Multi-channel GRM via CLO/WUA/district, hotline/SMS, boxes, written/anonymous; xeer/guurti for ordinary district mediation only; SEA/SH separate confidential pathway.	NES E&S Officer / PIU	Monthly GRM; ≥80% within controlled timeframe.	USD 5,000 GRM
O&M	Opaque water allocation / conflict	Public non-discriminatory catchment access rules; WUA meetings/complaint track; PIU oversight at 3, 6, 12 months and annually.	WUA / PIU	Access/grievance records; oversight reports.	WUA/O&M

9.3.3 Operation and Maintenance Phase

O&M is managed by the WUA/community management structure with PIU and district/state support. Requirements are routine silt-trap clearance, bi-annual condition inspection, water-quality monitoring at domestic-use points, safety/fencing/trough maintenance, transparent access rules, GRM and maintenance/meeting records. Handover is not completed until WUA, safety, water-quality and reinstatement readiness are verified.

9.3.4 Land Access Protocol

No permanent acquisition or physical displacement is anticipated. Work/access areas are agreed with actual users, pastoral routes maintained, disturbed land reinstated and verified project-caused losses compensated at replacement cost. uses a 15-working-day land grievance track and 30-day compensation period. Any physical displacement/material productive loss outside screening triggers work suspension and OS5 determination.

9.3.5 SEA/SH Prevention and Response

- all workers, drivers, security staff and subcontractors sign Codes of Conduct before work;
- confidential survivor-centred reporting is managed by the PIU Social/GBV function, not contractors, WUAs, elders or district mediation;
- a female CLO/focal arrangement is available in each district;
- GBV referral pathways are mapped and confirmed before mobilisation;
- worker accommodation, if needed, includes privacy/separation/safety; and
- serious allegations follow the controlling AfDB incident procedure and are reported only in non-identifying aggregate form.

9.4 Environmental and Social Clauses for Procurement and Contracts

- approved C-ESMP and task-specific methods before mobilisation;
- hard ERW/UXO clearance requirement in works sequencing and mobilisation controls;
- competent contractor ESHS/OHS staffing;
- LMP, worker terms, age verification, Workers' GRM and Codes of Conduct applied to subcontractors;
- earthworks, erosion, waste/spill, traffic/community, water-continuity, security and SEA/SH requirements;
- Associated Facilities Register and support-site approval/reinstatement;
- corrective-action and suspension powers; and
- commissioning/handover blocked until water-quality, safety, reinstatement and WUA-readiness evidence is accepted.

9.5 Environmental, Occupational Health and Safety Requirements (ESHS Hold Points)

Hold Point	Minimum Evidence Required
HP-1 — Site identity	Damala-xagare coordinate verified where applicable; current signed site register.
HP-2 — ERW/UXO — primary hold point	Recognised written clearance for exact work/access/support footprint before ground disturbance.
HP-3 — Catchment technical readiness	Approved condition assessment and final design/method.

Hold Point	Minimum Evidence Required
HP-4 — Land/community readiness	Access/pastoral routes documented; community meeting complete; alternative supply agreed where required.
HP-5 — Security	Current site-specific assessment/clearance; SMP/halt arrangements where required.
HP-6 — Contractor safeguards	Approved C-ESMP, OHS, waste/spill, community H&S, LMP, SEA/SH, emergency and task methods.
HP-7 — GRM / vulnerable groups	GRM tested; female CLO/focal and SEA/SH referral operational.
HP-8 — Commissioning	Water-quality pass for domestic use; safety/reinstatement closed; WUA trained and access rules documented.
HP-9 - Technical OHS controls	Approved C-ESMP OHS Plan and Heat Stress Management Plan confirm excavation, heat, work/rest, hydration, emergency and other activity-specific controls before high-risk work begins.

9.6 Stakeholder-Engagement Measures

Engagement follows the SEP and remains strictly non-political/conflict-sensitive. It includes site meetings, women-only sessions, nomadic outreach, ERW/UXO awareness, WUA meetings, ordinary guurti engagement, site notices and Somali-language/oral communication. Records should track issues/actions and participation by relevant stakeholder group.

9.7 Project-Level Grievance Redress Mechanism

Step / Track	Action	Controlled Timeline / Action
Receipt/registration	CLO/WUA/district focal logs and acknowledges complaint.	Log and acknowledge promptly in accordance with the controlled GRM procedure.
Level 1 — site	Contractor/CLO resolves minor issue.	Within 7 days.
Level 2 — district mediation	District focal and guurti/elders may mediate ordinary disputes using xeer.	Within 14 days.
Level 3 — PIU review	Formal safeguards review/investigation.	Within 14 days.
Level 4 — external	AfDB IRM or judicial recourse remains available.	Per external procedure.
Close-out / allocation / land	Routine, allocation and land/access grievances follow the relevant controlled GRM and Land Access Protocol tracks.	Apply the approved project procedure and record closure evidence.
SEA/SH	Separate confidential survivor-centred track; no community/traditional mediation.	Immediate referral through PIU GBV pathway.

9.8 Monitoring and Reporting Plan

Table 12: Monitoring Plan — North Eastern State

Parameter	Indicator / Method	Frequency	Responsible	Threshold / Action
ERW/UXO clearance — priority	Clearance certificate; suspect-item/stop-work log	Before mobilisation; continuous	PIU / mine-action / Contractor	No disturbance without clearance; suspect item = immediate stop/callout.
Construction ESHS	ESMP/OHS/waste/community/GRM checklist	Weekly Supervision; monthly PIU	Supervision / NES E&S	Correct non-compliance; serious issue may suspend work.

Parameter	Indicator / Method	Frequency	Responsible	Threshold / Action
Water quality	Turbidity, pH, E. coli, total coliforms, nitrates, EC or final approved set	Pre-commissioning; semi-annually O&M; after contamination/flood	PIU / accredited lab	No domestic use until pass; non-compliance triggers investigation.
Catchment condition	Storage/depth, embankment, liner, spillway, silt trap	Before Gu / after Deyr; after storms	WUA / PIU technical	>15% storage loss from the accepted post-construction baseline triggers major desilting; structural defects require prompt corrective action.
Erosion/reinstatement	Rill/gully, footprint and vegetation recovery	Weekly earthworks; after rain; close-out	Contractor / Supervision	Significant off-footprint erosion triggers remediation.
WUA inclusion	Women membership/leadership, meetings/access, minority/IDP representation	Formation; 3/6/12 months; annually	PIU / NES E&S	At least 30% women in membership and leadership; material exclusion or conflict trends trigger governance review.
GRM	Cases, resolution time, trends; SEA/SH separate	Monthly	NES E&S	At least 80% of grievances resolved within the controlled project timeframe; no retaliation; SEA/SH handled separately.
OHS	Fatality/LTI/near miss/heat/excavation	Continuous; monthly summary	Contractor / Supervision	Zero fatalities; LTIFR and related OHS indicators monitored against the approved project OHS KPI framework.
Security	Incidents/work suspensions	Continuous	Contractor / PIU	Serious incident triggers halt/security review.
Pest/vector	Drainage/standing water, livestock/vector signals, pesticide complaints	Monthly/seasonal	WUA / NES E&S	Apply controlled project-wide P/VMP.

Table 13: Numeric Performance Standards and Thresholds — North Eastern State

Parameter	Threshold / Standard	Implementation Basis
ERW/UXO	No ground disturbance without recognised written clearance; suspect item = stop-work/mine-action callout.	ESMP priority hold point / recognised mine-action clearance
Damala-xagare	No Erigavo mobilisation until coordinate/site re-verified and controlled register updated.	Pre-construction site-verification hold point
Catchment sedimentation	Major desilting at >15% storage loss from accepted post-construction baseline.	ESMP O&M monitoring
Women in WUA	≥30% membership and ≥30% leadership.	ESMP / Gender and Social Inclusion measures
Local labour	≥80% local unskilled, ≥20% youth, ≥30% women in appropriate roles, subject to labour plan.	Approved contractor labour plan / LMP
GRM	At least 80% of grievances resolved within the controlled project timeframe; specialised tracks apply to land/access, water allocation and SEA/SH.	Controlled project GRM / Land Access Protocol
Vehicle speed	30 km/h in settlements.	Community Health and Safety / Traffic Management Plan

Parameter	Threshold / Standard	Implementation Basis
OHS	Zero fatalities; LTIFR and other OHS indicators monitored against the approved project OHS KPI framework.	C-ESMP OHS Plan / approved project OHS KPI framework
Heat work pattern	The C-ESMP Heat Stress Management Plan shall define potable-water provision, acclimatisation, workload-based work/rest arrangements, shade, heat-trigger criteria, first aid and emergency response consistent with GIIP.	C-ESMP Heat Stress Management Plan
Water quality	Domestic-use supply must pass approved project/national/WHO-based criteria.	C-ESMP commissioning and water-quality protocol
Chance finds	Immediate stop-work, site protection, recording and notification in accordance with the controlled Chance Finds Procedure; suspected explosive items follow the ERW/UXO procedure.	Chance Finds Procedure

9.9 Institutional Arrangements

Table 14: Roles and Responsibilities — North Eastern State ESMP

Actor	Key Responsibilities
PIU (MoAI)	Overall ESMP owner; approves plans/mobilisation; verifies mine-action clearance; audits, incidents, budget and AfDB reporting.
NES E&S Officer	Day-to-day three-site oversight; inspections, GRM, WUA, engagement, security and monitoring.
Mine-action / demining entity	Risk assessment, written clearance, suspect-item response and certification.
District Administrations	Access, community/security coordination and ordinary GRM mediation support.
Traditional leaders / guurti	Community communication, pastoral-route and ordinary xeer mediation; not SEA/SH case handlers.
Contractor(s)	Implement C-ESMP, OHS, earthworks/pollution/community/labour/SEA-SH/security controls and reporting.
Supervision Consultant	Weekly compliance verification, corrective actions, earthworks quality and handover checks.
WUAs	O&M, access rules, catchment/silt-trap/safety inspections and grievance records.
AfDB	External safeguards oversight and corrective-action requirements.

9.9.1 Incident Management and Reporting

Minor incidents shall be recorded and closed through routine corrective action. Moderate incidents shall be reported promptly to the PIU. Serious incidents include fatalities, serious injuries, ERW/UXO encounter/detonation, major pollution, SEA/SH allegations and serious excavation or security events. Serious incidents shall be escalated immediately to the PIU and notified to AfDB within the applicable Bank/Financing Agreement timeframe. The approved C-ESMP incident procedure shall use the controlling reporting protocol consistently; ERW/UXO encounters also trigger immediate stop-work and mine-action callout.

9.10 Institutional Capacity Assessment

State systems are developing, making PIU leadership, a dedicated NES E&S Officer, district CLO/focal support, contractor ESHS capacity, independent Supervision and mine-action expertise central. Constraints include wide dispersion, post-conflict/security access, limited formal water/environment enforcement, thin GBV services and the need to integrate customary dispute resolution without exposing confidential cases or enabling elite capture. If simultaneous work fronts exceed safeguards oversight capacity, the PIU shall phase works or add field capacity.

9.11 Capacity Development and Training

Table 15: Capacity Building and Training Plan — North Eastern State

Training Topic	Participants	Key Content	Timing	Responsible
ERW/UXO awareness — priority	Workers, supervisors, community leaders	Recognition, no-touch, stop-work/report and callout	Before first ground disturbance; refresher	Contractor / mine-action / PIU
ESMP implementation/reporting	PIU, NES E&S, Supervision, contractor ESHS	Hold points, inspections, reports, corrective action	Start-up; quarterly refreshers	PIU / Supervision
Heat and general OHS	Workers/supervisors	Heat illness, competent work-rest/hydration, excavation, PPE, first aid/emergency	Induction; toolbox; seasonal	Contractor OHS
Catchment earthworks/erosion	Earthworks crews/supervisors	Desilting, compaction, liner protection, silt/erosion and reinstatement	Before each site	Contractor / Supervision
SEA/SH and Code of Conduct	Workers, CLOs, relevant community awareness	Prohibited conduct, confidential reporting, survivor-centred referral	Before mobilisation; refreshers	PIU GBV / Contractor
WUA governance/water management	WUA members, district focal points	Inclusive access, ≥30% women, records, finance, conflict-sensitive rules, GRM	Before handover; annual refresher	PIU / Supervision
Technical catchment O&M	WUA technical members	Silt traps, desilting, embankment/liner/spillway condition and escalation	Before handover; mentoring	Contractor / Supervision
GRM/GSI	CLOs, district focal, WUA liaison	GRM, xeer interface, confidentiality, SEA/SH separation, nomadic/IDP inclusion	Before mobilisation; 6-month refresher	NES E&S / PIU
Climate-smart water management	WUAs, CLOs, district officers	Drought, flash flood, seasonal forecasts and maintenance	O&M training; annual	PIU / technical

9.12 Implementation Schedule

Table 16: Implementation Schedule and Reporting Calendar — North Eastern State

Activity	Timing / Trigger	Responsible	Output
Damala-xagare re-verification	Before Erigavo mobilisation	PIU / Technical	Corrected coordinate/register
ERW/UXO clearance — 3 sites	Before ground disturbance	PIU / mine-action	Written clearance certificate
Catchment condition assessments — 3	Before mobilisation/design finalisation	PIU / Technical	Condition report/site
Security assessment / SMP	Before mobilisation; update by phase	PIU / Contractor	Valid clearance/SMP
Land/access/pastoral-route records	Before site entry	PIU / District / Contractor	Signed records
C-ESMP and ESHS plans	Before mobilisation	Contractor / PIU	Written approval
GRM / female CLO / SEA-SH referrals	Before district mobilisation	PIU / NES E&S	Operational channels
Worker induction	Before assignment	Contractor / Supervision	Signed records
Construction inspections	Weekly; monthly PIU audit	Supervision / PIU	Reports/CAPs
Water-quality commissioning	Before domestic use	PIU / lab	Pass certificate
WUA formation/training	Before handover	PIU / NES E&S	WUA/training records

Activity	Timing / Trigger	Responsible	Output
Quarterly E&S report	Quarterly	PIU	Report to AfDB
WUA oversight	3, 6, 12 months; annually	PIU / NES E&S	Oversight report
Catchment O&M inspection	Before Gu/after Deyr; after storms	WUA / PIU	Condition/maintenance record

9.13 Cost Estimates and Sources of Financing

The ESMP provides an indicative four-year PIU/project safeguards budget of USD 58,850. ERW/UXO risk assessment/clearance and normal contractor ESHS costs are additional and shall be financed through the works contracts. No additional unsupported cost lines are introduced.

Table 17: Indicative ESMP Budget — North Eastern State (USD)

Cost Item	Year 1	Year 2	Year 3	Year 4	Total
NES E&S Officer (shared) + district CLO support	6,000	4,500	4,000	3,500	18,000
Community engagement — three districts	2,500	1,800	1,500	1,200	7,000
GRM operation — three districts	1,800	1,200	1,000	1,000	5,000
Water quality monitoring — 3 catchments	1,500	1,200	1,200	1,200	5,100
Pre-works catchment condition assessments — 3	2,500	—	—	—	2,500
Damala-xagare coordinate field re-verification	800	—	—	—	800
WUA capacity building and training — 3 sites	4,500	2,500	1,500	1,200	9,700
ERW/UXO community awareness — clearance via works contract	1,200	500	—	—	1,700
Pest and vector management (P/VMP)	1,200	900	800	800	3,700
Subtotal	22,000	12,600	10,000	8,900	53,500
Contingency (10%)	2,200	1,260	1,000	890	5,350
TOTAL (indicative)	24,200	13,860	11,000	9,790	58,850

ERW/UXO risk assessment and clearance is a mandatory pre-works requirement financed through the works contracts and is not included in the USD 58,850 safeguards budget. Contractor ESHS costs are also additional through the works package.

9.14 ESMP Implementation Matrix

Table 18: ESMP Implementation Matrix — North Eastern State

Code	Impact / Risk	Measure / Activity	Management Requirement	Deadline	Cost / assessment	KPI	Implementation	Monitoring
NES-01	Incorrect Damala-xagare site	Coordinate verification	Field verify/update register	Before Erigavo mobilisation	USD 800	Verified signed register	PIU / Technical	PIU review
NES-02	ERW/UXO fatality	Mine-action clearance	Written exact-area clearance; no-touch/stop protocol	Before ground disturbance	Works + awareness USD 1,700	3/3 clearance certificates	PIU / mine-action / Contractor	Continuous
NES-03	Inadequate design	Condition assessment	Storage/sediment/embankment/liner/spillway/inlet/outlet/erosion	Before each site	USD 2,500	3/3 approved reports	PIU / Technical	PIU
NES-04	Erosion/sediment	Earthworks control	Phased works, erosion/silt, rainfall planning, compaction/reinstatement	Construction	Works	No significant off-footprint erosion	Contractor	Weekly/after rain
NES-05	Worker injury/heat	OHS Plan	Competent heat, excavation/plant, PPE and emergency controls	Before/during	Works	Zero fatalities; OHS performance monitored against approved project KPI framework	Contractor	Supervision/PIU
NES-06	Community injury	Community H&S	Barriers/signage, secure excavations, traffic and notification	Construction	Works	Zero unguarded hazardous excavation	Contractor	Daily/weekly
NES-07	Water-access disruption	Continuity plan	Alternative supply, minimise outage, quality pass before domestic reuse	Before/during	Works	Zero unplanned outage	Contractor / PIU / WUA	Daily when interrupted
NES-08	Pollution/waste	Waste/spill controls	Contained fuel/chemicals, approved waste/spoil, sanitation/source protection	Construction	Works	Zero uncontrolled spill/illegal disposal	Contractor	Weekly/monthly
NES-09	SEA/SH	CoC/referral	100% CoC, confidential pathway, female CLO/focal, referral	All phases	Works/engagement	100% CoC; pathway active	Contractor / PIU GBV	Confidential review

Code	Impact / Risk	Measure / Activity	Management Requirement	Deadline	Cost / assessment	KPI	Implementation	Monitoring
NES-10	Land/pastoral access	Land Access Protocol	Written access; route protection; reinstatement; compensation; OS5 stop trigger	Before/during	Works/compensation	100% access records	PIU / District / Contractor	GRM/close-out
NES-11	Security/conflict	Security plan	Assessment/clearance, non-political engagement, halt/resequence	All phases	Project/works	Valid clearance; incidents tracked	PIU / Contractor	Continuous
NES-12	Exclusion/water conflict	Inclusive WUA	≥30% women membership/leadership; non-discrimination; vulnerable-user inclusion	Before handover/O&M	USD 9,700	3/3 WUA readiness	PIU / WUA	3/6/12m + annual
NES-13	Water-quality failure	Testing/hygiene	Pre-commissioning pass, semi-annual testing, source protection	Commissioning/O&M	USD 5,100	100% domestic supply pass	PIU / WUA / lab	Semi-annual
NES-14	Sedimentation/structural failure	Catchment O&M	Silt clearing; before-Gu/after-Deyr; >15% loss desilting trigger	O&M	O&M	3/3 condition records	WUA	PIU technical
NES-15	GRM failure	Multi-channel GRM	Three-district channels; xeer ordinary mediation; SEA/SH separate	All phases	USD 5,000	≥80% within controlled timeframe	NES E&S / PIU	Monthly/quarterly
NES-16	Weak engagement	SEP implementation	Mixed/women/nomadic outreach, ERW/UXO awareness and feedback	All phases	USD 7,000	Planned engagement documented	PIU / CLO	Quarterly
NES-17	Pest/vector concerns	P/VMP integration	Drainage/standing-water, livestock/vector awareness and pesticide-water protection	O&M	USD 3,700	No persistent avoidable standing overflow	WUA / NES E&S	Monthly/seasonal

Code	Impact / Risk	Measure / Activity	Management Requirement	Deadline	Cost / assessment	KPI	Implementation	Monitoring
NES-18	Weak assurance	Supervision/reporting	Weekly Supervision, monthly PIU audit, quarterly AfDB reporting	Project	Supervision/PIU	100% scheduled reports	Supervision / PIU	AfDB oversight

9.15 Environmental Monitoring Matrix

The Section 9.8 monitoring plan is the controlling environmental/social monitoring matrix. It is supported by the readiness register, ERW/UXO clearance file, condition assessments, water-quality certificates, catchment/O&M records, workforce/training records, Associated Facilities Register, GRM database, incident register and WUA oversight reports.

9.16 Risk-Management Matrix

Table 19: ESMP Implementation Risk-Management Matrix — North Eastern State

Implementation Risk	Rating	Consequence	Management Response	Owner
ERW/UXO clearance unavailable/incomplete	High	Fatal risk / no safe ground disturbance	Absolute hold point; redesign/exclude/defer affected area; awareness cannot substitute clearance.	PIU / mine-action
Damala-xagare remains unresolved	High	Wrong site/design/clearance	No Erigavo mobilisation until field verification and controlled register correction.	PIU / Technical
Security deteriorates	High	Unsafe access/supervision and tension	Update assessment; halt/resequence and coordinate non-politically.	PIU / Contractor
Simultaneous dispersed works exceed safeguards capacity	Moderate-High	Missed inspections/corrective actions	Phase works or add field safeguards/Supervision capacity.	PIU
Incomplete catchment condition data	Moderate-High	Poor performance/erosion/failure	Hard condition-assessment/design hold point.	PIU / Technical
WUA captured by stronger group	Moderate-High	Persistent exclusion/conflict	Inclusive rules, representation, GRM and corrective governance support.	PIU / WUA
Water-quality deterioration	Moderate	Health impacts	Commissioning/semi-annual tests, source protection and investigation.	PIU / WUA
OHS heat numeric value inadequate	Moderate	Insufficient worker protection	Final competent OHS plan confirms work-rest/hydration standard.	PIU / Contractor
Maintenance capacity weak	Moderate	Re-sedimentation and deterioration	WUA training/tools, first-year support and annual review.	PIU / WUA

9.17 Key ESMP Implementation Indicators

- 3/3 sites with written PIU mobilisation authorisation;
- 3/3 exact ground-disturbance footprints with recognised ERW/UXO clearance;
- Damala-xagare corrected before Erigavo mobilisation;
- 3/3 condition assessments approved;
- 100% workers inducted/signed Code of Conduct and zero workers under 18;
- zero fatalities and serious incidents investigated/corrected;
- 100% domestic-use supplies pass commissioning water-quality criteria;
- 3/3 WUAs trained and ready, with at least 30% women in membership and leadership;

- GRM operational in all three districts, with at least 80% of grievances resolved within the controlled project timeframe and SEA/SH managed through the confidential pathway;
- before-Gu/after-Deyr and post-storm catchment inspections completed;
- all associated sites approved and reinstated; and
- weekly Supervision, monthly PIU audits and quarterly AfDB reports completed.

9.18 Integration of the ESMP into Project Design, Planning, Procurement, Budget and Implementation

- Design incorporates Damala-xagare verification and catchment condition findings.
- Planning sequences work by readiness, ERW/UXO, rainfall/water continuity, security and supervision capacity.
- Procurement includes Chapter 9 obligations/hold points in tender and contract documents.
- PIU safeguards are funded through the USD 58,850 budget; mine-action clearance and contractor ESHS through works contracts.
- No site passes a hard hold point without written release; serious non-compliance can stop work.
- Handover includes water quality, safety, reinstatement and WUA readiness.
- O&M retains access rules, maintenance, water-quality monitoring, GRM and PIU oversight.

9.19 Associated Management Plans

- Stakeholder Engagement Plan — North Eastern State;
- Project-level GRM Procedures;
- Gender and Social Inclusion measures;
- project-wide Labour Management Procedures and Workers' GRM;
- Contractor ESMP and site/task method statements;
- Occupational Health and Safety Plan and emergency response;
- Waste Management and Spill Prevention Plan;
- Community Health and Safety / Traffic arrangements;
- SEA/SH Prevention and Response and Code of Conduct;
- Security Management Plan(s);
- Land Access Protocol;
- Chance Finds Procedure;
- Climate Risk Assessment;
- Environmental and Social Monitoring Plan;
- Environmental, Social and Capacity-Building Training Plan;
- project-wide Pest and Vector Management Plan; and
- Associated Facilities and Support-Sites Register/close-out records.

No standalone resettlement or biodiversity plan is required under the screened footprint. If implementation changes trigger involuntary acquisition/displacement, material livelihood loss or unassessed sensitive-habitat impacts, the relevant additional instrument must be prepared and approved before the affected activity proceeds.

CHAPTER 10: CONCLUSION AND RECOMMENDATIONS

10.1 Overall Conclusion

The Environmental and Social Impact Assessment concludes that rehabilitation of the three existing rainwater-harvesting catchments at Damala-xagare, Sarmaan and Odweyne can be implemented in an environmentally and socially acceptable manner as an AfDB Category 2 operation, provided the design, pre-works verification and Environmental and Social Management Plan requirements are implemented in full. Inclusion in the project site register is not by itself sufficient authorisation to mobilise or disturb ground.

The adverse impact profile is limited in physical scale but includes one potentially fatal hazard: ERW/UXO. Formal mine-action risk assessment and written clearance of the exact work and associated ground-disturbance areas is therefore the primary non-negotiable condition. Other material risks—erosion, heat and excavation OHS, community safety, temporary water-access interruption, SEA/SH, security/conflict sensitivity, catchment sedimentation, water quality and inequitable access—are manageable through Chapters 8 and 9.

Expected benefits are improved rainwater storage and reliability, stronger drought resilience, improved household/livestock water access, reduced water-collection burden for women and girls, local employment, more inclusive water governance and contribution to community recovery. These benefits depend on asset functionality and equitable governance after handover, not construction completion alone.

10.2 Basis for Environmental and Social Acceptability

The most important long-term residual social risk is inequitable water access, assessed as Moderate, requiring inclusive WUA governance, transparent rules, grievance access and PIU oversight.

10.3 Conditions to be Satisfied Before Mobilisation

- Field re-verify Damala-xagare and correct the controlled coordinate/site register before Erigavo mobilisation.
- Complete recognised ERW/UXO assessment and obtain written clearance for each site and every ground-disturbing access/support area—no exceptions.
- Complete and approve catchment condition assessment and final rehabilitation design/method for all three sites.
- Document land/access and pastoral-route arrangements and any temporary water-interruption/alternative-supply plan.
- Complete conflict-sensitive site-specific security assessment and approve an SMP where required.
- Approve the C-ESMP, OHS, waste/spill, community H&S, LMP implementation, SEA/SH, emergency and task-specific method statements.
- Establish/test GRM channels in all three districts, female CLO/focal arrangements and confidential SEA/SH referral pathways.
- Complete pre-works community engagement in a strictly non-political, conflict-sensitive manner, including recruitment and ERW/UXO awareness.

- Require the approved C-ESMP OHS Plan and Heat Stress Management Plan to establish the competent heat, work/rest, hydration, excavation and emergency controls before high-risk work begins.

10.4 Conditions During Construction

- Keep every work front inside the formally cleared ERW/UXO boundary; any suspect item triggers immediate stop-work, isolation and mine-action callout.
- Implement approved phased earthworks, erosion/sediment, spoil, waste and spill controls and inspect after rainfall.
- Maintain barriers/signage, safe community access and traffic control; no unguarded hazardous excavations overnight.
- Apply competent heat, excavation, plant, first-aid and remote emergency controls and record inspections/incidents.
- Provide agreed alternative water access before interrupting an existing functioning catchment and restore supply as quickly as feasible.
- Implement Codes of Conduct, Workers' GRM, transparent local recruitment and SEA/SH confidential referral arrangements.
- Maintain conflict-sensitive security/community engagement and halt/resequence if safe access or adequate supervision cannot be maintained.
- Screen, clear/approve and reinstate all associated support sites.

10.5 Conditions for Commissioning and Operation

- Water intended for domestic community use must pass approved pre-commissioning laboratory criteria before release.
- Catchment, embankment, liner where applicable, inlet/outlet, silt trap, spillway, trough, fencing/signage and access defects must be closed before handover.
- Inclusive WUA/community management must be established and trained, with documented non-discriminatory access rules and at least 30% women in membership and leadership.
- WUA maintenance records, GRM, water-quality testing and catchment condition inspections must continue through O&M.
- Bi-annual condition inspection before Gu and after Deyr, plus post-storm checks, shall support timely desilting and repair; more than 15% storage loss from the accepted post-construction baseline triggers major desilting.
- PIU/NES E&S oversight visits shall occur at 3, 6 and 12 months after handover and annually thereafter while project O&M oversight remains active.

10.6 C-ESMP and Pre-Construction Confirmation Requirements

Requirement	Assessment Position	C-ESMP / Pre-Construction Action
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Requirement	Assessment Position	C-ESMP / Pre-Construction Action
Damala-xagare coordinate	The recorded coordinate is inconsistent with the stated Erigavo District location and cannot be used as final construction control.	Field-verify the actual site and issue a corrected signed controlled register before final design, mine-action clearance or mobilisation.
ERW/UXO contamination status	Site safety cannot be established from existing desk information.	Obtain recognised written mine-action clearance for the exact work, access and support footprints before any ground disturbance.
Final catchment design parameters	Final storage, embankment, liner, silt-control and spillway parameters are site-specific engineering deliverables.	Complete the condition assessment and approved engineering design/BoQ and incorporate the confirmed parameters into the C-ESMP and method statement.
Heat-stress hydration provision	A fixed provisional hydration/work-window value is not adopted as a final ESIA standard.	The C-ESMP Heat Stress Management Plan shall establish competent workload-based work/rest, hydration, shade, acclimatisation, monitoring and emergency controls in accordance with GIIP.
State legal/institutional detail	State systems are developing and a complete state-specific permits register is not currently available.	The PIU shall maintain a controlled legal/permits register, confirm competent authorities before procurement and update institutional contacts during implementation.
Incident notification	The controlling incident-reporting timeframe is established by the applicable AfDB/Financing Agreement requirements.	The approved C-ESMP incident procedure shall apply the controlling Bank/financing protocol consistently.
Project-wide P/VMP numeric provisions	Pest/vector controls extend beyond the immediate rehabilitation footprint and are governed by the approved project-wide P/VMP.	Apply the controlled P/VMP and any applicable legal/health requirements; do not duplicate or invent technical thresholds in site instructions.

10.7 Recommendations

- Make Chapter 9 ESMP and ESHS hold points enforceable through tender and works contracts, including mobilisation, suspension and handover controls.
- Treat ERW/UXO clearance as a primary project-safety deliverable with traceable certificates and mapped clearance boundaries.
- Use phased mobilisation so mine-action, security and safeguards supervision capacity is not diluted across three widely separated districts.
- Protect long-term benefits by prioritising WUA inclusion, catchment maintenance, water-quality monitoring and first-year post-handover support.
- Maintain strictly non-political, conflict-sensitive implementation, transparent local hiring and balanced community representation.
- Use adaptive climate/maintenance management because drought and extreme rainfall can exceed design assumptions.
- Maintain all C-ESMP and pre-construction confirmation requirements in a controlled readiness register and do not resolve site, design or safeguards parameters through unsupported assumptions.

10.8 Final Statement

Subject to closure of the pre-mobilisation conditions and continued implementation of the ESMP, the North Eastern State BBS component is environmentally and socially feasible. Most residual construction impacts are Minor to Minor–Moderate; inequitable water access and residual climate risk remain Moderate and require ongoing management. The project should proceed only through evidence-based site readiness, formal ERW/UXO clearance, adequate safeguards supervision, functioning engagement/GRM/SEA-SH arrangements and verified O&M readiness at handover.

APPENDICES VOLUME

NORTH EASTERN STATE

Document Control	Appendix Volume
Financier	African Development Bank (AfDB)
AfDB E&S Category	Category 2
Proponent	Ministry of Agriculture and Irrigation (MoAI), Federal Republic of Somalia
Geographic Scope	Erigavo, Buuhoodle and Laascaanood Districts
Project Scope	3 water catchment rehabilitation sites
Appendix Compilation	August 2026

DOCUMENT-CONTROL NOTE

Original screening forms are preserved verbatim as evidence of project preparation. They have not been rewritten to correct legacy names, coordinates, activity types or form-level category fields. The controlled final ESIA site register, approved engineering design and AfDB Category 2 classification govern implementation. Any unresolved site-specific information is a pre-construction/C-ESMP hold-point requirement and does not authorise assumptions.

Annex 1: E&S Screening Forms (North Eastern State)

Controlled Screening Reconciliation Register

This register maps original screening evidence to the final ESIA site scope. 'Reconciliation required' means the original form contains a legacy name, coordinate, activity type or other field that must not override the controlled final site register.

Final Site / Asset	Final Typology	Original Screening Form	Original Activity / GPS / Cat.	Status	Control Note
Damala-xagare	Water catchment rehabilitation	No separate screening form located	— — Cat. —	Missing	No separate form located; coordinate remains provisional and requires field verification.
Sarmaan	Water catchment rehabilitation	No separate screening form located	— — Cat. —	Missing	Complete/confirm screening before works if not held elsewhere.
Odweyne	Water catchment rehabilitation	No separate screening form located	— — Cat. —	Missing	Complete/confirm screening before works if not held elsewhere.

Screening coverage summary: 3 controlled final sites are listed. Separate screening forms were not located for 3 final sites in the reviewed pooled screening archive. Original forms are supplied in the accompanying sorted screening folder.

Annex 2: Stakeholder Engagement Plan (SEP) - North Eastern State

This SEP has been prepared for the North Eastern State component of the BBS Irrigation Project (Erigavo, Buuhoodle, and Laascaanood Districts — 3 sites), in accordance with AfDB ISS 2023, OS10. It is a living document, updated throughout the project lifecycle, and reflects the newly established state's institutional context, the post-conflict operating environment, and the imperative of strictly non-political, conflict-sensitive engagement. Key objectives: informing affected communities; providing meaningful opportunities for stakeholder input; ensuring vulnerable groups participate and benefit equitably; establishing accessible grievance mechanisms; preventing retaliation against those who raise concerns; and maintaining transparent, non-political coordination with North Eastern State and district authorities.

Table 20: Project-Affected and Interested Parties — North Eastern State

Stakeholder	Key Interests / Concerns
Pastoral and agro-pastoral households	Water availability and quality; catchment rehabilitation quality; construction disruption; equitable access; ERW/UXO safety
Women and girls	Water-collection burden; safety at water points; WUA participation; GBV risk
Nomadic women (subgroup)	Mobile outreach; communication through female elders; seasonal access
Youth	Employment; skills training; WUA representation; transparent hiring
Minority clan and IDP/returnee households	Equitable access; representation in WUA governance; protection from discrimination in a sensitive setting
Water User Associations (WUAs)	Capacity building; governance support; O&M responsibilities; conflict-sensitive water allocation

Stakeholder	Key Interests / Concerns
North Eastern State authorities	Coordination; oversight as capacity develops; non-political implementation
Erigavo, Buuhoodle, Laascaanood District Administrations	Local coordination; site access; security; GRM Level 2 mediation support
Traditional leaders (guurti) / religious leaders	Community legitimacy; xeer-based dispute resolution; conflict prevention; communication
Recognized demining operator	ERW/UXO clearance before works; community awareness messaging
Contractors / Supervision / AfDB	Site-level relations; local hiring; safety; safeguards compliance and oversight; IRM

Vulnerable groups requiring differentiated engagement: nomadic and semi-nomadic women (mobile outreach through female elders); female-headed households (targeted outreach and priority WUA support); minority clan members and IDPs/returnees (inclusive WUA governance and monitoring for elite capture in a sensitive setting); unemployed youth (transparent hiring communication and youth WUA representation); persons with disabilities (accessible venues, home visits, oral communication); and low-literacy community members (spoken Somali, visual aids, radio, elder intermediaries).

Table 21: Engagement Methods and Schedule — North Eastern State

Method	Purpose	Target Groups	Frequency
Community meetings — mixed (non-political)	Project updates, ERW/UXO awareness, construction schedules, WUA formation, feedback	All community members at and near sites	Before works; mid-construction; before O&M handover; periodic during construction
Women-only meetings	Gender-specific feedback, safety, WUA participation, water access	Women and girls in project communities	At each milestone; facilitated by female CLO
Nomadic pastoral outreach — mobile	Reach seasonally mobile populations	Nomadic pastoral households and women	Per pastoral season (Gu and Deyr)
ERW/UXO awareness sessions	Community safety messaging before and during works	All community members, especially children's caregivers	Before works; reinforced during works
WUA meetings	O&M planning, allocation governance, conflict resolution	WUA members (min. 30% women)	Monthly (O&M phase)
Traditional elder / guurti meetings	Community acceptance, xeer-based conflict prevention, pastoral-route coordination	Clan elders, religious leaders	At milestones; as needed for disputes
Site notice boards & Somali radio	Schedules, GRM contacts, employment, safety notices	General public in the three districts	Continuously updated; key milestones

Prevention of retaliation: anonymous complaint channels are available and publicised; complainant identity is disclosed only with express consent; protection is stated at every community meeting; female CLOs and the NES E&S Officer monitor for social pressure or retaliation through clan structures; and any act of retaliation is investigated and subject to disciplinary action or sanctions.

Information disclosure: the ESIA/ESMP non-technical summary (Somali), the SEP, the LMP, site-specific works schedules, GRM details, employment opportunities, and WUA formation information are disclosed before appraisal and before works, through the NES authorities, the three district offices, community meetings, site notice boards, elder

networks, and Somali-language radio. SEP monitoring indicators include community meetings per district during construction; $\geq 30\%$ women's participation in mixed sessions; ≥ 1 nomadic outreach session per district per pastoral season; ERW/UXO awareness delivered before works at each site; $\geq 80\%$ of grievances resolved within timeframe; and the SEA/SH referral pathways operational before mobilisation. Contact details for the NES E&S Officer, the three district CLOs (at least one female per district), the AfDB project team, and the AfDB Independent Recourse Mechanism (www.afdb.org/irm) are confirmed and publicised before mobilisation.

Annex 3: Grievance Redress Mechanism (GRM) Procedures — North Eastern State

The GRM provides accessible, predictable, and transparent channels for community members and other stakeholders to raise concerns related to the North Eastern State component. It is separate from the Workers' GRM under the project-wide LMP. Channels: CLOs at each site (at least one female CLO per district); a project hotline (phone/SMS); sealed suggestion boxes at information boards; traditional leaders (guurti) relaying to the district E&S focal point; written submissions; and the confidential SEA/SH channel to the PIU GBV Specialist. A distinctive feature is the formal integration of xeer-based traditional dispute resolution at the district mediation level, which is particularly important in a conflict-sensitive setting.

Table 22: GRM Process Steps and Timelines — North Eastern State

Step	Action	Responsible	Timeline
1. Receipt and registration	Grievance received through any channel; logged with unique reference; acknowledgement to complainant	CLO / WUA / District Focal Point	Logged within 24 hours; acknowledged within 48 hours
2. Site-level resolution (Level 1)	Contractor and CLO engage complainant; direct resolution of minor issues	Contractor + CLO	Within 7 days
3. District mediation (Level 2)	Facilitated resolution with traditional elders (guurti) and district authority; xeer-based mediation integrated	District Focal Point + Elders	Within 14 days
4. PIU review (Level 3)	Formal review; independent investigation if needed; written determination	PIU Safeguards Officer	Within 14 days
5. External recourse (Level 4)	AfDB recourse (incl. IRM) or judicial system	Complainant's choice	Per IRM / judicial procedures
6. Close-out and feedback	Resolution communicated; satisfaction recorded; case closed	NES E&S Officer	Within 30 days standard; 14 days for O&M allocation cases at WUA level; 15 working days for land-access cases

SEA/SH cases follow a separate confidential track managed exclusively by the PIU GBV Specialist with survivor-centred principles; no case details are shared with contractors, WUAs, traditional leaders, or local authorities, and referral is made to mapped services within 24 hours. Workers' grievances follow the Workers' GRM under the LMP. GRM performance is reviewed monthly by the NES E&S Officer and reported quarterly to AfDB. An 'Environmental and Health' category captures P/VMP-related concerns (Section 10.12), and ERW/UXO safety concerns are escalated immediately to the PIU and the demining operator.

Annex 4: Consultation Log — North Eastern State

Table 23: Consultation Log Summary (December 2025 – June 2026)

Date / Period	Location	Participants	Key Outcomes
December 2025	Laascaanood	North Eastern State authorities	Institutional coordination confirmed on a non-political basis; ERW/UXO clearance pathway discussed; safeguards approach outlined
December 2025 – January 2026	Erigavo District	District administration; Damala-xagare community; elders; women's groups	Catchment condition documented; coordinate discrepancy identified and flagged for re-verification; ERW/UXO and maintenance concerns recorded
January 2026	Buuhoodle District	District administration; Sarmaan community; elders; women's and youth groups	Catchment condition documented; ERW/UXO and security context recorded; employment and maintenance expectations noted
January 2026	Laascaanood District	District administration; Odweyne community; elders; women's groups	Catchment condition documented; ERW/UXO clearance priority confirmed; conflict-sensitive engagement expectations recorded
February 2026	All three districts	District health authorities; NGO focal points; mine-action contacts	Emergency response routes, GBV referral pathways, and ERW/UXO coordination contacts documented per district
June 2026	All districts (follow-up)	District focal points; community representatives	3-site, three-district scope of the June 2026 Master List confirmed (Erigavo, Buuhoodle, Laascaanood)

Detailed minutes, attendance records (disaggregated by gender and by nomadic vs settled participation), and photographs for each consultation are maintained in the project consultation repository by the NES E&S Officer. All consultations were conducted in a strictly non-political manner focused on community water infrastructure.

Annex 5: Climate Risk Assessment — North Eastern State

This annex presents the Climate Risk Assessment for the North Eastern State component (3 sites; Erigavo, Buuhoodle, and Laascaanood Districts), prepared in accordance with AfDB Climate Safeguards System requirements. The project districts are arid-to-semi-arid interior dryland settings with no perennial rivers, where evapotranspiration (2,000–3,000 mm/year) greatly exceeds rainfall (200–400 mm/year), creating chronic water deficits. Rainfall is bimodal (Gu: April–June; Deyr: October–December) with extended dry seasons. Catchment infrastructure is acutely sensitive to drought, heat, high evaporation, and flash flooding.

Table 24: Climate Projections — North Eastern State Districts (2021–2040, RCP8.5 / CMIP6)

Parameter	Projection — North Eastern State Districts
Mean temperature increase (2021–2040)	+1.0°C to +1.4°C above 1991–2020 baseline
Mean temperature increase (2040–2060)	+1.6°C to +2.3°C above baseline
Very hot days (>40°C)	+10 to +20 additional days/year by 2040
Evapotranspiration increase	+10% to +15% above the already high baseline
Rainfall baseline	200–400 mm/year; highly localised and erratic

Parameter	Projection — North Eastern State Districts
Gu season variability	±15–25% inter-annual variation; rising risk of consecutive failed Gu seasons
Drought frequency	Shifting from ~1-in-4 years toward 1-in-2-to-3 years by 2040
Extreme rainfall intensity	+10% to +20% increase in heavy-rainfall event intensity; increased flash-flood risk in wadi systems

Table 25: District Climate Risk Summary — North Eastern State

District	Project Infrastructure	Flood	Heat	Drought	Highest Risk	Priority Adaptation
Erigavo (Sanaag)	1 catchment (Damala-xagare)	H	VH	VH	Drought / catchment sedimentation	Liner and silt control; desilting regime; flood-resistant spillway design
Buuhoodle (Cayn)	1 catchment (Sarmaan)	H	VH	VH	Drought / flash flood	Flood-resistant embankment and spillway design; desilting regime
Laascaanood (Sool)	1 catchment (Odweyne)	H	VH	VH	Drought / flash flood	Liner and silt control; desilting regime; flood-resistant spillway design

Key findings: Drought and heat stress are co-dominant Very High risks across all three districts, with moderate droughts projected every 2–3 years by 2040. Intense short-duration rainfall during Gu and Deyr causes flash flooding that damages catchment infrastructure; the projected 10–20% increase in extreme-rainfall intensity heightens this risk. Restoring catchment storage capacity is itself a primary climate-adaptation measure for these communities. Residual climate risk is dominated by multi-year drought exceeding catchment storage capacity and extreme rainfall exceeding spillway design standards, assessed as Moderate and acceptable given the liner, spillway-design, and adaptive-maintenance measures (Chapter 8.4).

Annex 6: Gender and Social Inclusion — North Eastern State

This annex consolidates the Gender Analysis and the GSI operational plan for the North Eastern State component (3 sites; Erigavo, Buuhoodle, and Laascaanood Districts), prepared in accordance with AfDB ISS 2023, OS7, OS4, and OS10. It draws on field consultations (December 2025 – January 2026), national gender data, and the particular circumstances of a newly established, formerly conflict-affected region.

A6.1. Key Gender Issues — North Eastern State

- **Water-collection burden:** women and girls bear primary responsibility for household water collection; during the Jilaal dry season collection distances can be substantial, consuming hours per day and limiting time for production, income, rest, childcare, and governance. Water infrastructure is the highest stated priority for women.
- **Conflict impacts on women:** the recent conflict has increased the number of female-headed households and displaced women, who face heightened vulnerability and reduced access to assets and services.

- Voice and representation: community water decisions are made by clan-based, guurti-led committees that are male-dominated; the project's minimum 30% female WUA membership and leadership requirement directly addresses this.
- Nomadic women's vulnerabilities: seasonal mobility makes nomadic women the hardest group to reach; during droughts men typically migrate with livestock while women remain as de facto household heads with limited assets.
- GBV and SEA/SH risk: the construction workforce creates material risk, and GBV response services are thin in the post-conflict setting, so referral pathways must be formally mapped before mobilisation, documenting district-level versus regional-hub services.

A6.2. GSI Measures and Implementation Plan

Table 26: GSI Measures — North Eastern State

Measure	Description	Timing	Responsible
Female CLOs — three districts	At least one female CLO per district before mobilisation; primary contact for women's concerns, SEA/SH reporting, women-only outreach, and WUA women's engagement	Before mobilisation	PIU Safeguards Officer
Women-only consultation sessions	At each milestone per district, facilitated by female CLOs; safe, accessible venues; timing avoiding domestic-duty conflicts	All phases	Female CLOs
Nomadic women's mobile outreach	Mobile outreach at seasonal watering points twice per year aligned with the pastoral calendar; communication through female elders	From mobilisation, bi-annually	Female CLOs / PIU
WUA ≥30% women membership and leadership	Minimum 30% women in WUA membership and leadership (chair, treasurer, secretary); embedded in the WUA constitution for all three sites; compliance monitored quarterly	WUA formation	PIU / CLOs
Minority-clan / IDP non-discrimination	Explicit non-discrimination in WUA rules; no clan, tenure, or residence eligibility requirements; proactive engagement in a conflict-sensitive manner	WUA formation	CLOs / PIU
GBV prevention — workforce	Code of Conduct prohibiting SEA/SH; pre-mobilisation worker awareness; accommodation separation; zero tolerance communicated publicly	Before mobilisation	PIU / Contractor
SEA/SH reporting and referral network	Referral pathways formally mapped through the available NGO and health network before mobilisation; confidential reporting via female CLOs; all cases to the PIU GBV Specialist within 24 hours; service availability documented	Before mobilisation	PIU Safeguards Officer / female CLOs
Safe water-point design	Catchment access and trough locations reviewed with women's groups; separate livestock and domestic access	Design phase	PIU Design Team
Youth employment targets	Minimum 20% of unskilled workforce from local youth (18–30) per district; youth WUA representatives	Construction	Contractor / PIU
Financial-literacy training — women WUA members	Dedicated session in WUA governance training covering record-keeping, fee management, and mobile-money use	O&M phase	PIU / Supervision Consultant
Gender-disaggregated monitoring	All monitoring data sex-disaggregated and reported by stakeholder type in quarterly E&S reports to AfDB	All phases	PIU Safeguards Officer

Table 27: GSI Monitoring Indicators — North Eastern State

Indicator	Target	Frequency	Responsible
Women's WUA membership across all 3 sites	≥30%	At formation; annually	PIU / CLOs
Women in WUA leadership	≥30%	At formation; annually	PIU / CLOs
Women's participation in mixed consultations	≥30%	Per event	CLOs
Nomadic women reached through mobile outreach	≥1 session/district/pastoral season	Bi-annually	Female CLOs
Youth employment (local, 18–30) in construction	≥20% of unskilled workforce per district	Monthly during construction	Contractor / PIU
Minority-clan / IDP representation in WUAs	Proportionate; no exclusion incidents	At formation; annually	CLOs / PIU
SEA/SH allegations received and referred	100% referral within 24 hours; zero unaddressed	Monthly (confidential)	PIU GBV Specialist / female CLOs
GBV referral pathways operational before construction	Binary milestone — all three districts	Pre-construction	PIU Safeguards Officer
Women's average water-collection time	≥50% reduction vs baseline by Year 2 O&M	Annually from Year 1 O&M	PIU / Supervision Consultant

Annex 7: Chance Finds Procedure

This procedure applies to all ground-disturbing works at all three North Eastern State sites, is posted at each site, and is covered in worker induction (OS8, precautionary). It operates alongside — but does not replace — the mandatory ERW/UXO clearance and stop-work protocol, which takes precedence for any suspected explosive item. A 'chance find' is any archaeological, palaeontological, cultural, historical, or religious artefact discovered unexpectedly during ground-disturbing works.

- **Step 1 — Immediate stop-work:** any worker discovering a potential chance find immediately stops all ground-disturbing works within a minimum 20-metre radius; machinery is powered down; work may continue in unaffected areas. (For any suspected explosive item, the ERW/UXO no-touch stop-work protocol applies instead and the demining operator is called.)
- **Step 2 — Secure the area:** cordon off the discovery area; restrict access; do not move, clean, or further disturb the find; photograph from at least four directions; sketch the location relative to site infrastructure.
- **Step 3 — Notify the Site Supervisor within 1 hour:** the supervisor records date, time, GPS, discoverer, description, photographs, and stop-work area in the site logbook.
- **Step 4 — Notify the PIU and NES E&S Officers within 4 hours:** sharing all documentation; the PIU E&S Officer notifies the Supervision Consultant and logs the find centrally.
- **Step 5 — Notify the cultural authority within 24 hours:** the PIU notifies the relevant authority responsible for antiquities and cultural heritage in writing, with the Federal Ministry also notified for federal reporting.
- **Step 6 — Expert inspection within 7 working days:** authorised personnel or an appointed expert inspect the site; the PIU facilitates access; the written assessment governs subsequent actions.

- **Step 7 — Determination and action:** (a) no significant value — stop-work lifted and works resume; (b) significant but manageable — documentation completed, protective measures defined, and written clearance obtained before resumption; (c) major significance — extended stop-work and a cultural heritage management plan commissioned.
- **Step 8 — Reporting:** all chance finds are reported in the next monthly E&S report; significant finds are reported to AfDB within 7 days with an outcome update within 30 days.

Workers are strictly prohibited from retaining, handling, moving, or selling any find; violation results in immediate termination and referral to law enforcement, as reflected in employment contracts and the Code of Conduct. All workers receive Chance Finds and ERW/UXO training during induction, with attendance recorded.

Annex 8: Environmental and Social Monitoring Plan — North Eastern State

This monitoring plan specifies indicators, methods, responsibilities, reporting requirements, and trigger standards for the three North Eastern State sites during construction and operation, supplementing the consolidated monitoring framework in Table 14. It gives particular prominence to ERW/UXO clearance verification, catchment condition and sedimentation, heat and excavation safety, water quality, and conflict-sensitive social-inclusion monitoring.

Table 28: Environmental Monitoring — North Eastern State

Parameter	Indicators / Method	Frequency	Responsible	Trigger / Standard
Water quality — catchment supply points	Turbidity, pH, E. coli, total coliforms, nitrates, EC	Pre-commissioning; semi-annually O&M; within 72 hours of contamination/flood	PIU / accredited lab	WHO guideline values; E. coli detection triggers investigation; commissioning blocked until pass
Catchment sedimentation	Storage volume (depth sounding); embankment, liner, spillway; silt-trap function	Bi-annually (before Gu, after Deyr); spot check after major storms	WUA / CLO; annual Supervision measurement	Desilting triggered if storage reduced >15% from post-construction baseline
Soil erosion — construction sites	Visual inspection; rill/sheet erosion; vegetation recovery	Monthly construction; quarterly O&M	Contractor E&S Officer; NES E&S Officer quarterly audit	Zero significant erosion beyond footprint; rill erosion triggers remediation
Spoil and waste management	Spoil placement and reinstatement; fuel storage; spills; waste segregation	Monthly audit; immediate for any spill	Contractor E&S Officer	Zero untreated spills; 100% spoil reinstated; waste to approved sites

Table 29: Social, Safety, and Labour Monitoring — North Eastern State

Parameter	Indicators / Method	Frequency	Responsible	Trigger / Standard
ERW/UXO clearance and incidents (PRIORITY)	Clearance certificate per site; suspect-item encounters; stop-work events	Before mobilisation per site; continuous	PIU / demining operator / Contractor	No works without clearance; any encounter triggers stop-work and demining callout; report to AfDB within 24 h
Community GRM performance	Grievances by type and district; resolution time and level; satisfaction (sample)	Monthly log; quarterly analysis	NES E&S Officer / PIU Safeguards Officer	≥80% resolved within timeframe; no grievance open >60 days without justification

Parameter	Indicators / Method	Frequency	Responsible	Trigger / Standard
Labour and employment	Total workforce; % local per district; % youth; % women; wages; hours; child-labour checks; clan balance	Monthly during construction	Supervision / PIU (payroll spot checks)	≥80% local unskilled; ≥20% youth; ≥30% women; equitable clan balance; zero wage violations; zero workers under 18
Women's WUA participation	Women % of membership; women in leadership; disaggregated attendance	At formation; quarterly	CLOs / NES E&S Officer	≥30% membership; ≥30% leadership; improving trend
SEA/SH allegations	Number received; referral within 24 hours; outcomes (confidential)	Monthly confidential report	PIU GBV Specialist / female CLOs	100% referred within 24 hours; zero unaddressed
Heat stress and OHS incidents	Heat-illness cases; 12:00–15:00 compliance; LTIs; fatalities; near misses	Monthly; immediate for serious	Contractor E&S Officer / PIU	Zero untreated heat illness; 100% rest-period compliance; zero fatalities; LTIFR <5
Security incidents	Type and number; work suspensions	Continuous; immediate for serious	Contractor / PIU	Serious incidents trigger halt and review; reported to NES authorities immediately
Water-access outcomes	Households with improved access; women's collection distance/time; % functional year-round	Annually from Year 1 O&M (sample survey)	PIU / Supervision Consultant	≥50% reduction in women's collection time by Year 2 O&M; ≥90% functional year-round

Reporting: the Contractor E&S Officer submits monthly E&S reports to the Supervision Consultant and NES E&S Officer. The PIU Safeguards Officer compiles quarterly E&S reports for AfDB. Serious incidents — including any ERW/UXO encounter — are reported to AfDB within 24 hours (48 hours for the full written report) with a full investigation report within 7 days. The monitoring plan and ESMP are reviewed annually.

Annex 9: Environmental, Social, and Capacity Building Training Plan — North Eastern State

This Training Plan covers the North Eastern State component (3 sites; Erigavo, Buuhoodle, and Laascaanood Districts), specifying training for construction workers, CLOs, WUA members, and institutional stakeholders during construction and operation. Its distinctive and mandatory element is ERW/UXO awareness, delivered before any ground-disturbing works. Objectives: ensure all workers complete ERW/UXO awareness, OHS, Code of Conduct, and LMP requirements before commencing works; prevent SEA/SH; build the capacity of the three WUAs to govern, operate, and maintain the catchments; equip CLOs and focal points for conflict-sensitive, gender-inclusive engagement and GRM implementation; and build institutional capacity of the newly established North Eastern State and district authorities. Training is delivered per district for the three sites.

Table 30: Construction Phase Training — North Eastern State

Training Topic	Target Participants	Key Content	Frequency / Timing	Responsible / Documentation
ERW/UXO awareness (PRIORITY)	All workers, subcontractors, community workers, supervisors	Recognition of suspect items; no-touch rule; stop-work-and-report protocol; demining-operator callout; community awareness messaging	Before first ground disturbance; refresher; per new worker	Contractor / demining operator / PIU — signed acknowledgement
Worker E&S	All workers	Project E&S standards; prohibited	Before first day of	Contractor E&S Officer

Training Topic	Target Participants	Key Content	Frequency / Timing	Responsible / Documentation
induction		behaviours; GRM channels; Chance Finds stop-work; waste management; reporting	works; per new worker	— signed acknowledgement
Occupational health and safety	All workers, supervisors	Site-specific hazards; PPE; emergency procedures; incident reporting; first aid; dehydration and heat-stress prevention	Monthly toolbox; quarterly full refresher	Contractor OHS Officer — toolbox log
Heat safety — all sites	All workers	Heat stress and heat stroke recognition; mandatory 12:00–15:00 rest; 3 L water/worker/day; shade; buddy system; emergency response	Induction; monthly toolbox in peak heat; seasonal briefings	Contractor OHS Officer — protocol posted
Catchment earthworks and erosion control	Earthworks crews and supervisors	Phased desilting, embankment compaction, liner protection, silt-trap operation, erosion control, reinstatement	Before catchment works at each site	Contractor E&S Officer — competency verified
SEA/SH prevention and Code of Conduct	All workers, supervisors, CLOs	SEA/SH definitions; Code of Conduct; confidential reporting; consequences; community interaction norms	Pre-mobilisation; quarterly refresher	PIU GBV Specialist / female CLO — signed CoC per worker
Chance Finds procedure	All construction workers, supervisors	What constitutes a chance find; stop-work; 20 m cordon; reporting chain; prohibition on removal; heritage context	During induction; refresher if a find occurs	Contractor E&S Officer — induction sign-off
Conflict sensitivity and community relations	All workers, supervisors, CLOs	Non-political conduct; clan sensitivity; community respect; avoiding actions that could exacerbate tension	Induction; reinforced through construction	PIU / NES E&S Officer

Community and institutional training mirrors the topics summarised in Table 16, delivered per district: WUA governance and water management; technical O&M for catchments; GRM implementation with xeer-integrated mediation; GSI for CLOs and E&S staff; community SEA/SH and ERW/UXO awareness; climate-smart water management and ICPAC forecasts; and AfDB safeguards awareness for North Eastern State and district authorities. All training is documented in a centralised training register with sex-disaggregated attendance and competency assessment, reported in quarterly E&S reports to AfDB and reviewed annually. The indicative training budget is included within the WUA capacity-building and community-engagement lines of Table 17, with ERW/UXO awareness materials shown as a distinct line.

Supplementary Annex: Technical Drawings, Maps, Photographs and Supporting Project Records Register

The register identifies project records located during the appendix review. A generic or legacy drawing is not treated as a site-specific approved construction drawing. The controlled site register and approved engineering package govern construction.

Evidence Group	Record / Folder	Relevance	Control / Use
North Eastern site-specific designs	Reviewed engineering archives	No dedicated Damala-xagare, Sarmaan or Odweyne construction package located.	Do not present generic drawings as approved site-specific design.

Project-Wide Supporting Studies Relevant to this ESIA

Study / Instrument	Record Location	Use in State ESIA
Project Concept Note / PCN	Project Concept Note BBS archive	Project rationale, components and implementation arrangements.
BBS Master List / Water Infrastructure Costing & Benefit Ranking	PCN annex 3-1b / assessment matrix	Controls final site selection and supports prioritisation.
Project Fragility and Resilience Assessment Note	PCN annex 3-2	Fragility, security, climate and vulnerability context.
Gender Empowerment Plan	PCN annex 3-3	Project-wide gender commitments.
MoAI Capacity Assessment	PCN annex 4-4b	Institutional capacity context.
Project Implementation Plan	PCN annex 4-3	Implementation phasing and institutional arrangements.
Project Monitoring Plan	PCN annex 4-1	Project monitoring framework.
Risk Matrix	PCN annex 4-2	Programme risk context.
Crop Value Chain and Gender Analysis	Production & Markets archive	Qualitative production, market, gender and youth evidence.
FGD and KII Summary	Production & Markets archive	Qualitative stakeholder/livelihood evidence.
Economic/Financial Analysis	PCN + Production & Markets archives	Economic/financial context; not a substitute for E&S due diligence.

Pre-Construction / C-ESMP Evidence-Control Register

Control Item	Required Evidence / Action	Responsible
Controlled site identity	Link final site name, verified coordinate, infrastructure type, screening record, approved drawing and BoQ in one signed register before mobilisation.	PIU / Technical Consultant
Screening gaps / legacy records	Complete missing site-specific screening and reconcile legacy/mismatched fields without altering original evidence records.	PIU / State E&S Officer
Land and access	Document actual users, access arrangements and temporary land requirements; apply OS5 pathway if impacts exceed screening assumptions.	PIU / District / Contractor
Security	Update site-specific security assessment before mobilisation and apply SMP/stop-work controls where indicated.	PIU / Contractor

Control Item	Required Evidence / Action	Responsible
Technical design	Use approved site-specific design. Generic/reference drawings do not establish construction dimensions.	PIU / Engineer
C-ESMP	Incorporate site-specific E&S findings, technical thresholds, methods, OHS, community H&S, waste, SEA/SH and emergency controls before works.	Contractor / PIU approval
Commissioning	Apply approved water-quality, structural/safety, WUA/O&M and monitoring readiness checks before use/handover.	PIU / Supervision / WUA